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1978–1979

Biennial Report of the Director-General
to the World Health Assembly
and to the United Nations

WORLD HEALTH ORGANIZATION
GENEVA
1980
RESOLUTIONS

The texts of the World Health Assembly and Executive Board resolutions referred to in this report can be found in the Handbook of Resolutions and Decisions of the World Health Assembly and the Executive Board, Volume I, 1948-1972 and Volume II, third edition (1973-1978). Resolutions adopted in 1979 can be found in WHO documents WHO/72/179/REC/1, and EB64/1979/REC/1.

ABBREVIATIONS

The abbreviations used in this report include the following:

<table>
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<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>ACC</td>
<td>Administrative Committee on Co-ordination</td>
</tr>
<tr>
<td>ASEAN</td>
<td>Association of South-East Asian Nations</td>
</tr>
<tr>
<td>CIDA</td>
<td>Canadian International Development Agency</td>
</tr>
<tr>
<td>CIOMS</td>
<td>Council for International Organizations of Medical Sciences</td>
</tr>
<tr>
<td>DANIDA</td>
<td>Danish International Development Agency</td>
</tr>
<tr>
<td>ECA</td>
<td>Economic Commission for Africa</td>
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<tr>
<td>ECE</td>
<td>Economic Commission for Europe</td>
</tr>
<tr>
<td>ECLA</td>
<td>Economic Commission for Latin America</td>
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<tr>
<td>ECWA</td>
<td>Economic Commission for Western Asia</td>
</tr>
<tr>
<td>ESCAP</td>
<td>Economic and Social Commission for Asia and the Pacific</td>
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<tr>
<td>FAO</td>
<td>Food and Agriculture Organization of the United Nations</td>
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<tr>
<td>IAEA</td>
<td>International Atomic Energy Agency</td>
</tr>
<tr>
<td>IARC</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>IBRD</td>
<td>International Bank for Reconstruction and Development</td>
</tr>
<tr>
<td>ILO</td>
<td>International Labour Organization (Office)</td>
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<tr>
<td>OAU</td>
<td>Organization of African Unity</td>
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<tr>
<td>OPEC</td>
<td>Organization of Petroleum Exporting Countries</td>
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<tr>
<td>PAHO</td>
<td>Pan American Health Organization</td>
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<tr>
<td>PASB</td>
<td>Pan American Sanitary Bureau</td>
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<tr>
<td>SIDA</td>
<td>Swedish International Development Authority</td>
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<tr>
<td>TCDC</td>
<td>Technical cooperation among developing countries</td>
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<tr>
<td>UNCTAD</td>
<td>United Nations Conference on Trade and Development</td>
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<tr>
<td>UNDP</td>
<td>United Nations Development Programme</td>
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<tr>
<td>UNDRRO</td>
<td>Office of the Disaster Relief Coordinator</td>
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<td>UNEO</td>
<td>United Nations Emergency Operation</td>
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<tr>
<td>UNEP</td>
<td>United Nations Environment Programme</td>
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<tr>
<td>UNESCO</td>
<td>United Nations Educational, Scientific and Cultural Organization</td>
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<tr>
<td>UNFDAC</td>
<td>United Nations Fund for Drug Abuse Control</td>
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<tr>
<td>UNFPA</td>
<td>United Nations Fund for Population Activities</td>
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<tr>
<td>UNHCR</td>
<td>Office of the United Nations High Commissioner for Refugees</td>
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<tr>
<td>UNICEF</td>
<td>United Nations Children’s Fund</td>
</tr>
<tr>
<td>UNIDO</td>
<td>United Nations Industrial Development Organization</td>
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<tr>
<td>UNSCEAR</td>
<td>United Nations Scientific Committee on the Effects of Atomic Radiation</td>
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<td>USAID</td>
<td>United States Agency for International Development</td>
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<tr>
<td>WFP</td>
<td>World Food Programme</td>
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<td>WHO</td>
<td>World Health Organization</td>
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Declaration of Alma-Ata

The following is the text of the Declaration of Alma-Ata, issue of the International Conference on Primary Health Care, 1978, and endorsed by the Thirty-second World Health Assembly and United Nations General Assembly at its thirty-fourth session.

The International Conference on Primary Health Care, meeting in Alma-Ata this twelfth day of September in the year Nineteen hundred and seventy-eight, expressing the need for urgent action by all governments, all health and development workers, and the world community to protect and promote the health of all the people of the world, hereby makes the following Declaration:

I

The Conference strongly reaffirms that health, which is a state of complete physical, mental and social wellbeing, and not merely the absence of disease or infirmity, is a fundamental human right and that the attainment of the highest possible level of health is a most important world-wide social goal whose realization requires the action of many other social and economic sectors in addition to the health sector.

II

The existing gross inequality in the health status of the people particularly between developed and developing countries as well as within countries is politically, socially and economically unacceptable and is, therefore, of common concern to all countries.

III

Economic and social development, based on a New International Economic Order, is of basic importance to the fullest attainment of health for all and to the reduction of the gap between the health status of the developing and developed countries. The promotion and protection of the health of the people is essential to sustained economic and social development and contributes to a better quality of life and to world peace.
IV

The people have the right and duty to participate individually and collectively in the planning and implementation of their health care.

V

Governments have a responsibility for the health of their people which can be fulfilled only by the provision of adequate health and social measures. A main social target of governments, international organizations and the whole world community in the coming decades should be the attainment by all peoples of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life. Primary health care is the key to attaining this target as part of development in the spirit of social justice.

VI

Primary health care is essential health care based on practical, 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. It forms an integral part both of the country’s health system, of which it is the central function and main focus, and of the overall social and economic development of the community. It is the first level of contact of individuals, the family and community with the national health system bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care process.

VII

Primary health care:

1. reflects and evolves from the economic conditions and sociocultural and political characteristics of the country and its communities and is based on the application of the relevant results of social, biomedical and health services research and public health experience;

2. addresses the main health problems in the community, providing promotive, preventive, curative and rehabilitative services accordingly;

3. includes at least: education concerning prevailing health problems and the methods of preventing and controlling them; promotion of food supply and proper nutrition; an adequate supply of safe water and basic sanitation; maternal and child health care, including family planning; immunization against the major infectious diseases; prevention and control of locally endemic diseases; appropriate treatment of common diseases and injuries; and provision of essential drugs;

VIII
4. involves, in addition to the health sector, all related sectors and aspects of national and community development, in particular agriculture, animal husbandry, food, industry, education, housing, public works, communications and other sectors; and demands the coordinated efforts of all those sectors;

5. requires and promotes maximum community and individual self-reliance and participation in the planning, organization, operation and control of primary health care, making fullest use of local, national and other available resources; and to this end develops through appropriate education the ability of communities to participate;

6. should be sustained by integrated, functional and mutually-supportive referral systems, leading to the progressive improvement of comprehensive health care for all, and giving priority to those most in need;

7. relies, at local and referral levels, on health workers, including physicians, nurses, midwives, auxiliaries and community workers as applicable, as well as traditional practitioners as needed, suitably trained socially and technically to work as a health team and to respond to the expressed health needs of the community.

VIII

All governments should formulate national policies, strategies and plans of action to launch and sustain primary health care as part of a comprehensive national health system and in coordination with other sectors. To this end, it will be necessary to exercise political will, to mobilize the country’s resources and to use available external resources rationally.

IX

All countries should cooperate in a spirit of partnership and service to ensure primary health care for all people since the attainment of health by people in any one country directly concerns and benefits every other country. In this context the joint WHO/UNICEF report on primary health care constitutes a solid basis for the further development and operation of primary health care throughout the world.

X

An acceptable level of health for all the people of the world by the year 2000 can be attained through a fuller and better use of the world’s resources, a considerable part of which is now spent on armaments and military conflicts. A genuine policy of independence, peace, détente and disarmament could and should release additional resources that could well be devoted to peaceful aims and in particular to the acceleration of social and economic development of which primary health care, as an essential part, should be allotted its proper share.

* * *

The International Conference on Primary Health Care calls for urgent and effective national and international action to develop and implement primary health
care throughout the world and particularly in developing countries in a spirit of technical cooperation and in keeping with a New International Economic Order. It urges governments, WHO and UNICEF, and other international organizations, as well as multilateral and bilateral agencies, non-governmental organizations, funding agencies, all health workers and the whole world community to support national and international commitment to primary health care and to channel increased technical and financial support to it, particularly in developing countries. The Conference calls on all the aforementioned to collaborate in introducing, developing and maintaining primary health care in accordance with the spirit and content of this Declaration.
Introduction

1978 and 1979 will go down in health history as the years dominated by two momentous declarations—the one embodying an aspiration, the other heralding the triumph of an aspiration. The first is the Declaration of Alma-Ata; the second is the Declaration of the Global Eradication of Smallpox.

The Declaration of Alma-Ata has been called the twentieth century Magna Carta for health. Its technical content, its demand for social justice in health matters, and its plea for urgent national and international action for health may not be startlingly new. But taken together in the worldwide political and social context in which they crystallized they manifest an unusual degree of international consensus on the need for cooperation among countries, among different social and economic sectors within those countries, and among different interests and disciplines within the health sector to attain an acceptable level of health for all the people of the world. The Declaration of Alma-Ata expressed the stirrings of an international health conscience; but more than that it marked the beginning of an international health movement whose aspiration is health for all by the year 2000. The Declaration, however, did not merely formulate a messianic dream; it gave very clear indications as to its realization.

In 1979 the Executive Board of the World Health Organization responded to the plea for urgent action. It prepared guiding principles for formulating national policies, strategies, and plans of action based on primary health care, conceived as part of a comprehensive health system and carried out in coordination with other sectors of socioeconomic development. The Thirty-second World Health Assembly adopted those principles and recommended to Member States that they use them forthwith. Many countries have already embarked on their new health strategies, and WHO’s regional committees at their 1979 sessions agreed to develop regional strategies in support of national efforts. So the International Conference on Primary Health Care which issued the Declaration of Alma-Ata and the aftermath of that Conference are likely to change the course of worldwide efforts for health, and not least the efforts of WHO as the directing and coordinating authority on international health work, fulfilled through the cooperation of its 152 Member States.

This manifestation of international cooperation stands in refreshing contrast to many other areas of international concern. I am thinking in particular of the New International Economic Order, whose establishment seems to be attended more by confrontation than by cooperation. Yet I remain convinced that recent events in national and international health work, with their emphasis on multisectoral action for human development, could help to establish that New Inter-
national Economic Order if only the politicians and economic planners would capitalize on the good will to cooperate in social and economic development that is being generated daily.

To ensure interest, guidance and support for the international movement for health on the part of other development sectors as well as the health sector, consultations are taking place with eminent experts in these fields. Also, in full accord with the principles of the New International Economic Order, a Health2000 Resources Group is being established to facilitate the rationalization of the flow of international resources for health so that priority is given to the strategies that will ensure health for all the developing countries.

The 1979 resolution of the United Nations General Assembly (34/18) that recognized health as an integral part of development is a source of great encouragement. It endorsed the Declaration of Alma-Ata, appealed to Member States to carry out the action called for in that Declaration, welcomed the priority allocation of WHO's resources to the achievement of health for all by the year 2000, and enjoined the international community to give full support to those efforts. There are many issues on which the resolutions adopted are only too often mere statements of aspirations whose realization requires complex and time-consuming negotiations between countries, but in the case of its resolution on health and development, the General Assembly can rest assured that the implementation has already begun with a remarkable degree of agreement among those who voted for it.

National and international determination were among the key factors in the success of the smallpox eradication. The Declaration of Smallpox Eradication will be formally made at the Thirty-third World Health Assembly in 1980. But it was made de facto in December 1979 when the Global Commission for the Certification of Smallpox Eradication announced that, two years having elapsed since the detection in Somalia of the last case of endemic smallpox, the world was now smallpox-free. Other factors that contributed to success were the dedication of the national and international staff working on the campaign, and the high degree to which people in the countries concerned took an interest in ridding themselves of the disease and eagerly took part in efforts for its elimination.

Important lessons can be learned from smallpox eradication—but the idea that we should single out other diseases for worldwide eradication campaigns is not among them. That idea is tempting but illusory. The epidemiology of smallpox is unlike that of any other disease, and its control and subsequent eradication were based on the wise use of epidemiological knowledge. Skilful scientific and technological research preceded the development of a freeze-dried vaccine and of the bifurcated needle to administer it. Local epidemiological investigations, health services and social research were deployed to ensure that the strategy of containment, surveillance, and selective vaccination in endemic areas was both efficient and effective.

Now that it is possible to discontinue mass vaccination as a routine measure, the affluent countries will save some 1200 million US dollars a year. Here is a cost/benefit success story if ever there was one! But the success story will have a punch-line only if the governments of these countries decide to plough back the money they have saved into other activities for attaining world health. There is no lack of objects of useful expenditure. But we must all realize that wise investment in health requires a proper assessment of the situation; research and development to find not only the appropriate and feasible technologies and delivery systems but also a range of social and economic measures; and the determined application of whatever blend of measures is
INTRODUCTION

adopted. This approach was successful in the case of smallpox and is accepted practice in other fields of endeavour. It is also a central theme of primary health care as defined at the Conference in Alma-Ata. It must now become the rule rather than exception in the field of health.

That WHO has been trying during the past two years to follow the above advice may not emerge clearly enough from the detailed report that follows. But it has been trying hard. The research and development aspects of its programme have evolved rapidly in both scope and content. The network of scientists throughout the world who are working within WHO's coordinating mechanisms has steadily enlarged. In every WHO region an advisory committee on medical research has been active in determining regional health research priorities based on countries' health needs. One example of worldwide collaboration in health research can be given. Since diarrhea is a major public health scourge particularly in developing countries, research on its control is now being tackled as a collaborative effort of all these regional advisory committees and of the global Advisory Committee on Medical Research. I hope that, in their scientific excitement, the collaborating investigators do not lose sight of the economic, social and environmental factors, and that they do not forget the famous "Broad Street pump approach", which by identifying—and removing—the mechanism of transmission of cholera in an outbreak in London nearly 130 years ago, succeeded in interrupting the epidemic in spite of the absence of scientific knowledge as to the precise nature of the disease.

The need to take account of such factors has become increasingly evident to those involved in the Special Programmes for Research and Training in Tropical Diseases and for Research, Development and Research Training in Human Reproduction. The understanding of the importance of building up research capacities in developing countries as an essential step towards their ultimate self-reliance in health matters emerges clearly from the annual report for 1979 of these two Programmes, whose goals are highly relevant to the social and economic future of mankind, not to speak of the wellbeing of people. These reports make rewarding reading. They vibrate with scientific tension, carefully thought-out content, and probings for a speedy application of research findings. Even if immediate results in the form of breakthroughs have not yet been forthcoming, the long-term value is already apparent of involving a wide community of scientists from whatever disciplines appear necessary and also health managers, from both developing and developed countries.

If similar satisfaction cannot be expressed with research in nutrition, nevertheless a major step forward in this area was taken by the successful meeting on infant and young child feeding in 1979. This meeting can be regarded as a milestone event, in that representatives of governments, United Nations agencies, nongovernmental organizations, experts in various disciplines, and the infant-food industry met together as equal participants. In spite of the diverse interests they represented, they did reach agreement, making practical recommendations for the promotion of breastfeeding. The meeting thus vindicated the policy of dialogue, leading to the triumph of reason. As requested by the meeting, work has already started on the formulation of an international code of marketing infant formulas and other products used as breastmilk substitutes. This meeting was organized jointly by WHO and UNICEF. It is a pleasure to recall that the two organizations, particularly since working together for the International Conference on Primary Health Care, have found a common language in many other areas, for example in joint national and regional activities for the development of strategies for health for all. This way of working together on specific matters of common interest is to my mind the best form of collaboration within the United Nations system.
WHO's complex relationships with the pharmaceutical industry found their expression in the Organization's endeavours to ensure the availability of essential drugs to people everywhere. When the Thirty-first World Health Assembly launched the action programme on essential drugs, in May 1978, it was already recognized that the existence of an agreed short international list of essential drugs, and action by governments to establish national lists accordingly, would not in themselves bring drugs to the people who needed them. It has now become even clearer that these activities have to be accompanied by political, industrial, commercial, educational, legislative, and law-enforcement action. Some of this action has been initiated by the non-aligned countries as part of their Action Programme for Economic Development. UNCTAD, UNICEF and UNIDO are also playing their part. A growing number of countries are banding together to take advantage of bulk purchasing and joint quality control. Manufacturers too have made a move in the right direction by selling certain drugs at reduced prices to the public sector in developing countries.

Yet it cannot be denied that the interests of the developing countries on the one hand, and of the drug and vaccine industry on the other, are not identical. That industry is still attracted mainly by the profits it can make in the developed countries: a warning sign was given when two well-known firms ceased to produce vaccines because of what they felt to be a lack of profitability. The industry has not yet grasped the significance of the tremendous markets that will open up as primary health care gains ground in the less developed countries, nor of the social—and commercial—wisdom of helping countries to develop these markets by producing drugs locally as well as importing them. Moreover the developing countries have not yet themselves fully awakened to the potential of economic as well as technical cooperation in drug and vaccine production. I can only reiterate what I said in the introduction to my report on the work of WHO in 1978. Nothing short of an optimally coordinated drive throughout the world is needed to bring essential drugs and vaccines to all who need them, and without these essential drugs and vaccines people will not have confidence in primary health care.

Am I convinced that optimal action for health development is taking place since the Declaration of Alma-Ata issued its challenge to the national and international community? There is certainly no room for complacency in any country; but neither is there place for pessimism. The goal is there; the ways of attaining it are daily becoming clearer; and the lesson of the past two years is that if we temper our dreams with realism we shall reach our goal in spite of world political and economic malaise.

Director-General
Chapter 1

Policy Basis: World Health Assembly, Executive Board and Regional Committees

During the biennium 1978–1979 the governing bodies of WHO played a more active role than ever before in shaping the Organization's policies and guiding its work. The Executive Board assumed greater responsibilities, its representatives introducing certain items at the Health Assembly, summarizing the Board's discussions on the subject, and replying to questions raised by delegates. The regional committees also played a noticeably more active role, many of them setting up subcommittees to deal with such matters as the programme budget, the General Programme of Work, and technical cooperation among developing countries, and also to provide general advisory services to the Regional Directors.

Strategies for health for all by the year 2000

1.2 Following the Declaration of Alma-Ata in September 1978—calling for the development of national, regional and global strategies for health for all, based on primary health care—the Executive Board prepared guiding principles for formulating such strategies.1 These principles were adopted in May 1979 by the Thirty-second World Health Assembly, which endorsed the report of the International Conference on Primary Health Care, stressed that strategies should be formulated first and foremost by the countries themselves, and requested the Director-General to take the necessary measures to ensure that the appropriate priority was given to this work (resolution WHA32.30). In addition the Health Assembly requested the Director-General to conduct a study on the strengthening of WHO's cooperation in this field with other organizations within the United Nations system (resolution WHA32.24).

1.3 Subsequently the United Nations General Assembly, at its thirty-fourth session, in November 1979, adopted resolution 34/58 on health as an integral part of development, endorsing the Declaration of Alma-Ata and appealing to Member States to carry out the actions called for in the Declaration. The resolution welcomed the efforts of WHO, UNICEF, and other agencies in the United Nations system regarding the goal of health for all by the year 2000, and called upon the relevant organizations to support WHO's efforts by appropriate action within their respective spheres of competence. It noted with approval the Health Assembly's decision that the development of WHO's pro-

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grammes and the allocation of its resources at global, regional and country level should reflect its commitment to the priority of achieving this goal, as well as the decision to ensure that the global strategy was reflected in WHO’s contribution to the preparation of the new international development strategy of the United Nations.

1.4 At their 1979 sessions the regional committees pledged support in the formulation of strategies at the regional level (resolutions AFR/RC29/R11, AFR/RC29/R16, SEA/RC32/R1, EUR/RC29/R6, EM/RC29A/R7, and WPR/RC30/R11).

1.5 An essential component of primary health care and a prerequisite for attaining health for all by the year 2000 is the provision of safe drinking-water and sanitation. The recommendations of the United Nations Water Conference (Mar del Plata, Argentina, 1977) concerning the attainment of safe water supply and sanitation for all by the year 1990 have accordingly been reflected in WHO’s priorities. The Thirty-first World Health Assembly called for a determined effort to meet the needs of populations deprived of services; urged governments to mobilize all possible resources and prepare realistic plans; and requested the Director-General to strengthen technical cooperation with Member States in preparing for the International Drinking-Water Supply and Sanitation Decade, and to promote coordination and cooperation at the international level (resolution WHA32.40). The Thirty-second World Health Assembly adopted a recommendation by the Executive Board at its sixty-third session urging Member States to support the cooperative action for the Decade initiated by the United Nations and other related organizations, and requesting the Director-General to coordinate WHO’s activities in this field with its other efforts for providing primary health care (resolution WHA32.11). (For further details, see Chapter 11, paragraphs 11.14–11.24).

Programme Committee of the Executive Board

1.6 The scope of the work of the Programme Committee of the Executive Board was considerably broadened. On behalf of the Board it monitored the implementation of the programme budget policy and strategy, considering the subject programme by programme in November 1978, and on the basis of issues cutting across those programmes in November 1979. Its review of the Sixth General Programme of Work concentrated mainly on the extent to which that Programme is being translated into medium-term programmes, and some of these were reviewed in depth. It also took preliminary action on the preparation of material for the Seventh General Programme of Work. With regard to the formulation of strategies for health for all by the year 2000 (see paragraph 1.2 above), the Programme Committee in 1978 prepared draft guiding principles for the Board’s consideration, and in 1979 it reviewed the current status of activities.

1.7 Pursuant to resolution WHA31.35, which requested the Director-General to present to the Executive Board and Health Assembly a comprehensive programme of research in which WHO is involved, the Programme Committee in 1978 reviewed the evolution of research activities in the light of the new plan for research management—with emphasis on strengthening the capacity

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2 The Programme Committee’s report is reproduced as Appendix 2 to Executive Board, sixty-third session. Report on the proposed programme budget for the financial period 1980–1981 (WHO document EB65/49). See also Chapter 4, paragraphs 4.2–4.4 below.
of Member States, particularly developing countries, to carry out biomedical and health services research, and on the participation of national scientists in WHO’s research activities, with the Organization assuming a coordinating role. The Programme Committee also reviewed a progress report on the work of the Director-General’s Coordinating Committee on Cancer, which was established in April 1978 in accordance with a recommendation made by an ad hoc committee to the sixty-first session of the Board in January of that year.

1.8 Following the Programme Committee’s review of ways and means of reducing the adverse effects of currency fluctuations on the programme budget, the Thirty-second World Health Assembly adopted resolutions WHA32.3 and WHA32.4, providing a new and flexible way of dealing with currency fluctuations in 1979 and in 1980–1981 respectively. For each of these periods, the Health Assembly authorized the Director-General to charge against available casual income the net additional costs to WHO under the regular programme budget resulting from the difference between the US dollar/Swiss franc rate of exchange used by WHO in establishing that budget and the UN/WHO accounting rates of exchange prevailing at the time the budget was implemented—provided that such charges did not exceed US$ 15,000,000 during the stated period. Conversely, if there were net savings, the Director-General was requested to transfer such savings to casual income, up to an amount of US$ 15,000,000 in each of the periods 1979 and 1980–1981. This special casual income facility proved effective in 1979 in protecting the regular budget from the adverse effects of currency fluctuations.¹

¹ Final figures are given in the Financial Report for 1979.

Organizational studies of the Executive Board

1.9 The work on the Executive Board’s organizational study on “WHO’s role at the country level, particularly the role of the WHO representatives”;² was completed early in 1978 and transmitted to the Thirty-first World Health Assembly. The recommendations and conclusions were as follows:

(1) The donor to recipient “assistance” approach should be abandoned and replaced by real cooperation between the Member States and WHO as equal partners.

(2) The ultimate aim of any collaboration should be the country’s self-reliance; this implies a gradual change in the mode of collaboration so as to adapt it, at each moment, to the country’s real needs.

(3) One of the essential functions of the Organization is to collaborate with countries in the planning, management and evaluation of their own health programmes; this type of collaboration should enable the countries to select the activities they should undertake in order to solve their priority problems, and to determine the fields of application of collaboration with WHO and other cooperating agencies.

(4) Programming at country level will place WHO in a better position to develop its programmes at the regional and global levels.

(5) In order to fulfil its role at country level, the Organization should actively seek all means of facilitating dialogue with nationals at country level, and at other echelons of the Organization.

(6) The dialogue between WHO and governments should lead to increased

participation of national authorities in, and responsibility for, the work of WHO.

(7) WHO should contribute to a more equitable distribution of health resources, both between and within countries.

(8) The new methods of collaboration imply a better utilization of all the resources which WHO can mobilize, whatever their origin.

(9) Development of the WHO representatives' role should be continued by strengthening their technical functions and reducing their representative functions.

(10) The function of liaison between WHO and the governments, hitherto performed by WHO representatives, could benefit from new approaches that would make greater use of national skills and resources.

(11) Further experimentation should take place with the use of national personnel as WHO representatives and project managers.

(12) There is a need for continuing evaluation of different approaches to cooperation and coordination at the country level with particular reference to the role of WHO representatives, national coordinators and other mechanisms, such as national coordinating committees.

(13) In the light of their functions as defined in the report, the title of WHO representative should be changed to that of "WHO coordinator", and where national personnel fill this function their title should be "WHO national coordinator".

(14) New methods for WHO action at country level, together with reorientation of the WHO representatives' functions, require a new type of public health training in which the Organization should play the role of pioneer in conjunction with the appropriate educational bodies.

(15) The training referred to in section (14) should emphasize health management; this training should take place as far as possible in the regions themselves, should be geared to practical national problems in health management, should be based on national institutions, and should be organized jointly for national and international health personnel.

(16) The change in the type of relationship between Member States and WHO requires a re-examination of the Organization's structures in the light of its functions.

I.10 The recommendation in section (16) was reiterated by the Health Assembly in resolution WHA31.27, which requested the Director-General to re-examine the Organization's structures in the light of its functions. A managerial study of unprecedented magnitude was subsequently undertaken and a report was prepared for submission to the sixty-fifth session of the Board in 1980.

I.11 Extensive work was done during the biennium on the organizational study on "The role of WHO expert advisory panels and committees and collaborating centres in meeting the needs of WHO regarding expert advice and in carrying out technical activities of WHO". It included visits to 21 WHO collaborating institutions in the Region of the Americas and the South-East Asia, European and Western Pacific Regions, and participation in the work of the global and regional advisory committees on medical research. A report was prepared for presentation to the Board at its sixty-fifth session.
Technical Discussions

1.12 The Technical Discussions at the Thirty-first World Health Assembly—on "General policies and practices in regard to medicinal products; and related international problems"—were particularly lively in view of the many difficulties inherent in the production, export and import of drugs. The general recognition that the availability of essential drugs is a prerequisite for primary health care permeated the Discussions. These ranged over problems of supply, including local manufacture; distribution, quality control and selection of essential drugs; traditional medicine; the need for simple and easy-to-follow legislation and regulatory control; the need for information and education of the public and of health personnel at all levels on the proper use of drugs, with special reference to the responsibility of health personnel, through their prescribing, for the cost of health care. The role of the pharmaceutical industry was repeatedly stressed: so far it seemed to have seriously underestimated the potential of the developing countries as consumers of basic drugs and the enormous size of the markets. However, the developing countries themselves should not lose sight of their responsibility for initiating national action programmes, based on a political decision at the highest level to bring about health for all—which implies inter alia access to medicinal products for all—and for tackling without delay the causes of drug shortages, both geographical and economic. (For the action taken by the governing bodies in regard to essential drugs and the use of medicinal plants, see paragraphs 1.24-1.26 below).

1.13 The Regional Office for the Americas, which is globally responsible for technical cooperation among developing countries (TCDC), was also responsible for organizing the Technical Discussions on this subject at the Thirty-second World Health Assembly, which focused on the need for political commitment at the highest level to TCDC on the part of the economically developed as well as the developing countries. It was emphasized that Member States should have a national plan and a clear policy for TCDC, backed by a national health programme; develop a national information system on TCDC; expand health manpower development, particularly in the field of teaching and research; provide information on training needs and potentials; and exploit to the full the possibilities for local manufacture and quality control of low-cost essential drugs. WHO, together with other organizations of the United Nations system and with the developed countries, should play a catalytic and supportive role. The practical measures whereby WHO could facilitate TCDC included the review of existing information services on health resources; the promotion of cooperative projects and joint ventures in the production, procurement and distribution of essential drugs; the development of information systems and of legislation to meet the needs of TCDC in primary health care and other priority programmes; and the formulation of strategies for TCDC as a new and mutually advantageous dimension of the New International Economic Order.

1.14 The Thirty-second World Health Assembly, in resolution WHA32.27, urged the Director-General to take into account the deliberations of these Technical Discussions in the preparation of the Seventh General Programme of Work and in all his efforts to support countries in the imple-

1 See WHO Chronicle, 32: 280 (1978).

mentation of the new international development strategy. This recommendation was listed among the measures to form the basis of his proposals for restructuring WHO and redistributing its programmes and resources, with a view to redressing the inadequate and intolerably inequitable distribution of health resources throughout the world.

1.15 The TCDC concept underlay the discussions in the regional committees in both years of the biennium. In the Regional Committee for Europe the usefulness of the concept as applied to developed as well as developing countries was specifically mentioned, and ways of avoiding the donor recipient relationship in TCDC were discussed. Specific resolutions on TCDC were passed in one or both years by all the other regional committees. (For further details on TCDC, see Chapter 3, paragraphs 3.31-3.35, below).

1.16 Technical Discussions were held at all regional committee sessions and covered a range of subjects (listed in Table 1.1) mainly relating to two of WHO's major preoccupations—primary health care and the control of communicable diseases.

**Programme trends and priorities**

1.17 The governing bodies devoted close attention to the policy regarding biomedical and health services research, as illustrated by the adoption of resolutions EB61.R36, WHA31.35 (see also paragraph 1.7 above), and WHA32.15. Moreover, following proposals made by the regional advisory committees on medical research, four of the regional committees discussed the subject and adopted resolutions indicating priorities for research in their respective regions (resolutions AMR/RC31/R20, EUR/RC28/R4, EM/RC29A/R6, WPR/RC29/R10 and WPR/RC30/R18).

1.18 With regard to the malaria control strategy, the Executive Board at its sixty-first session appointed an ad hoc committee

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<th>Subject</th>
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<td>Social policy and health development in Africa</td>
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<td>The present state of child health in the Region</td>
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<td>Community health education and information</td>
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<td>National policies and practices in regard to medicinal products; and related international problems</td>
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<td>The impact of drugs on health costs: national and international problems</td>
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<td>Strategies for extending and improving potable water supply and excreta disposal services during the decade of the '80s</td>
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<td>Continuing education of health personnel and its evaluation</td>
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to assist in preparing a report for submission to the Thirty-first World Health Assembly on the reorientation of the WHO malaria programme. The Health Assembly subsequently adopted resolution WHA31.45 and defined a broad-spectrum programme employing all available methods that appear to be useful and feasible within the context of countries' various economic and social conditions and the epidemiological situation in different areas within each country. The Thirty-second World Health Assembly adopted resolution WHA32.35, calling for intensified action for development of the programme in Africa. Similar resolutions were adopted at both the 1978 and 1979 sessions of the Regional Committees for the Americas (resolutions AMR/RC30/R18 and AMR/RC31/R30), where a regional plan of action against malaria is being developed, and for the Western Pacific (resolutions WPR/RC29/R13 and WPR/RC30/R21), where Member States were urged to intensify their efforts and collaborate in training and research activities. (Details of the malaria programme will be found in Chapter 9, paragraphs 9.21-9.37, below).

1.19 The Thirty-first World Health Assembly, recognizing the crucial importance of family health, asked for information on the present status of maternal and child health in the world to be presented during the International Year of the Child, 1979 (resolution WHA31.55). Reviewing the subsequent report, the Thirty-second World Health Assembly outlined a long-term programme for maternal and child health care (resolution WHA32.42), which it saw as particularly important in primary health care and in achieving the goal of health for all by the year 2000. The theme chosen for World Health Day in 1979 was: “A healthy child, a sure future”.

1.20 The regional committees considered various aspects of the same subject, including the psychosocial development of the child (resolution AMR/RC31/R33) and a regional medium-term programme in family health (resolution EUR/RC29/R4). In the Eastern Mediterranean Region a report on the present state of child health in the Region was examined during the Technical Discussions in 1978. It was concluded (resolution EM/RC28A/R13) that the International Year of the Child was a most appropriate time for the strenuous effort needed to attain a significant and permanent reduction in the prevailing high mortality and morbidity rates among young children. The resolution called for particular attention to children under three years of age; endorsed the proposal to devote a higher proportion of the regular budget to child health, including the programmes on control of diarrhoeal diseases and on immunization; and suggested a special voluntary fund for child health in the Region. (Work in maternal and child health is described under Chapter 6).

1.21 The Thirty-second World Health Assembly took a concerned interest in the health care of the elderly. In resolution WHA32.25, it responded positively to the decision of the United Nations General Assembly (resolution 33/52) to organize a World Assembly on the Elderly in 1982, stressing WHO's leadership role in the health care of the elderly and calling on the Organization to play a full part in the preparations for the World Assembly. These preparations have been entrusted to the Regional Office for Europe as part of its global responsibility for WHO's programme for the care of the elderly (see Chapter 5, paragraph 5.28).

1.22 The Health Assembly's continued interest in ways of influencing life-styles has been evident in resolutions on tobacco smoking and alcohol-related problems. Force-
fully underlining the health hazards of smoking (resolution WHA31.56), the Health Assembly called for expanded activities in health education and asked Member States to take economic and social measures to restrict smoking. In keeping with that resolution the theme selected for World Health Day in 1980 was “Smoking or health: the choice is yours”. A further resolution prohibiting smoking during official WHO meetings in the Eastern Mediterranean Region was adopted by the Regional Committee (resolution EM/RC28A/R3). After the Executive Board had debated a report on alcohol-related problems (resolution EB63.R30), the Health Assembly pressed for an intensive programme to control the excessive consumption of alcohol (resolution WHA32.40). It again stressed the need for strong preventive programmes, including public information and education (see also Chapter 7, paragraphs 7.15–7.19).

1.23 The adoption by the Thirty-first World Health Assembly of resolution WHA31.28 marked an important step forward in the efforts to control the increasing number of chemicals in food and the environment that are potentially toxic and harmful to health and could contribute to the genesis of cancer and negative genetic changes. In particular, the resolution called for the strengthening of the work in this field through the establishment of a central WHO unit at headquarters for planning and coordination, and a network of national institutions that would be assigned specific tasks (see also Chapter 11, paragraphs 11.9–11.11).

1.24 The sixty-first session of the Executive Board, after considering the report of the WHO Expert Committee on the Selection of Essential Drugs,1 adopted resolution EB61.R17 calling on the Director- General to institute a series of measures to promote WHO’s action programme in this field, and in May 1978 the Thirty-first World Health Assembly set out the guiding principles for the programme (resolution WHA31.32). It recognized that the local production of essential drugs and vaccines is a legitimate aspiration of developing countries; that the establishment of a pharmaceutical industry in countries where it does not exist requires the transfer of appropriate technology and investment; that collective purchases of large quantities of pharmaceuticals would substantially reduce their costs; that there is a need for objective information about pharmaceuticals, in view of the risk of uncontrolled promotional activity by manufacturers; and that urgent international action is required to establish an action programme aimed at strengthening the national capabilities of developing countries regarding local production, quality control, and the selection and proper use of essential drugs. The Health Assembly also adopted resolution WHA31.33 recognizing the importance of medicinal plants in the health care systems of many developing countries.

1.25 In January 1979 the sixty-third session of the Board considered a report2 prepared by the Ad Hoc Committee on Drug Policies that had been established at its sixty-first session, and adopted resolution EB63.R20, which was subsequently endorsed by the Thirty-second World Health Assembly in resolution WHA32.41, calling for the establishment of a special programme on essential drugs.

1.26 Relevant resolutions adopted by the regional committees included, in 1978, AFR/RC28/R6, requesting the Regional Director for Africa to give priority to training

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health personnel in the formulation and implementation of national and regional policies on drugs and medical supplies, and EM/RC28A/R2, urging Member governments in the Eastern Mediterranean Region to designate a formulary committee of national experts to establish standard lists of essential drugs. In 1979 resolution SEA/RC22/R5 underlined the importance of the supply of essential drugs for the achievement of the goal of health for all by the year 2000 and called for the establishment of a regional drug information centre in the South-East Asia Region. (Further details of WHO’s programme on essential drugs are given in Chapter 8, paragraphs 8.13–8.16).

1.27 In recent years WHO has been active in the development of managerial processes not only for WHO programmes but also for national health development. A number of resolutions were adopted by the Board at its sixty-first session and by the Thirty-first World Health Assembly: EB61.R25 and WHA31.12 on country health programming; EB61.R26 and WHA31.11 on health programme evaluation; and EB61.R32 and WHA31.20 on information support. In resolution WHA31.43 the Thirty-first World Health Assembly urged Member States to develop their managerial processes for health development in an integrated manner, and requested the Director-General to provide support to countries in that respect and also to ensure that WHO’s own managerial processes were developed in a like manner. (See also Chapter 2, below.)

1.28 The governing bodies have continued to urge that increased efforts be made to achieve a more balanced and equitable recruitment of professional and higher-graded staff. At its sixty-third session the Board, after considering a report by the Director-General on the subject,1 adopted resolution EB63.R25 approving the following proposals of the Director-General: (1) to establish—with a view to improving geographical distribution in the selection and appointment of staff—desirable ranges similar to those applied by the United Nations but adapted to WHO’s membership and the size of its Secretariat; (2) to set specific targets up to the end of 1981 for the recruitment of nationals of certain Member States; and (3) to set specific targets for the recruitment of women. However, the Thirty-second World Health Assembly (resolution WHA32.37) requested the sixty-fifth session of the Board to re-examine the concept of desirable ranges, and the Regional Committee for South-East Asia (resolution SEA/RC32/R14) expressed concern about the adverse effects likely to result from the implementation of that concept, and urged that the whole matter be reconsidered.

Health and peace

1.29 The governing bodies became increasingly aware of the potential role that improvements in health care could play in the promotion of peace. The Thirty-second World Health Assembly (resolution WHA32.24) recalled the contribution that WHO had already made to the strengthening of peace and cooperation between nations, and asked the Director-General to report on the further steps which the Organization could take in the interests of international socio-economic development and in the implementation of United Nations resolutions on the strengthening of peace, détente and disarmament.

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1.30 The Health Assembly adopted a number of resolutions calling for intensified health cooperation with newly independent and emerging States and with national liberation movements recognized by OAU (WHA31.46, WHA31.52, WHA32.20, WHA32.21 and WHA32.22). The Regional Committee for Africa similarly expressed strong support for such national liberation movements and for the front-line States in southern Africa (resolution AFR/RC29/R8 and AFR/RC29/R14).

1.31 The Middle East was also given special attention by the Health Assembly, which called for intensified health assistance to refugees and displaced persons in Cyprus (resolutions WHA31.25 and WHA32.18), assistance in Lebanon (resolutions WHA31.26 and WHA32.19), and continued efforts to improve the health conditions of the Arab population in the occupied Arab territories, including Palestine (resolution WHA31.38).

* * *

1.32 The above paragraphs illustrate the increasingly close coordination in policy matters among the regional committees, the Executive Board and the Health Assembly—a subject that received close attention as one of the essential aspects of the study of WHO's structures in the light of its functions.
Chapter 2

General Programme
Development and Management

2.1 THE THIRTY-FIRST World Health Assembly (resolution WHA31.43) urged all Member States to introduce, or strengthen where applicable, an integrated process for defining health policies; formulating priority programmes to translate those policies into action; delivering such programmes through the general health system; monitoring, controlling and evaluating them; and providing adequate information support. In so doing Member States were urged to make use of methods developed under the aegis of WHO; and the Health Assembly requested the Director-General to continue the integrated development by WHO of processes for medium-term programming, programme budgeting, health programme evaluation, and provision of information support. Although reviewed separately for the purposes of this report, the two groups are in fact closely interlinked.

National health programme development

Country health programming

2.3 During 1978-1979 WHO concentrated on the development and use of the country health programming process, including the related national processes of programme budgeting, programme evaluation, information support, and management training as applied to health programmes.

2.4 The Thirty-first World Health Assembly (resolution WHA31.12) reemphasized the importance of country health programming as a systematic and continuing multisectoral, national process, urged Member States to introduce or strengthen that process in cooperation with WHO and with other countries, and requested the Director-General: (1) to cooperate with Member States in the further development and application of country health programming; (2) to promote training in the process, as well as the research required for its development and application; and (3) to evaluate the progress of country health programming throughout the world.
2.5 During the biennium therefore the integrated management process represented by country health programming was further developed, tested and applied by countries in all regions. The process has six recurrent and interrelated phases: (1) formulation of general health policies, strategies, and plans of action; (2) broad programming; (3) detailed formulation of programmes; (4) planning for implementation; (5) management of implementation; and (6) management of programme operations. Although presented here as a formal sequential process, country health programming is in fact a flexible, realistic process with multiple entry-points and information feedback relationships.

2.6 Most countries that have initiated country health programming consider it a suitable management tool for the formulation of national policies, strategies and plans of action for the attainment of health for all by the year 2000 and for primary health care. In the Western Pacific Region a subregional conference on primary health care recommended the use of the process as essential for the planning of such care.

2.7 WHO is currently revising its working guidelines for country health programming. Related manuals have been developed at country or regional level, e.g., the manual on health planning in the Western Pacific. These guidelines and manuals highlight the components of country health programming and reflect the importance of integrating planning and management functions.

2.8 A total of 42 countries have adopted some form of country health programming, 19 of them during 1978–1979. Other countries continued to use the process for implementing priority programmes or for formulating programmes under their five-year plans or other planning cycles. Six countries in the South-East Asia Region, for example, carried out a full review of their health programmes. In the Region of the Americas a health planning process similar to country health programming continues to be used extensively, and countries are developing their strategies for the next decade in this context. Twenty-two countries of this Region defined or updated their health policies.

2.9 Although in 1978–1979 most countries formalized their policy-making and planning approaches, they varied in the extent to which the procedural steps were defined. Most countries promoted community participation and the decentralization of management processes, thus facilitating intersectoral action in planning and management. Several countries adopted long-term planning (15–20 years) for their broad programmes, setting objectives for coverage by services and improvement of health conditions. The programmes that most frequently emerge as a priority after the programming process are those fully consistent with the primary health care approach. Most countries either stress the progressive extension of coverage by the health services in accordance with a predeterminated schedule, or aim at total coverage by either health services or social insurance.

2.10 Emphasis was placed on training in country health programming and related managerial processes (see paragraph 2.21 below). Interregional seminars were organized for the exchange of experience among countries using the country health programming process or some other formal health planning approach. Four such seminars (two of them funded by DANIDA) were organized: two in Bangkok, one in Brazzaville, and one in Dubrovnik (Yugo-
slavia). They stressed the importance of sound managerial processes for national health development in the wider context of socioeconomic development and joint intersectoral effort; and noted that the old notion of incremental plans perpetuated by planning units, of which the outcome was the formulation of projects of only limited scope, had given way to a new process allowing for greater participation. The definition of health implicit in the concept of “Health for all by the year 2000” and in the Declaration of Alma-Ata on primary health care imposed a more open forum for the discussion of health programming making for multi-sectoral and multidisciplinary participation, continuous interaction, and joint work—a process stretching from the policy-making level down to the implementation level, i.e., to the health workers carrying out the programmes and to those the programmes were intended to serve. The seminar in Dubrovnik concluded inter alia that an integral part of national health development strategies should be the development of health management capabilities.

**National health programme budgeting**

2.11 As an essential part of country health programming, WHO and Member States continued to develop the concept of national health programme budgeting. This includes: (1) the preparation, for approval by the administrative and legislative authorities, of national, provincial or local programme-oriented budgets in all sectors related to health; (2) the preferential allocation of resources to priority health programmes; and thereafter (3) the continuing reprogramming of resources within budgetary allocations in response to change, including changes in priorities. Such programme budgeting is already being carried out in one form or another by the different countries, and WHO is encouraging them to exchange their experience.

2.12 Programme budgeting is closely related to the issue of health care financing, which was the subject of a WHO study group whose conclusions were published in 1978.1 “Economics and health policy” was the theme of a CIOMS Conference (Geneva, November 1979), which stressed the need for exchange of experience among countries on methods of financing health care and related economic and budgeting issues.

**Evaluation of national health programmes**

2.13 During 1978–1979, general principles for the evaluation of health programmes, both at national level and within WHO, were discussed and endorsed by the Executive Board and World Health Assembly (specifically in resolution WHA31.11). That programme evaluation should be a built-in part of the development process for national health programmes is clearly reflected in the provisional guidelines for health programme evaluation endorsed by the Executive Board (resolution EB61.R11) and the Thirty-first World Health Assembly. Figure 2.1 illustrates the place of evaluation in the health development process.

2.14 In resolution WHA31.11 Member States were urged progressively to introduce and to promote this evaluation process by national health personnel, and to collaborate with WHO in evaluating the impact of the latter’s programmes in their own country. During 1978–1979, progress in this regard was perhaps slow, but it was steady. A number of countries made use of the guidelines mentioned

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Figure 2.1  Evaluation in relation to the health development process.
above, either to test their usefulness or to adapt them to specific local, provincial or national requirements. Whenever a pilot application was worked out jointly with WHO, as for example in the African and European Regions, care was taken to ensure that the outcome not only had operational value for the Member State concerned, but also feedback value that would enable WHO to improve the methods applied. With the support of WHO, and sometimes of other agencies, reviews were made of national health plans in order to draw conclusions as to the coverage, quality, and organization of health services in preparation for the next planning period.

2.15 Subcommittees of the regional committees, or the regional committees themselves, discussed the promotion of evaluation at both regional and national level. In the European Region, for example, a consultative group on programme development of the Regional Committee indicated that the impact of WHO programmes, and of health programmes in general, could be improved by better monitoring and increased use of more sharply defined output indicators.

2.16 Member countries of PAHO/WHO began the final evaluation of the Ten-Year Health Plan for the Americas, which will not only reflect the health situation in this Region but also measure the soundness of the strategies employed by countries in contributing to the attainment of regional goals. In the South-East Asia Region, evaluation is part of the overall health management processes; WHO collaborates with almost all the countries in this Region in such evaluation, e.g., the work carried out jointly with UNICEF and USAID in Nepal, and with the United Nations Joint Inspection Unit in Sri Lanka. In the Eastern Mediterranean

Region evaluation processes are slowly taking root but they are mainly being applied on a small scale or to special projects rather than to large programmes or health services as a whole. In the Western Pacific Region such evaluation is conducted on a regular basis, WHO collaborating with national staff.

2.17 The monitoring of evaluation activities in countries was facilitated by the designing and introducing of relevant data collection, as part of the development of national health information systems and the support therefor described in paragraphs 2.22–2.27 below. This work was done not only for central, but also for provincial, district and local levels of national health services, so as to create a basis for the periodic evaluation appropriate to each level.

2.18 At an interregional meeting to assess the development of health programme evaluation both at national level and in WHO (July 1979), one of the major issues was the need for better indicators for measuring the health status of the population and for monitoring the delivery of health care. Work has begun on a list of such indicators that illustrates their usefulness for monitoring progress in the implementation of strategies for attaining health for all by the year 2000.

Training in national health management

2.19 An important component of national health programme development is training in health management, and WHO gives active support to the training of both national and WHO staff in managerial processes, sometimes in conjunction with other international agencies. Collaboration with national institutes, such as the Institute for Management for East Africa (Arusha, United Republic of Tanzania), the Institute for Management and
Public Administration (Accra), the National Institute for Health and Family Welfare (New Delhi), and the Health Services Development Institute (Surabaya, Indonesia), took the form of courses on managerial processes. In several regions training in health planning and management was carried out in the context of technical cooperation among developing countries.

2.20 In the Western Pacific Region courses in planning and management were held in 1978 and 1979, for example in Malaysia and Tonga; and in the Southeast Asia Region a similar course was held in Thailand. It became apparent that to institutionalize such courses by associating them with national health development centres would facilitate their organization on a regular basis. One of the aims in the Region of the Americas is to advance such training by the integration of planning/programming components into health administration studies at schools of public health and other teaching institutions; the training covers both broad and detailed programming, budgeting, operational management, evaluation, and information support.

2.21 In the context of country health programming, a considerable number of training workshops were held in 16 countries in 1978–1979, in the form of intensive self-teaching experience, mainly for national health administrators. Four regional or intercountry workshops were organized, and four educational institutions conducted courses on country health programming as part of their regular training programmes. In the European Region a workshop (Vienna, 1979) advised on the adaptation of the country health programming approach to the specific requirements of Europe, and made recommendations for a consequential development of its methodology.

Information support in national health programmes

2.22 In 1978 the Thirty-first World Health Assembly (resolution WHA31.20), urged Member States "to develop or strengthen their health information systems so as to provide adequate support to their management processes for health development and to contribute to the international exchange of health and related information". It also asked the Director General (1) to develop principles for national health information systems and to collaborate with Member States in establishing or strengthening such systems, and (2) to continue to develop the new WHO information system with a view to improving WHO’s programme management and facilitating the international exchange of information.

2.23 The work of the information systems programme thus falls into two main areas: (a) the operation and development of the WHO health information system (described in paragraphs 2.46–2.61 below), and (b) support for the development of national health information systems. Part of the strategy for the programme, proposed by the Director-General and endorsed by the Executive Board (resolution EB61.R32), is to concentrate first on WHO’s own system and then, as expertise and experience is acquired, to intensify collaboration with Member States in developing their national systems. This does not imply, either in theory or in practice, that the WHO system can be developed or can exist in isolation from national systems.

2.24 The development of management information systems for Member States is part of the management process for programme development described above. Some progress has been made in providing
information support for each component of that process. However, until valid experience is gained of how these components are integrated in the different countries, it may not be realistic to envisage a stereotyped national health information “system”.

2.25 During 1978–1979, WHO action in regard to national health information systems included: (1) direct support to Member States, at their request, for the development of certain aspects of their national systems, and (2) collaboration with Member States with a view to evolving general principles for such systems.

2.26 Regional consultations and workshops on national health information systems were held in the African Region (Lomé, May 1979, and Lilongwe, August 1979), the Region of the Americas (Washington, February 1979), and the South-East Asia Region (New Delhi, December 1978). Technical discussions on the subject were held in the European Region (Munich, Federal Republic of Germany, September 1977); and a regional workshop is scheduled for the Western Pacific Region (Malaysia, June 1980). An international consultation on principles for a national health information system was held in Costa Rica (November 1979). The outcome of all these soundings of opinion was an important stimulation of interest in national health information systems, an exchange of experience, and a significant measure of agreement as to the principles to guide such systems, together with recommendations for action by Member States and WHO.

2.27 Direct technical support was given to specific aspects of information systems in a number of countries, including Egypt, Kuwait and the Philippines. The information “profile” concept was found useful in some countries for country health programming, management and evaluation purposes.

WHO’s programme development process

2.28 The Thirty-first World Health Assembly in 1978 (resolution WHA31.43) requested the Director-General to ensure that managerial methods for health development were devised and applied by WHO in an integrated manner; to promote or conduct research on such methods; to collaborate with countries in the application of managerial processes for national health development; to promote training in health management, particularly through learning-by-doing; to formulate WHO’s medium-term programmes wherever possible with an indication of priorities between programmes, based on information from national health development processes, the current General Programme of Work, programme budget policy and strategy, and resolutions of the governing bodies; and to continue the integrated development of WHO’s processes for medium-term programming, programme budgeting, health programme evaluation, and information support. During 1978–1979 WHO continued to develop those four processes.

Medium-term programming

2.29 Ideally, programme development in WHO should be the result of the proper application of national processes for health development in all its Member States, and of the corresponding response of its

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1 A “profile” is an aggregate of information selected and structured according to established needs and periodically updated with a view to providing accessible, standardized and basic information.
own programme development processes. That response should be based on knowledge of national health development processes, on regional and global policies, and on the programme directives of WHO's governing bodies. Thus, medium-term programming in WHO should essentially be the response to national planning in the light of policies that countries have themselves corporately adopted.

2.30 Provisional guidelines for medium-term programming were approved by the World Health Assembly in May 1978 (resolution WHA31.10). Thereafter, emphasis shifted from methods, processes and mechanisms to practical application and to the essential content of medium-term programmes, i.e., (a) how they respond to national priorities; (b) how closely they follow WHO's General Programme of Work; and (c) how they enable WHO to support national, regional and global strategies for the attainment of health for all by the year 2000, by way of primary health care.

2.31 The Programme Committee of the Executive Board (November 1978) emphasized the setting of targets for the establishment of WHO medium-term programming; the dialogue with countries on medium-term programming; and the use of the WHO's information system. In November 1979 it emphasized first the nature and content of the medium-term programmes; and secondly the need for their integrated development and implementation, as part of a consistent process of consultation and continuing dialogue with Member States. That dialogue should cover policy, strategies, plans of action, general programmes, medium-term programmes, programme budgets, operational activities, and the appropriate evaluation and information support at all stages.

2.32 Some regional offices have set up or are setting up complete management systems that represent the translation of those terms into action. In the Region of the Americas, the evaluation system serves as a management tool for technical cooperation with Member States and for implementation of programmes at all echelons; it ensures that resources are utilized so that the technical cooperation responds to national needs as reflected in national health programmes, and it provides enough flexibility for adaptation to unforeseen changes. In the European Region a complete management system has been instituted and the medium-term programmes were drawn up simultaneously so as to ensure better horizontal linkages. In the Eastern Mediterranean Region the implementation of medium-term programmes is being closely monitored. The African, South-East Asia and Western Pacific Regions regularly review their medium-term programmes and also use them for monitoring programme implementation.

2.33 The programme development working group established by the Global Programme Committee (July 1979) had concluded that further development of the concept of medium-term programming was not at present required but that emphasis should be laid on the consolidation and judicious application of processes already in existence. The Medium-term Programming Working Group (Manila, 1979) reviewed the provisional guidelines for medium-term programming and stressed the need for medium-term targets and for clarifying the relationship of medium-term programming to other managerial processes.

2.34 By the end of 1979 medium-term programmes were in operation for most of the main areas in the Sixth General Programme of Work (1978–1983).
Programme budgeting in WHO

2.35 WHO's programme budgeting process is now fully operational, in accordance with the principal approved in resolution WHA25.23. Guidelines were issued for the preparation and revision of the proposed programme budget for 1980-1981 and were applied, bearing in mind the programme budget strategy for 1978-1981 (resolution WHA29.48), the main objectives of the Sixth General Programme of Work (1978-1983), and WHO medium-term programmes. This programme budget for the first time was a completely biennial one, in accordance with resolution WHA30.20.

2.36 The new approach to programme budgeting at country level, as applied to the preparation of the programme budget for 1980-1981 in accordance with resolution WHA30.23, met with varying degrees of success depending on the region, country or local situation. In some instances there was a reluctance to depart from the conventional practice of establishing at an early stage detailed cost estimates for all items of expenditure in projects and other activities. Elsewhere, the greater flexibility of the new procedures was appreciated, and this permitted WHO's technical cooperation to be better timed and better integrated with national planning and budgeting cycles.

2.37 There were some differences of opinion as to whether deferring the establishment of detailed costs resulted in loss of information and delay in programming, or whether on the contrary it made for better oriented and more realistic programmes. The reports of the Regional Directors on their experience tended, however, to show that the new approach resulted in more comprehensive, accurate programme information, prevented useless effort, brought WHO practices more fully into harmony with national budgeting cycles, permitted the greater involvement of national planners, and sometimes favourably influenced national programme budgeting practices.

2.38 The new procedures at country level were intended to remove any unnecessary constraints on Member States that might inadvertently be imposed by WHO's own internal programme budgeting procedures. Lessons have still to be learned from the application of the process, e.g., whether those involved take advantage of the new flexibility offered them to launch and sustain socially relevant and unified countrywide programmes, or whether they abuse it by making requests that are only marginally useful, e.g., for isolated projects, supplies, etc. The experience of preparing the programme budget for 1982-1983 is needed before the programme budgeting procedures at country level can be properly evaluated, refined and improved. The guidelines for the preparation of WHO's proposed programme budget for 1982-1983 accordingly continue the new approach to programme budgeting at country level and stress the use of WHO's medium-term programmes to indicate the direction of activities.

2.39 In 1978-1979 the WHO programme budgeting process was greatly facilitated by the administration and finance component of the WHO information system (see paragraph 2.4 below).

Programme evaluation in WHO

2.40 The evaluation of WHO programmes was introduced as a built-in continuous process, in conformity with the Sixth General Programme of Work and based on the provisional guidelines for health programme evaluation (see
paragraph 2.13 above). The WHO information system described below provides the information on which that evaluation is based. The evaluation of WHO programmes however is not progressing as rapidly as was expected, mainly because the concept of continuous evaluation has not yet taken root in all programmes. Developments in the different regions are outlined below.

2.41 In the African Region the evaluation process was systematically applied to the selective review of specific programmes during 1978–1979.

2.42 In the Region of the Americas the programme evaluation system (see paragraph 2.32 above) provided the methodology for programming, monitoring and evaluating—in a word, managing—direct cooperation with governments or the carrying out of regional and sub-regional programmes.

2.43 In the South-East Asia and Western Pacific Regions particular attention was given to information support.

2.44 In the European Region a consultative group on programme development recommended that the provisional guidelines for health programme evaluation should be tested in selected national programmes over a two-year period, and should also be tried out on a regional office programme, the results being analysed by an outside consultant. Moreover, in order to evaluate the impact of programmes, Member States should regularly be asked what action had been taken at national level on recommendations emanating from technical meetings convened by the Regional Office and on the resolutions of WHO’s governing bodies.

2.45 In the Eastern Mediterranean Region an experiment was under way at the end of 1979 to combine and condense the hitherto largely separate processes of programming, evaluation and information. Particular attention is being given to: (a) producing management outlines that are oriented to the present and the future, drawing on the past mainly for the evaluation of performance and of resource utilization; (b) using such management outlines for the monitoring and control of programmes and programme components; and (c) taking into account the evidence provided by the corrective measures represented by reprogramming, based on objective evaluation at different levels of activities and their outcome.

**WHO’s information system**

2.46 During the biennium WHO’s own information system provided support for (a) the management of WHO programmes, and (b) the international exchange of information and experience on health work.

2.47 Programme and project profiles that include project summaries were introduced for WHO activities and are updated annually, as part of the reporting system. (The information component of the programming and evaluation system at the Regional Office for the Americas is very similar to these profiles and in fact provides material for them.) The quality of the content of the profiles, which in the beginning did not always adequately reflect the programme or project in question, significantly improved between 1978 and 1979.

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1 Details of the WHO information system, including its operational components (e.g., reporting and information services, administrative management services, and electronic data-processing services), are described in the information systems programme handbook issued in 1978 and revised in 1979.
2.48 The new WHO reporting system was used in two reporting cycles during the biennium. Even though the volume and number of reports was drastically reduced, there were relatively few instances in which pieces of information were left out that would have been obtainable under the earlier quarterly reporting system, discontinued in 1977. Programme profiles were used for medium-term programming and the outcome of such programming was in turn reflected in subsequent programme profiles. The new reporting system, based on systematic updating of the programme profiles, is an effective mechanism for ensuring information flow between echelons with a view to programme evaluation (see paragraphs 2.41–2.46 above).

2.49 Direct technical services were given in connexion with the technical, operational, administrative, reporting and evaluation aspects of a number of programmes. For example, in 1978–1979 the information support for the Special Programme of Research, Development and Research Training in Human Reproduction included the operation and maintenance of a management information system for financial and administrative data on projects, grants, institutions and individual scientists; data-processing services were also provided for the studies on various fertility regulation methods that are being carried out in a number of centres. Support was given to the Special Programme for Research and Training in Tropical Diseases in conducting basic management studies and developing a management information service on individuals and institutions related to that programme, along with provision of the necessary computing services. Support was also given to the Expanded Programme on Immunization in the development of a reporting system both for programme management and for international exchange of experience; and to the programme of appropriate technology for health in preparing and conducting an international consultation with a view to an information service designed for the periodic and upon-request dissemination of information on appropriate technology for health (ATHIS). All these examples of collaboration between the information systems programme and substantive WHO programmes or divisions or units have their basis at country level and from there extend to the regional and global levels.

2.50 A joint study was made with the health and biomedical information programme to determine the feasibility of an international health-related information service (HERIS) dealing specifically with selected public health literature that at present is not covered by any international information service. This work (described in Chapter 13, paragraphs 13.30–13.31) is carried out in collaboration with several national experts and institutions, including the United States National Library of Medicine, which runs the MEDLARS system.

2.51 In addition to such support to individual technical programmes, the information systems programme coordinates the various information support services, identifies the need for other information services that do not fall under the responsibility of any specific technical programme or administrative division, and promotes the development of such services.

2.52 During 1978–1979, experience was gained on the feasibility of a rationalized information service for certain day-to-day needs of organizational units. Work was undertaken on a comprehensive directory of persons and institutions related to WHO programmes. In 1979 this master directory
became partly operational, with 67,000 entries out of a potential 110,000. Its main current use is in the addressing and distribution of WHO documents, but it is being increasingly used for programme management purposes. The master directory is primarily the collation of more than 43 hitherto separate and scattered lists, directories, rosters, etc., but it has a potential for a variety of other applications and should prove a useful guard against wasteful duplication.

2.53 Requests to Member States for the completion of questionnaires are now monitored by interprogramme committees at regional offices and headquarters. In addition, records are now kept at headquarters of all questionnaires sent to Member States, and the replies received. As a consequence there was a sharp decrease during the biennium in the number of questionnaires sent to Member States, a decrease that was facilitated by the fact that relevant information from countries is systematically maintained and available from the country, programme and project profiles (see paragraph 2.47 above).

2.54 The computerized administration and finance information system, which is an integral part of the new WHO information system, provides inter alia support for the preparation, consolidation and finalization of the operations required in establishing the biennial programme budget. Specifically, the most important budget and finance components of the system (related to budget preparation, budget control, expenditure accounting, general ledger entries, and payment of claims) became operational during 1978–1979, when plans were also worked out for extending the system to budget and finance operations in the regional offices.

2.55 Electronic data-processing and word-processing services are also provided by the information systems programme, the former at headquarters through the Geneva-based International Computer Centre (ICC). There are 65 computer applications, and WHO payments to ICC in 1978 and 1979 were US$ 1.4 million and US$ 1.6 million respectively (the increase is due to an increase in costs and not to a heavier workload). An important change in electronic data-processing was made in January 1978 when the bulk of the computer programming work, hitherto carried out by WHO staff programmers, was contracted out to commercial firms. By and large this arrangements proved satisfactory. Furthermore, in order to permit an increased workload without a corresponding increase in costs, WHO and ICC in 1979 began a review of the feasibility of distributing the data-processing workload between ICC and a minicomputer installed in the headquarters building, the latter to be used for day-to-day work or for processing voluminous data.

2.56 Throughout 1978–1979, the policy of decentralizing electronic data-processing and word-processing services to the regional offices was continued. Thus in July 1979, after a feasibility study carried out with the Regional Office for Africa, the acquisition of a minicomputer by that Office was recommended. Computer applications are being introduced in such a way as to familiarize staff with the use of the equipment, and are followed by storage, updating and selective retrieval of profiles, in the expectation that by 1982–1983 the computer will take over some of the administrative and financial chores.

2.57 In late 1978, the Regional Office for the Americas upgraded its computing facilities and took the opportunity of ensuring that its equipment was compatible with that used at WHO headquarters.
2.58 In 1979, the Regional Office for Europe installed a minicomputer, fully compatible with that of the African Regional Office, which is being used *inter alia* for some of the basic administrative and financial operations. The Regional Office for Europe is also the pilot regional office for certain computer applications and for training staff from other regions.

2.59 The Regional Office for the Western Pacific, in collaboration with the National Computing Centre of the Philippines, by the end of 1979 had concluded a feasibility study for a minicomputer that will gradually take over financial, administrative, and statistical operations. The Regional Offices for South-East Asia and the Eastern Mediterranean carried out similar studies, but for technical reasons (related to the suppliers' inability to provide adequate maintenance in those geographical areas) no decision has yet been taken.

2.60 During 1978–1979 a review was made of commercially available word-processing equipment. After experience gained from the equipment used experimentally at headquarters and in two regional offices, a simple standardized type of word-processing equipment that met certain compatibility requirements was chosen and was installed both at headquarters and in the Regional Offices for the Americas, Europe, and the Western Pacific.

2.61 The involvement of nationals in the development of the information systems programme increased during the biennium, when they participated as temporary advisers or consultants in most progress and evaluation meetings. National services were also involved in designing or implementing certain aspects of the programme, sometimes under contract, e.g., the National Computing Centre of the Philippines mentioned in paragraph 2.59 above.
Chapter 3

Coordination

3.1 Following the International Conference on Primary Health Care and the Declaration of Alma-Ata (1978) the coordination of WHO’s policies and programmes with those of other organizations—both within and outside the United Nations system—centred on ensuring that primary health care and the worldwide social objective of “Health for all by the year 2000” were properly introduced into other intergovernmental and interagency forums.

3.2 The best example of this is the action taken by the Director-General with respect to the new International Development Strategy for the nineteen-eighties, which in accordance with the decision taken by the United Nations General Assembly at its thirty-third session (resolution 33/193) is being formulated by a Preparatory Committee open to all States. The Director-General proposed that only two basic documents on the health sector should come before the Preparatory Committee: the report of the International Conference on Primary Health Care,1 and the policy statement entitled “Formulating strategies for health for all by the year 2000”.2 At the second session of the Preparatory Committee (New York, June 1979), the Director-General’s representative spoke on the new approach being taken by WHO to attain these two main objectives of the Organization.

3.3 At the same time the Director-General sought the views of various international development experts on the contribution that health development could make to the New International Economic Order (this, incidentally, will be the subject of the Technical Discussions to be held at the Thirty-third World Health Assembly in 1980). The new International Development Strategy is being formulated within the context of the New International Economic Order, to which it must ultimately contribute. The subject of health and the New International Economic Order was discussed at the regional committee meetings in September and October 1979.

3.4 While the work of such United Nations bodies as the General Assembly and the Economic and Social Council remained of central importance for the deliberations of WHO’s governing bodies, a major effort was made to further interagency cooperation on key items defined by governments as well as by the organizations in the United Nations system. Papers were submitted by WHO to the United Nations on such subjects as the

role of women in development, the combat against apartheid, a programme for disabled persons, health care of the elderly, the International Year of the Child, and assistance to certain specified developing countries. WHO also took an active part in preparing for the United Nations Conference on Science and Technology for Development (Vienna, 1979) and in following up the recommendations made at the United Nations Water Conference (Mar del Plata, Argentina, 1977). Those two subjects were also debated in relation to better and more effective coordination arrangements. Similarly, information systems, action against drug abuse, the formulation of long-term development objectives, the programme budget planning processes of the United Nations system, and joint information activities on human rights were the subject of interagency consultation. WHO was fully involved in the preparations for the World Conference on Agrarian Reform and Rural Development (Rome, July 1979). At the July 1979 session of the Economic and Social Council (Geneva), the Director-General impressed upon Council members the measures being taken within the health sector to ensure health for all by the year 2000 by means of primary health care and the national strategies formulated to that end.

3.5 Coordination and collaboration with other organizations and institutions of the United Nations system at headquarters and regional office level make for more effective action at country level. Clearly, the measures taken by the Organization in 1978-1979 brought health and health-related issues to the attention of government officials other than those of the ministry of health, and thus created a broader governmental awareness of the importance of health work in relation to overall socioeconomic development. Evidence of this was the resolution of the United Nations General Assembly, on health as a integral part of development (November 1979), which endorsed the Declaration of Alma-Ata and the recommendations of the International Conference on Primary Health Care, and stressed that the new International Development Strategy should take fully into account the global strategy for primary health care.

Nongovernmental organizations

3.6 At the end of 1979 there were 123 nongovernmental organizations in official relations with WHO, seven of which had been admitted during the biennium. A complete list can be found in Annex 3 to this report.

3.7 Certain new measures designed to enhance collaboration with nongovernmental organizations were introduced in 1979. Their main aim is to focus collaboration more specifically on WHO's priority programmes by observing the principle of jointly agreed frameworks for collaborative activities between WHO and nongovernmental organizations already in official relations with the Organization or wishing to establish such relations.

3.8 An interesting development during the biennium was the increasing call made on the pool of expertise that these nongovernmental organizations represent.

Extrabudgetary sources of funds

3.9 The Voluntary Fund for Health Promotion, one of the most important sources of funds for health development

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1 See also Chapter 4, paragraphs 4.10-4.12.
2 See also Chapter 11, paragraphs 11.14-11.21.
external to WHO’s programme budget, in 1978–1979 increased by US$2,424,063 (or 3.60%) over the previous biennium. This is evidence that the countries contributing to the Fund recognize the need to accelerate the momentum of support for the Organization’s work, as called for by numerous Health Assembly resolutions.

3.10 To obtain increased resources for the Organization’s priority programmes, the Secretariat Extrabudgetary Resources Committee organized a series of meetings (November 1978), at which representatives from the contributing community, the developing countries and WHO were able to exchange ideas on the Organization’s present activities and future plans. A direct outcome of these meetings was the decision to create the Health/2000 Resources Group. It will advise on the mobilization and rationalization of bilateral and multilateral resources to meet the Organization’s goal of “Health for all by the year 2000”. The Resources Group will have at its disposal a Primary Health Care Fund. It is hoped that donors’ contributions to this Fund will be sufficient to provide “seed” money to enable countries with primary health care programmes to begin activities, and “initiative” money for countries where reinforcement of activity seems desirable. The Resources Group is to meet for the first time in April 1980 and will include representatives from developed and developing countries, UNDP, UNFPA, UNICEF, the World Bank, and selected nongovernmental organizations.

3.11 During the biennium sizeable contributions were received from the traditional donors, notably Australia, Canada, Denmark, Federal Republic of Germany, Netherlands, Sweden, Switzerland, the United Kingdom, and the United States of America. The Japan Shipbuilding Industry Foundation (Sasakawa Memorial Health Foundation) maintained its substantial contribution to selected programmes. Following the Alma-Ata Conference, the contributing community whole-heartedly endorsed primary health care as a cornerstone of WHO’s strategies. This approach was emphasized in the description of priority activities suitable for extrabudgetary funding, as given in the project catalogue that WHO keeps for the convenience of potential donors.

3.12 A meeting on the financing of primary health care programmes in Asia (New Delhi, July 1979) brought together ten developing Asian countries, official development assistance agencies, UNDP, UNFPA, UNICEF, WFP, the Asian Development Bank, the Islamic Development Bank, and nongovernmental organizations. The results were positive, as evidenced by the 95 projects submitted by the Asian countries and the fact that WHO’s function as coordinator of international resources for health development was welcomed by all participants. This meeting opened new avenues for collaboration at country level as a first step towards ensuring the translation into practice of the recommendations of the Alma-Ata Conference.

3.13 A newsletter, “WHO Action”, illustrating the use of extrabudgetary resources, was prepared and widely circulated during the biennium and was well received.

3.14 An agreement was concluded between WHO and the Islamic Development Bank. Working arrangements with the African Development Bank were formalized by an expanded memorandum of understanding. Also, close working relations were maintained with the Asian Development Bank, which is investing to an even greater extent in the social sector.
3.15 Collaboration with the Commission of the European Communities and with the Council for Mutual Economic Assistance was formalized.

United Nations Children’s Fund

3.16 The UNICEF/WHO Joint Committee on Health Policy, at its twenty-second session (Geneva, January 1979), considered a joint study on the water supply and sanitation components of primary health care and adopted the recommendations contained in that study. It also made recommendations on training in maternal and child health and on child mental health.

3.17 One of the main topics discussed at the session was the follow-up to the Alma-Ata Conference, whose report will be the main framework for future action of both UNICEF and WHO. It was decided that the subject of the next UNICEF/WHO study (for consideration by the Joint Committee in 1981) will be: “Country decision-making for the achievement of the objectives of primary health care”.

3.18 Because of the increasing decentralization of responsibility in both organizations, arrangements for ensuring close collaboration between WHO and UNICEF staff at local level were under review at the end of the biennium.

United Nations Development Programme

3.19 UNDP continued or initiated support to WHO’s major programmes. These included the Special Programme for Research and Training in Tropical Diseases; the diarrhoeal diseases control programme; the International Drinking-Water and Sanitation Decade, where WHO acts as lead agency; bulk purchasing and quality control of pharmaceuticals for the South Pacific area; and preparatory work in connexion with the establishment of a new Mediterranean zoonoses control centre. Support was also continued to various country projects, and to the WHO health programme being carried out in China (see paragraphs 3.29 and 3.30 below).

3.20 The debates in the UNDP Governing Council on the role and activities of UNDP gave particular importance to the promotion of national self-reliance, and the development and improvement of the techniques of country programming and of planning, implementation and evaluation of programmes—subjects which are all of primary importance to WHO. The Council criticized the slow progress in programming intercountry activities and decided to carry out a review of such programming.

3.21 Other subjects of joint UNDP/interagency studies were: programme implementation, the role of qualified national personnel in the social and economic development of developing countries, and an examination of experience in country programming.

3.22 One interesting organizational development stemmed from United Nations General Assembly resolution 32/197 on the restructuring of the economic and social sectors of the United Nations system, the Annex to which states that: “On behalf of the United Nations system, overall responsibility for, and coordination of, operational activities for development carried out at the country level should be entrusted to a single official... who should exercise team leadership and be responsible for evolving, at the country level, a multi-disciplinary dimension in sectoral development assistance programmes...”. This team approach under the leadership of a “single official” is aimed at better intersectoral planning and interministerial and
Table 3.1 World Food Programme: Commitments to projects, 1978-1979

<table>
<thead>
<tr>
<th>Nature of project</th>
<th>Projects approved from 1 July 1977 to 30 June 1978</th>
<th>Projects approved from 1 July 1978 to 30 June 1979</th>
</tr>
</thead>
<tbody>
<tr>
<td>All projects</td>
<td>No.</td>
<td>Amount US$ million</td>
</tr>
<tr>
<td>Development aid</td>
<td>51</td>
<td>272.6</td>
</tr>
<tr>
<td>Emergency aid</td>
<td>37</td>
<td>38.1</td>
</tr>
<tr>
<td>Health-related projects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health promotion</td>
<td>6</td>
<td>29.0</td>
</tr>
<tr>
<td>Institutional feeding</td>
<td>10</td>
<td>68.0</td>
</tr>
<tr>
<td>Teaching institutions</td>
<td>4</td>
<td>20.2</td>
</tr>
<tr>
<td>Community housing and development</td>
<td>2</td>
<td>5.8</td>
</tr>
</tbody>
</table>

interagency reviews, and at encouraging national decision-making bodies to give increased attention to health as an integral and essential part of the socioeconomic development process, and to its crucial role in achieving the New International Economic Order. The “single official” will normally, but not necessarily, be the resident representative of UNDP. While the functions of this country-level co-ordinator will be of considerable operational importance, the lines of authority and communication between WHO representatives at country level, i.e., the WHO programme coordinators, and other levels of the Organization remain unchanged.

3.23 WHO and the South Pacific Commission collaborated in preparing for the Conference of Ministers of Health of the South Pacific Countries/areas on Technical Cooperation in Pharmaceutical Supplies (Manila, November 1979).

World Food Programme

3.24 It will be seen from Table 3.1 above that assistance to WFP’s health activities, which had decreased in 1976-1977, regained momentum in the 1978-1979 biennium, notwithstanding the unusually large sums that were devoted to emergency aid operations. WHO’s role in evaluating WFP activities was reinforced, and led to the formulation of a “Guideline for the measurement of nutritional impact in projects assisted by the World Food Programme and other agencies”.

3.25 The selective use in food programmes of vitamin-A-enriched dried skimmed milk has now become regular practice, facilitated by the cooperation of several donor governments that can deliver the commodity, enriched or non-enriched as the circumstances of the programme require. The helpful role of the International Dairy Federation should be acknowledged, since it was instrumental in making this development possible.

3.26 Because of its pioneering nature, the basic rural health services project in Sudan, which has a food aid component, made slow but steady progress. The experience gained proved useful both to the beneficiary government and to the several organizations cooperating in the project.

United Nations Volunteers

3.27 The useful role played by United Nations volunteers in UNDP-financed projects led WHO to consider the utilization
of such volunteers in projects financed from its regular budget. Three programmes were initially selected: the Expanded Programme on Immunization, and the programmes for prevention of blindness and for control of schistosomiasis. By the end of the biennium five volunteers had been recruited for assignment to projects in Democratic Yemen, the Sultanate of Oman, the Syrian Arab Republic and the Yemen Arab Republic. They are additional to those working in UNDP-financed projects for which WHO is the executing agency.

3.28 Most of the volunteers come from developing countries, in itself an illustration of technical cooperation among such countries.

Collaboration with China

3.29 Technical cooperation between WHO and China was formalized by the signing on 5 October 1978 of a Memorandum to govern cooperation in health activities. Under the terms of the agreement, several collaborating centres were designated to carry out research as part of a WHO collaborative programme; Chinese specialists were trained abroad in new techniques by means of study tours, fellowships and research training grants; visits to China of leading scientists were organized under WHO auspices; and equipment was provided to enable national institutions to improve their health and research services. WHO also collaborated with UNFPA on activities in China.

3.30 Under the UNDP/WHO expanded training programme on primary health care and public health in China, the series of study tours and training courses in China for participants from developing countries continued. WHO is moreover the executing agency for the health manpower and research development project which forms part of UNDP's assistance to China under the basic standard agreement signed in June 1979.

Technical cooperation among developing countries

3.31 The concept of technical cooperation among developing countries (TCDC) was described in the last biennial report. The Thirty-first World Health Assembly (resolution WHA31.41) again underlined its importance for the technological liberation of developing countries, particularly in research, development and training and in the exchange of experience and information on health care; the Health Assembly called on regional committees, Member States and the Director-General to take action that would promote TCDC in the field of health. The Regional Office for the Americas was designated as focal point for TCDC work.

3.32 A United Nations Conference on Technical Cooperation among Developing Countries was convened in Buenos Aires (August/September 1978). WHO participated fully in the preparations for the Conference and was represented at all meetings of the Preparatory Committee and of the Inter-Agency Task Force on the subject. The Buenos Aires Plan of Action that emerged from the Conference was consonant with WHO's view of TCDC and was studied in depth, both at headquarters and the regional level, in the light of its implications for WHO.

3.33 In the policy statement "Formulating strategies for health for all by the year 2000" (endorsed by the Thirty-

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second World Health Assembly), WHO's global role was defined as that of creating mechanisms to ensure the timely and appropriate exchange of information among countries interested in this type of technical cooperation. Its role at regional level was to develop further such mechanisms. Consequently the Regional Committee for Africa established a Standing Committee on TCDC, whose recommendation for the establishment of three subregional working groups to meet annually it endorsed. The Regional Committee for the Americas requested the Regional Director to establish a working group at high policy level to study TCDC in the Region and to set up an information bank to provide Member countries with details of the resources available for TCDC. In South-East Asia the Regional Office established a task force to deal with all aspects of TCDC. The Regional Office for the Eastern Mediterranean proposed that an ad hoc consultative committee should advise the Regional Director on programme priorities and the use of TCDC principles in strengthening technical collaboration between countries. (The Regional Committee had already adopted resolutions in 1975 and 1976, urging the more affluent countries of the Region to help others to improve their health services, and a significant part of the regional programme has since benefited from such collaboration.) In the Western Pacific the Regional Office established a subcommittee and a focal point to coordinate TCDC activities, which the Regional Committee at its twenty-ninth session decided should focus on primary health care, pharmaceuticals, and drug management and control.

3.34 At country level the examples of TCDC covered primary health care, environmental health, training of health personnel, and health research; specific activities were being developed in relation to essential drugs. Representatives of ministries of health of subregionally grouped countries met to develop programmes within the TCDC context.

3.35 “Technical cooperation in the field of health among developing countries” was also the subject of the Technical Discussions at the Thirty-second World Health Assembly, which are reported in Chapter 1, paragraphs 1.12-1.15, above.

Emergency relief operations

3.36 During the 1978-1979 biennium the traditional forms of action in response to emergency situations due to natural or other disasters, consisting mainly of immediate aid in the form of urgently needed medical equipment, drugs, vaccines and other medical supplies, continued; details are given in paragraphs 3.44-3.56 below. In this period, however, the first steps were taken to promote disaster preparedness on the part of Member States.

Disaster preparedness

3.37 Technical cooperation with disaster-prone countries increasingly aimed at improving the national capacity both to take preventive measures and to remain more effectively in control of emergency situations. This involved WHO in activities relating to the public health management of emergencies, research on the epidemiology of disasters, studies of populations at risk, assessment of needs and priorities in the event of mass casualties, and patterns of disease and disease control following catastrophes.

3.38 Fellowships were used to train staff from disaster-prone countries in disaster management, the intention being that ministries of health should possess
key personnel capable of promoting organizational and operational efficiency in dealing with emergencies. The first interregional seminar on emergency care in natural disasters was held in 1978 in Manila, with the collaboration of the Government of the Philippines, the Office of the United Nations Disaster Relief Coordinator (UNDRO), the International Civil Defence Organization, the International Hospital Federation, the International Union of Architects and the League of Red Cross Societies. Courses were also held by the Regional Offices for Africa and for the Americas.

3.39 Under a grant from the Government of Belgium, agreements were made with Louvain University for research on disaster epidemiology and management. The University will also provide training facilities.

3.40 In the Regional Office for Africa, a Permanent Committee for Emergency Relief Operations was set up in 1978. Emergency supply depots were maintained at five key centres in Africa. In other regions, regional officers were designated to act as focal points for disaster planning and relief, and assure coordination with headquarters.

3.41 The Region of the Americas is particularly vulnerable to earthquakes, volcanic eruptions and hurricanes. A disaster unit in the Regional Office became operational in 1978, and a pilot programme in preparedness for emergencies is under way for the disaster-prone countries of the Region.

3.42 WHO contributed to the international multidisciplinary Conference of Experts for the Defence of Society against Natural Disasters in the Mediterranean Basin (San Marino, October 1979).

3.43 Since the systematic study of disasters is a fairly recent discipline, an attempt is being made to retrieve and organize the documentation on the subject. A manual on the management of nutritional emergencies in large populations was published in 1978, and a guide to emergency health management after natural disaster is being prepared in the Americas. WHO collaborated with the Steering Committee of the League of Red Cross Societies and other voluntary organizations in compiling Country fact sheets on 91 disaster-prone Member States.

Emergency relief

3.44 As in the past, WHO participated fully in the provision of emergency assistance by the United Nations system, its work being carried out in close collaboration with UNDRO, UNEO (United Nations Emergency Operation), UNICEF, UNHCR, FAO, the International Committee of the Red Cross, the International League of Red Cross Societies, the Commission of the European Communities, and other institutions and nongovernmental organizations active in disaster work. Memoranda of understanding were signed with UNDRO and UNEP, outlining the modalities of coordination and collaborative action.

3.45 Mechanisms for technical cooperation between developing countries are of particular value in this area, since in disasters and emergencies Member States are increasingly seeking and using the services of other countries. To give only two examples: in the South-East Asia Region, experts and material aid from India and Sri Lanka were provided to Maldives during the cholera epidemic of

January 1979; and in the African Region, Zambia hosted a seminar on the management of mass casualties, for health workers from Angola, Botswana, Mozambique and the United Republic of Tanzania.

3.46 In addition to the action at global level, assistance in and planning for emergencies and disasters were also carried out by the regional offices and under the various programmes of the Organization. These are reported under the relevant headings.

3.47 Earthquakes in the European Region, hurricanes in central America, cyclones in Asia, epidemics in Africa, the plight of refugees in South-East Asia, and the escalation of the operations of liberation movements in southern Africa—these and other events made particularly high demands on WHO’s resources during 1978 and 1979. The Organization was able to mobilize urgently the funds it needed: items of expenditure ranged from US$720 for a single laboratory refrigerator, to US$314,000 for a range of essential paediatric equipment. Approximately US$20,000,000 was spent on such emergency assistance, the bulk of the money coming from extrabudgetary funds. The emergencies in which WHO took part in relief operations during 1978–1979 are listed below, by region. A few of the operations (marked by an asterisk) are described in detail, as examples.

**African Region**

3.48 Angola (influx of refugees, epidemics); Benin (movement of displaced persons, thunderstorms); Botswana (cerebrospinal meningitis); Burundi (shortage of medical supplies); Cape Verde (epidemics); Chad (civil strife, drought); Comoros (shortage of medical supplies); Congo (yellow fever); Ethiopia (drought, epidemics); Gabon (cholera); Gambia (power failure); Ghana (yellow fever, drought); *Guinea (shortage of surgical supplies); Madagascar (cyclones); Malawi (epidemics); Mali (drought, epidemics); Mauritania (epidemics); Mauritius (measles, malaria campaign); Mozambique (influx of refugees, epidemics, cyclone); *Niger (shortage of medical supplies); *Rwanda (influx of refugees, cholera); *Senegal (cholera); Sierra Leone (shortage of medical supplies); Togo (haemorrhagic fever); Uganda (military action); *United Republic of Tanzania (cholera, floods); Upper Volta (cerebrospinal meningitis); Zaire (influx of refugees, cholera, drought); Zambia (bombing raids).*

**Chad.** To redress the health situation following the civil war in Chad, WHO contributed US$50,000 from its regular budget; an additional $116,000 was mobilized from funds made available by UNEO.

**Ghana.** To repair the ravages of drought and fight an epidemic of yellow fever, WHO procured drugs, vaccines and other medical supplies amounting to $396,339 for the Commission of the European Communities.

**Mozambique.** WHO contributed $20,000 to combat the damage to health centres caused by cyclone. An additional $119,236 was provided for the emergency campaign against cholera.

**Niger.** In relation to the International Year of the Child, urgently needed medical supplies and equipment for child health

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*Details given at end of paragraph.*
COORDINATION

were supplied with the $314,000 contributed by UNEO.

Rwanda. To combat a severe epidemic of cerebrospinal meningitis, Rwanda received technical aid from WHO and $29,762 worth of medical supplies contributed by the Government of Switzerland.

Uganda. In 1979 military action disrupted the health services and caused shortages of medical supplies in the country. WHO contributed $55,000 from its regular budget to assist in restoring services to normal.

Zambia. Air attacks directed against liberation movements based in Zambia resulted in considerable damage to the health services of that country. In April 1979 WHO contributed $19,000 for assistance to victims of such bombing raids.

Region of the Americas

3.49 Belize (hurricane); Bolivia (floods); Costa Rica (influx of refugees); Dominica (hurricane); Dominican Republic (hurricane);* Guyana (power failure); Honduras (influx of refugees); Jamaica (floods); Nicaragua (civil strife); Paraguay (floods); St Vincent (volcanic eruption).*

Dominican Republic. In August 1979 hurricanes caused extensive damage to the country. Immediate contributions were channelled through UNDRO, the US$56,000 donated by the Government of the Netherlands being used for emergency health assistance.

St Vincent. WHO procured medical supplies with US$10,000 contributed by UNDRO following the eruption of the Soufrière volcano in April 1979. Technical advice was given by the Regional Office for the Americas.

South-East Asia Region

3.50 Bangladesh (influx of refugees, floods);* Burma (mass population movements); India (encephalitis epidemic, cyclones, floods); Indonesia (influx of refugees);* Maldives (gastroenteritis epidemic); Nepal (outbreak of encephalitis); Sri Lanka (cyclone); Thailand, influx of refugees, floods).

Bangladesh. WHO collaborated with UNHCR, UNICEF and the League of Red Cross Societies in assisting the refugees from Burma. US$200,000 worth of emergency medical supplies were procured on behalf of UNHCR and shipped at advantageous rates negotiated for humanitarian action. Collaboration continued in Burma as the refugees were resettled in their homeland.

Indonesia. The influx of several thousand Vietnamese refugees and “boat people” into Indonesia put considerable strain on the country’s health resources. WHO obtained the services of two public health advisers from the Center for Disease Control, Atlanta (USA), to assess the sanitary conditions in refugee camps and advise on the health measures required.

European Region

3.51 Portugal (floods); Spain (explosion/fire); Turkey (resurgence of malaria); Yugoslavia (earthquake).*

* Details given at end of paragraph.
**Yugoslavia.** A series of earthquake tremors of exceptional violence struck the southern coast of the country in April/May 1979. Staff were sent from the Regional Office for Europe and from headquarters to assess the consequences for the health services and establish post-disaster primary health care facilities.

**Eastern Mediterranean Region**

3.52 Afghanistan (floods); * Cyprus (influx of refugees); * Democratic Yemen (cholera); Lebanon (civil strife); Somalia (floods, epidemics); Sudan (viral haemorrhagic fever).

Afghanistan. Following devastating floods, WHO assisted in re-establishing the water supply and provided US$60 000 from the regular budget for the transport of drilling rigs and pumps.

Cyprus. WHO collaborated with UNHCR in assisting the health services of the country. A total of $1 528 810 was spent on the health needs of displaced persons, dispensaries for refugees, urgently needed medical supplies, control measures against the reintroduction of malaria, and training of technicians.

**Western Pacific Region**

3.55 Democratic Kampuchea (emergency contingency plan); Fiji (cyclone); Philippines (influx of refugees, poliomyelitis epidemic); * Tonga (cyclone); Viet Nam (floods).

**Philippines.** Some 10 000 to 50 000 refugees from South-East Asia were expected at the reception centre in Palawan Province in late 1979. Emergency measures were taken to ensure a malaria-free area and to protect the health of both the refugees and the surrounding host population.

**National liberation movements recognized by the Organization of African Unity or the League of Arab States**

3.54 In collaboration with other agencies and organs of the United Nations, WHO provided health assistance to the national liberation movements recognized by the Organization of African Unity. These included the Patriotic Front (Zimbabwe), the South West Africa People's Organization (Namibia), the African National Congress (South Africa), and the Pan Africanist Congress of Azania (South Africa), which are struggling to maintain acceptable levels of health and social conditions in the most adverse circumstances.

3.55 Support was continued to the multinational training centre at Morogoro, United Republic of Tanzania, for which WHO is executing agency, and which prepares medical and allied personnel for service among the populations associated with recognized liberation movements.

3.56 Assistance was also given to the Palestine Liberation Organization in the recruitment of physicians and the provision of urgently needed medical supplies.

* Details given at end of paragraph.
Chapter 4

Research Promotion and Development

4.1 The research activities of WHO, formerly carried out exclusively by headquarters, have been reoriented to ensure substantial participation by regions and countries. Increased emphasis has been placed on the strengthening of national research capabilities and on the formulation, with the active support of the regional advisory committees on medical research, of national and regional research priorities. The stress is on action-oriented field research and on the need to relate research to health services; several WHO programmes, for example the Special Programme of Research, Development and Research Training in Human Reproduction, the Special Programme for Research and Training in Tropical Diseases, and the Expanded Programme on Immunization, have considerable health services research components.

4.2 The Programme Committee of the Executive Board in 1978 provided guidance on a number of important issues. It considered that WHO, in partnership with national institutions, should in its research aim essentially at the solution of explicitly defined problems of public health importance. It held that the integration of WHO’s research activities into a coherent whole was essential. The assumption of greater responsibility and initiative by the WHO regional offices and in turn by countries imposed an obligation on headquarters to provide effective coordination and technical support at the different levels of the Organization. It was also necessary at all times to keep an overall view of the scientific work being carried on in different subjects and in different regions. The Programme Committee, in relation to research funding, felt it necessary for WHO to remain independent of donor agencies. It also stressed the need to stimulate further the exchange of research information through a variety of mechanisms. As an important way of promoting coordination, such research information should cover research policy, institutional arrangements, and research resources as well as technical data and literature.

4.3 Special attention was paid by the Programme Committee to the strengthening of research capabilities. Constant mobilization of human resources would be needed and a variety of means should be used to achieve it, including the training of young workers from developing countries and their active participation in research; the use of fellowships to promote health services research; the promotion of career structures wherever needed; and the incorporation of fresh talent into the Organization’s pool of expertise.

4.4 Finally, the Programme Committee stressed the desirability of designing a
research plan and carrying out prospective studies related to health for all by the year 2000. Forecasts of health needs and scientific developments were required that took global, regional, and national factors into account. Problems and appropriate research approaches should be carefully defined, and in that connexion the Advisory Committee on Medical Research must provide leadership in establishing research priorities that would help the Organization to attain its goal.

4.5 In accordance with the Executive Board’s recommendations at its sixty-third session and the Thirty-second World Health Assembly’s resolution WHA32.15, a draft medium-term programme for research promotion and development was drawn up in line with the objectives specified in WHO’s Sixth General Programme of Work (1978–1983). Within this general framework Member States should find it possible to carry out health research in accordance with their own national priorities and determine the extent to which they wish for technical cooperation.

Global developments

4.6 The global Advisory Committee on Medical Research (ACMR) was active in coordinating regional priorities and synthesizing them into global initiatives. Following its June 1978 meeting, ACMR subcommittees on health services research, nutrition, diarrhoeal diseases, and scientific information were established to review those aspects of research. The role of these subcommittees, particularly the first three, has been to work closely with WHO in starting or expanding research in their respective areas. They gave valuable advice on programme development strategy and on the integration and harmonization of contributions to research from different sources. The subcommittee on information also encouraged institutions such as the United States National Library of Medicine to offer increased assistance. For example, a quarterly bibliography of tropical diseases is being compiled from that library to meet the needs of the Special Programme for Research and Training in Tropical Diseases; it goes to some 3700 individuals and institutions associated with the Special Programme.

4.7 At the ACMR meeting in November 1979, it was felt that the subcommittees on nutrition and on diarrhoeal diseases had already completed their work. In view of the successful catalytic role played by such active but short-term groups, additional subcommittees were proposed—on research administration, or career structures in research, and on mental health and allied neuropsychiatric problems in developing countries.

Research training

4.8 By enabling individual scientists to obtain additional training, WHO research training grants complement institution-strengthening. Emphasis is placed on postgraduate education, although grants are also awarded for training allied health, laboratory and support personnel from developing countries and, in some cases, for training in management of research. Awards are also made to promote the exchange of scientific knowledge by enabling investigators working on subjects of relevance to WHO programmes to visit scientists in other countries working in similar or related fields.

4.9 These two types of grant are funded by the special programmes for research and training as well as by the regular budget. Well over 200 grants for research training, and over 50 grants to enable scientists to visit other institutions,
were funded by special programmes during the biennium. They are administered by headquarters, whereas those from the regular budget and other sources are normally handled by the regional offices. In general, grants are increasing in number as well as in the duration of the training provided. Particular attention is given to ensuring the relevance of the training to regional and national health research priorities and to providing training within the context of technical cooperation among developing countries.

United Nations scientific meetings

4.10 WHO took an active part in the preparations for the United Nations Conference on Science and Technology for Development (Vienna, August 1979), which was preceded by a week-long colloquium sponsored by the United Nations Advisory Committee on the Application of Science and Technology to Development. Among the problems reviewed were equitable access to adequate energy and mineral resources, food and nutrition, population issues, health care, poverty, illiteracy, employment, and peace and security. Such problems cannot be solved by the efforts of one country or a small group of countries; the international scientific community represented at the meeting showed awareness of their global nature and of the need to analyse comprehensively and systematically the interdependence of sectors, countries, and regions. One expression of this awareness was the decision of 19 nongovernmental scientific and technological organizations to associate in order to undertake a number of practical tasks defined by the colloquium.

4.11 In its background paper for the Conference 1 WHO emphasized its ultimate goal—the attainment by all peoples of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life—and in its review of the health situation throughout the world highlighted the inadequate access of so many of them to any regular form of health care. Among the health problems to which WHO drew attention were:

- communicable diseases, in particular the need to make fuller use of existing vaccines but also to develop improved or new vaccines, e.g., against parasitic diseases;
- malnutrition, and the special needs of pregnant women and very young children;
- environmental diseases, and the particular importance of a clean water supply;
- family health/family planning, and the need not only for improved contraceptive technology but also for better access to services;
- the provision of essential pharmaceuticals that are both safe and low in cost, and the importance of making greater use of traditional medicines;
- the many psychosocial factors that have a bearing on health, and the need for more skilled manpower and greater utilization of community resources in this area.

4.12 Indeed throughout, WHO emphasized the need in developing countries for more health manpower, the importance of strengthening institutions, and the clear requirement for better career opportunities in health research. Stress was laid on the overriding need for technology that was appropriate, i.e., technically sound, culturally acceptable, and available at an affordable cost. All these factors were included in the primary health care approach. The obstacles were seen not only as tech-
technical, but also in terms of national political will, community organization, and the effective collaboration of the world’s scientific community.

Regional developments

African Region

4.13 During the period covered by the present report, six Member States made a financial contribution to the special regional fund for medical research.

4.14 After the second session of the African ACMR, research priorities were established for the major parasitic diseases, immunology, and health services research. A network of 43 national and three regional centres for research and training was set up and is being expanded. A regional project for research grants and research training grants became operational; 14 awards had been made up to September 1979. Workshops were organized to provide training in research methodology and to develop health research programme activities in the Region. A proposal was made to launch an African health sciences publication and is being studied, but financial and language problems have been encountered.

4.15 The African ACMR at its third session (Zambia, November 1978) recommended the establishment of a research promotion subcommittee to stimulate further research within countries; a health services research study group that would give priority to primary health care; and a study group to elaborate the regional component of the global diarrhoeal disease control programme. The research promotion subcommittee was established and visited ten countries in 1979. The two study groups were also formed and will meet in 1980.

Region of the Americas

4.16 The PAHO research programme gave special attention to health services research, with particular emphasis on the need to extend health services coverage. Working groups were constituted to study the problems, and their conclusions were presented to the health services research subcommittee of the global ACMR in June 1979.

4.17 Following the recommendations of a working group, and in view of its importance in the Americas, amoebiasis was included in the programme on diarrhoeal diseases.

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

4.19 An inventory of human and material resources for health research was completed for all the countries of Central America except Nicaragua. Surveys are being carried out in Bolivia, Colombia, Ecuador, Mexico, and Peru, and will soon be started in Argentina, Brazil, Chile, and Venezuela.

4.20 Research training grants and medical research grants were used to strengthen national research capabilities and to assist young scientists both in their training and in their reintegration on return to their home institution. Support was also given to enable scientists from developed countries to carry out training programmes in, and for the benefit of, developing countries.

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

4.22 Research in nutrition was carried out at the Institute of Nutrition of Central America and Panama and the Caribbean Food and Nutrition Institute; in the zoonoses at the Pan American Foot-and-Mouth Disease Center and the Pan American Zoonoses Center; in sanitary engineering, environmental health, and ecology at the Pan American Center for Sanitary Engineering and Environmental Sciences and the Pan American Center for Human Ecology and Health; and in perinatology at the Latin American Center for Perinatology and Human Development. The regional library, BIREME, expanded its information network and disseminated information on a considerable scale.

South-East Asia Region

4.23 The fourth and fifth sessions of the South-East Asia ACMR were held in April 1978 and 1979 in India and Thailand respectively. The Committee reviewed the progress of research, which is progressively expanding to include almost all the priority areas it pinpointed at its first session in 1976.

4.24 Following the Regional Committee’s resolution at its twenty-ninth session, allocating 2.5% of the regional budget to research (a percentage that was matched with funds from the Director-General’s Development Programme), research activities were increased in 1978. This enabled the Regional Office to give further support to several research projects, to training in research through structured courses, and to the schemes for visits by scientists and research training grants. The Regional Office promoted concerted efforts in Member States for the development of research policies, priorities, and plans, including training and institution-strengthening.

4.25 By synthesizing the requirements of countries the Regional Office was able to advance the programmes of health services research, diarrhoeal disease control, and nutrition. The global programmes being developed in these areas accurately reflect national and regional needs.

4.26 The Regional Office collaborated closely with the special programmes for research and training in tropical diseases and in human reproduction.

European Region

4.27 Health services research was the principal focus of research planning in the European Region. Within that research the European ACMR singled out five areas of high priority for promotion and development. They were broadly regarded as distinct from, but complementary to, the acknowledged research needs of the major programmes of the Regional Office in the care of the elderly, cardiovascular diseases, health manpower development, mental health, nursing, promotion of environmental health, and road traffic accidents. The five areas are: (a) standardization of methods, measurements, and terminology in biomedical and health services research; (b) prevention, prophylaxis, and early detection; (c) evaluation of drugs and other therapeutic and diagnostic substances; (d) problems of health care delivery; and (e) the economic aspects of health care.

4.28 A planning group was convened for each of these areas and subsequently a consolidated report was prepared indicating the research problem and the action recommended. From the outset it was recognized as particularly important to achieve effective coordination with re-
search activities in Member States, and mechanisms were developed to ensure that the priority areas singled out by the European ACMR were not merely in harmony with but were also responsive to the scientific needs of countries in the Region.

4.29 Liaison was maintained throughout with other groups active in medical research and cooperation continued with the European Medical Research Council. A meeting of European bodies concerned with the subregional coordination of health services research (September 1979) reviewed the possibilities of increased coordination of current and future health services research and confirmed the need for active coordination and liaison.

4.30 To ensure that research was focused on a major health problem in Europe, it was decided to develop further initiatives around the common theme of hypertension as related to health care. A review was made of the information available on 135 hypertension research studies in progress in the European Region. Hypertension serves as a useful model for a variety of reasons, including its link with other major chronic diseases found in the Region such as diabetes, renal disease, ischaemic heart disease, atherosclerosis, and stroke. Moreover, the wide range of factors influencing hypertension provide an opportunity to bring under consideration a number of health services aspects, e.g., evaluation of contributory and risk factors, screening and detection, clinical management of hypertensive disease, and cost/benefit analysis.

Eastern Mediterranean Region

4.31 The Eastern Mediterranean ACMR held its third session in March 1978 and its fourth in September 1979. It reviewed the progress in projects dealing with drug utilization, alternative approaches to rehydration, and traditional medicine. At the fourth session regional plans for applied research in nutrition and for field research in malaria were also reviewed, together with the research component of the project on the prevention and control of water-associated diseases in the irrigation schemes of the Gezira Province, Sudan.

4.32 A workshop was held in Cairo in September 1978 to establish detailed plans for a regional orientation course in health services research. The course itself was held in January 1979 in Alexandria, in collaboration with the Institute of National Planning, Cairo. The participants included three health professionals from each of six Member States in the Region. The purpose of the course was to give guidance to the participants on the role of health service research in decision-making and the formulation of health policies, and to familiarize them with its nature, objectives, and scope. The participants were also given a short period of intensive field training in the use of health services research methodology; during the course they prepared health services research proposals for projects to be carried out in their respective countries with WHO support.

4.33 The Regional Office collaborated with the Pakistan Medical Research Council in organizing a health services research workshop (Islamabad, April 1979). The participants included mid-level to senior-level health administrators, medical teachers, and research workers.

4.34 A study was planned in three countries of the Region to assess the effectiveness of the existing health care delivery system and initiate a process of
Policy analysis and development, the object being ultimately to suggest changes that would lead to effective coverage of the population by the year 2000.

4.35 A regional scientific working group on liver diseases was formed and met in December 1979 to review work done so far in the Region on liver diseases and draw up plans for a regional research programme to study them.

Western Pacific Region

4.36 The strengthening of national research capabilities was one of the major preoccupations of the Western Pacific ACMR, which selected three institutes in three countries of the Region for initial support. Research grants were awarded in relation to an interdisciplinary research programme on Schistosoma japonicum. A wider coverage of WHO collaborating centres by discipline and by country was planned, and collaboration of centres among themselves was encouraged. Preparations were also made to convene a working group of directors of national medical research councils.

4.37 Following the recommendations of the Western Pacific ACMR, a number of subjects of research were promoted as part of WHO programmes of technical cooperation. They included research on clonorchiasis and paragonimiasis; an interdisciplinary programme in a number of countries on diarrhoeal disease control, with emphasis on the operational aspects of control measures; and intervention studies aimed at reducing the mortality and morbidity from acute respiratory infections by at least 50% by the year 2000. In addition, research was promoted on the application of modern immunological techniques; diabetes in Polynesian and Micronesian islands; the health hazards of working populations, especially in connexion with changing occupational environments; vector control measures; and the methodology and planning of health services research.

4.38 National health authorities were urged to develop self-reliance in research and questionnaires to ascertain the present position were completed for five countries in the Region. In two of the five countries surveyed professional careers in full-time health research do not exist, either for physicians or for other medical scientists or technicians. In three of the five countries special incentives are given to full-time research workers in health or biomedical sciences and, in those same countries, there is legislative provision for support to health and biomedical research. In some developing countries of the Region the conditions of service for research workers have recently improved; for instance, special salary scales for full-time research workers have been established.

* * *

4.39 In summary, research promotion and coordination activities during the biennium focused on new processes as well as on expanding the dimensions of WHO's involvement in research. A concomitant quantitative growth was also apparent and is reflected in the reports on the individual technical programmes. Moreover national participation is clearly becoming of increasing importance. Research, and particularly the application of its results, will be among the decisive factors in WHO's effort to attain health for all by the year 2000.
Chapter 5

Health Services Development

5.1 The momentum given to health services development by the Thirtieth World Health Assembly in setting the social target of “Health for all by the year 2000” (resolution WHA30.43) was maintained by the International Conference on Primary Health Care held in Alma-Ata (USSR) in September 1978. The Conference, which was jointly sponsored by UNICEF and WHO, had been preceded by a number of national, regional and international meetings on primary health care so that it had at its disposal not only the official documentation but also reports on national experience, films relating to primary health care, and examples of appropriate health technology. It was attended by delegations from 134 governments and representatives of 67 organizations of the United Nations system and nongovernmental organizations in official relations with UNICEF or WHO. The work of the Conference culminated in the adoption of the Declaration of Alma-Ata, the far-reaching implications of which are discussed in the Introduction to this volume.

5.2 Among other things, the Conference stressed the need to formulate national, regional and global strategies and plans of action to implement that Declaration. A major part of WHO’s work in 1979 consisted in providing support for such formulation and, more importantly, in ensuring that health services at all levels responded to the challenges of the primary health care concept.

5.3 One of the principles inherent in the Declaration of Alma-Ata is intersectoral collaboration. In order to provide the Director-General of WHO with relevant advice in this area, it was decided to establish a group which comprises some twenty members from a broad range of disciplines, about one-half of them in sectors other than health. The group will meet during the second half of 1980.

5.4 Many countries are re-examining the adequacy of their mechanisms for collaboration, both within the health sector and intersectoral (there are a variety of such mechanisms, some of them involving all the main development sectors at central and other levels). WHO’s support for this and other related processes in health services development has been organized in various ways. The most common approach is to collect and analyse the experience of different countries in tackling problems that are common to them all. Such analysis in 1979 took the initial form.

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of studies carried out by nationals or by national institutes, sometimes with financial support from WHO; these were followed by consultations or workshops bringing together those responsible for the studies and other experts. It is an approach that promotes self-reliance and develops national capabilities for health planning, implementation of programmes and monitoring of results—prerequisites for any improvement in the health situation.

5.5 A meeting of representatives of nine countries and staff from all WHO regions (Geneva, October 1979) discussed the establishment of national health development networks of institutes or centres as a mechanism for fostering national self-reliance and capabilities or strengthening such as already exist. Functions, organization and financial support were examined in the light of national experience. Plans were proposed for action both by governments and by WHO, and for intercountry and interagency collaboration.

Primary health care

5.6 The regional committees in 1978 and 1979 devoted much time to reviewing national and regional action in primary health care. National strategies and plans of action will be presented to the 1980 sessions, at which point the regional strategies can be formulated.

5.7 In the African Region, there was a drive to popularize the concept of primary health care, highlight its social and intersectoral nature, and provide appropriate training. Seminars and workshops were held on specific aspects: a regional workshop in Botswana (December 1978) reviewed the recommendations of the Alma-Ata Conference; nine countries participated in a workshop in Yaoundé (June 1979) to prepare a practical guide for students of health sciences; a multidisciplinary workshop was held in Kintampo, Ghana (July 1978) based on the experience of the Brong-Ahafo rural integrated development programme; and a seminar on development, community participation, and training was organized in Dakar (July 1979). An interregional course on nutrition (Ibadan, Nigeria, March 1979), particularly intended for teachers of primary health care workers, was attended by 20 nationals from 14 countries; and a workshop for such teachers was organized in Lomé (June 1979).

5.8 In the Region of the Americas, the evaluation of the Ten-Year Health Plan for the Americas began in 1979 and the findings will provide a basis for the formulation of national and regional strategies in primary health care. Emphasis during the biennium was on extension of health coverage and on health systems based on the key policies of primary health care, intersectoral coordination, community participation, and development of appropriate technology. The operational capacity of health services is being expanded in the context of integrated development, which takes into account not only intersectoral coordination but also the internal improvement of the health sector in terms of planning, programming, mobilization of resources, and management of operations. In ten countries the community participation element was the object of extensive training and technical cooperation. In ten countries the community establishment of a training programme in community health for Central America and Panama, based in Costa Rica.

5.9 In the South-East Asia Region a meeting (New Delhi, December 1978)
reviewed the recommendations of the Alma-Ata Conference in the context of regional and national requirements. Four of the ten countries in the Region—Bangladesh, Burma, India, and Thailand, which between them have a population of some 800 million—formulated countrywide programmes and began to implement them. Other countries are either at the planning stage or are experimenting with alternative models to fit their political and socio-economic situation. Nearly all countries started programmes for training community health workers. Stress is laid on making traditional medicine, widely used throughout the Region, a part of primary health care; sectors other than health are increasingly being involved in the promotive and preparatory phases of such care. A joint UNICEF/WHO meeting on the formulation of strategies for attaining health for all by the year 2000 (New Delhi, December 1979) reviewed national health policies and long-term plans with a view to delineating the specific areas in which WHO would collaborate over the next two decades and defining the assistance it should give in formulating strategies.

5.10 The programme of the European Region is mainly concerned with the relationship between medical and health care at community level, and in particular with the part to be played by the community in the adoption of the self-care concept and in the development of health services. Most developing countries equate primary health care with front-line (first contact) medical and health services, but the approach as practised in the industrialized countries is somewhat different and requires an interpretation of the Declaration of Alma-Ata that will fit the real situation. Special emphasis is therefore being given to analysing the applicability and acceptability of self-care in the European context, improving the cost-effectiveness of health services by providing care at the lowest effective level, extending health education, examining the use of secondary and tertiary level facilities and the recourse to specialized personnel, strengthening research capabilities, developing information systems, and promoting awareness, in general. A number of projects were completed during the biennium, e.g., the study on the health centre concept in Europe. The special health problems of local and migrant populations in the Arctic were examined by a working group (September 1979), which chose the areas for a study on comprehensive health services in arctic and subarctic zones and defined the approach to be adopted.

5.11 In the Eastern Mediterranean Region, a significant trend can be discerned in the number of countries embarking on primary health care programming, implementation and evaluation, accompanied by intercountry collaboration. The period was marked by continued WHO support for the evaluation of primary health care programmes already in operation (Iran, Iraq, Libyan Arab Jamahiriya, Pakistan, Sudan, and Yemen); collaboration with countries embarking on such programmes (Democratic Yemen, Oman, and Somalia); the setting up of a multidisciplinary regional advisory panel on primary health care (the first meeting was held in December 1978, in Alexandria); and the preparation of a medium-term programme for 1978–1983.

5.12 In the Western Pacific Region primary health care was promoted by a series of conferences and workshops. To follow up the eight national seminars and the regional conference (Manila) in 1977, an intercountry workshop on primary health care development was held in
Malaysia and the Republic of Korea (November/December 1978), and resulted in research and development projects in both countries. In the South Pacific a conference on primary health care, including diarrhoeal diseases control, was held in Suva (August 1979) and a national seminar took place in Kiribati (November 1979). The nursing aspect of primary health care and the role of allied health personnel was emphasized, a national workshop on the subject being organized in the Republic of Korea. The use of health teams in rural work was the subject of an interregional workshop, which included field visits (Tacloban, Philippines, October 1979).

5.14 The Health Assembly in 1978 (resolution WHA31.34) requested the Director-General “to intensify the involvement of Member States in the further development of the global plan of action for the programme of appropriate technology for health”; and in the same year the Alma-Ata Conference recognized the importance for primary health care of identifying, developing, adapting and applying such technology. Particular attention has therefore been given to clarifying the concept of appropriate technology and its implications at country level for the primary health care approach. Information on relevant techniques was disseminated; periodic newsletters were issued; and a display of appropriate technology was organized at WHO headquarters.

5.15 National and regional developments were reinforced by a number of interregional or global activities. The UNICEF/WHO Joint Committee for Health Policy selected as the subject for its 1979–1980 study: “Country decision-making in the achievement of the objectives of primary health care”. Seven countries (Algeria, Burma, Costa Rica, Democratic Yemen, Mali, Mozambique, and Papua New Guinea) discussed the operational aspects of the studies to be undertaken at a preparatory meeting in November 1979. Other activities included UNICEF/WHO workshops on primary health care for the joint training and orientation of senior staff; an interregional study on community health workers; participation in the ACC Task Force on Rural Development; and the development of new activities with a number of nongovernmental organizations, e.g., the International Organisation for Cooperation in Health Care (Medicus Mundi) and the International Council for Adult Education.

5.16 In the African Region, after contacts with institutions, agencies and research centres working in this area, several suitable techniques were identified, relating,
for example, to water quality control; water catchment, distribution and purification; waste disposal; food and nutrition; and vector control.

5.17 Information on appropriate technology was disseminated throughout the South-East Asia Region, and many new techniques were developed: for example, the practical administration of oral rehydration in rural homes was simplified by the development of a special spoon for measuring the required proportions of salt and sugar.

5.18 In European countries, the problems are somewhat different: they relate to the indiscriminate application of a whole range of sophisticated technologies that are at the disposal of the health care system. The need therefore is to select a reasonable number of techniques and define the types of equipment that are appropriate for the health needs of the community in question.

5.19 Two regions—the Eastern Mediterranean and the Americas—were particularly concerned with the maintenance and repair of equipment and organized countrywide maintenance programmes and the training of hundreds of national technicians and managers. In the Eastern Mediterranean Region ad hoc or long-term training was undertaken in Afghanistan, Democratic Yemen, Jordan, Pakistan, Somalia, and Yemen. The regional training centre for the maintenance and repair of medical equipment in Cyprus was in operation and a similar centre in Baghdad was expected soon to begin its work.

5.20 A series of meetings at headquarters or elsewhere—in which international and national experts, as well as representatives of UNICEF, UNIDO and FAO, took part—covered such aspects as local production and distribution of oral rehydration salts (a manual for use by countries is in preparation); small-scale production of essential drugs; and basic equipment for peripheral health laboratories.

5.21 The search for appropriate technology where a need was known to exist included: the testing of re-usable plastic syringes, of portable refrigeration equipment, and of pressure-cookers that could be used by front-line services for sterilization purposes; the field testing of poly(vinyl chloride) well-screens in the Philippines; and the production of health educational material for illiterate populations in Mexico. The provision of low-cost spectacles for developing countries is under consideration and studies will be carried out in Pakistan and Sudan as from 1980.

5.22 All these activities entailed collaboration with other organizations, both intergovernmental and nongovernmental; for example, UNICEF was involved in many aspects of the programme, in particular in connexion with equipment for primary health care. The lists of equipment for peripheral services are being constantly evaluated and revised.

Disability prevention, rehabilitation, and health care of the elderly

5.23 The emphasis in this programme is on rehabilitation technology and on the community approach as distinct from institutional services. It has been estimated that there are 60 million people in the world who could be helped to a better life by improvement of their functional capacity, by educational and vocational measures, or at least by a better understanding of
their problems and a wider acceptance by the community.

5.24 Some 40 million disabled people live in developing countries, and very few of them have access to any services at all. To facilitate the provision of such services, a manual on community training for the disabled has been drafted. It contains guidance on training that can be carried out by members of the disabled person’s family with minimum supervision by primary health care workers, and describes the measures to be taken by local teachers and community leaders. Testing of the manual began in 1979 in Botswana and Mexico; seven other countries asked for WHO cooperation in introducing and evaluating it; and a meeting of representatives of the national institutes taking part in the tests was held in Mexico City (November 1979). The manual should prove an inexpensive but effective way of meeting the need for rehabilitation services at community level. Feasibility studies and the final evaluation of its contents are planned for 1981, the International Year for Disabled Persons.

5.25 In the African Region, the interest in disability prevention and rehabilitation has increased. WHO collaborated in establishing orthopaedic workshops in four countries (Benin, Guinea-Bissau, Ivory Coast, and Upper Volta); and participants from ten countries (Benin, Congo, Gambia, Ghana, Lesotho, Mali, Rwanda, Swaziland, Upper Volta and Zaire) attended the third African training course for prosthetic and orthotic technicians organized by the World Rehabilitation Fund (Nairobi, 1978). The possibility was examined in 1979 of training multipurpose rehabilitation workers in Mali and establishing provincial centres for orthopaedics and rehabilitation. Many countries of the African Region are concerned at the high number of traffic accidents and information is being collected. Participants from eight countries attended the third postgraduate course on traffic medicine (Paris, December 1978).

5.26 In the Region of the Americas, steps were taken by various countries to promote effective community measures for the prevention of disability and provide simple community rehabilitation services. In Mexico the health authorities set up a field study in and around Toluca, which has the necessary health services including a rehabilitation centre. Community health workers were taught to identify the disabled persons in the community, evaluate their disabilities, and prescribe simple rehabilitative activities. A meeting of therapists carrying out English-language training programmes in the Caribbean (Nassau, October 1978) recommended that a similar study should be made in one of the English-speaking Caribbean islands.

5.27 In the South-East Asia Region, community surveys were sponsored in India and Indonesia to assess the magnitude of the problem and ascertain patterns of disability. Services for rehabilitation of the disabled were promoted through an inter-country seminar (Solo, Indonesia, 1978) at which the present position was reviewed and medium-term programmes formulated for each country and for the Region. Community-oriented services were promoted through technical collaboration in nearly all countries of the Region. To meet the demand for orthotic and prosthetic appliances, appropriate technology utilizing local materials was promoted. National and regional training facilities in community-oriented disability prevention and rehabilitation for health and allied personnel were strengthened.

5.28 The disability prevention programme in the European Region is closely
linked to health care of the elderly and prevention of road traffic accidents. Five ad hoc technical groups were set up to study inter alia services and systems of care for the elderly and disability prevention, including screening. An interregional planning and coordinating committee met in 1979 to discuss the global programme for health care of the elderly, for which the Regional Office is the focal point. It is also the focal point for the global programme on prevention of road traffic accidents, and has oriented the European programme in this area so as to permit the participation of other regions and provide a model for global activities. Technical groups were convened on (1) road accident statistics (with special emphasis on recording of morbidity and disability); (2) the influence of alcohol and drugs on driving; and (3) medical monitoring of road accidents. (See also Chapter 15, paragraphs 15.110 and 15.111).

5.29 In the Eastern Mediterranean Region, the emphasis was on building up the infrastructure, both by training and by procurement of equipment and supplies. The establishment of rehabilitation services was promoted in eight countries—Afghanistan, Iraq, Jordan, Lebanon, Saudi Arabia, Somalia, Sudan, and the Syrian Arab Republic. In Jordan, WHO gave its support to a study on consanguineous marriages—the present rate of such marriages, the trends over a period, and the implications for health, especially the risk of disability. A project to introduce a community programme for the control of cerebral palsy was started in collaboration with the Queen Alia Welfare Fund and the Ministry of Health. Throughout the Region, stress was laid on the introduction of primary health care techniques in disability prevention and in rehabilitation. Several Member States collaborated in a survey designed to further the introduction of meaningful programmes for care of the aged. In the prevention of road traffic accidents, a special multidisciplinary committee was established in recognition of the multiple causes of such accidents. Work will concentrate on development of an accurate information system, elucidation of the human factor in traffic accidents, and establishment of emergency care facilities.

5.30 A rehabilitation programme is being developed in the Western Pacific Region. WHO is participating in the Philippines in a comprehensive national programme beginning with a survey of physically disabled persons. The regional programme for care of the aged is still at an early stage, since the extent of the problem must be determined before a realistic programme can be formulated. A regional programme on prevention of road traffic accidents was, however, established in 1978, the first step being the collection of information from all countries of the Region on the incidence and severity of such accidents and the resources being devoted to road safety programmes. A working group (October 1979) developed guidelines and made recommendations for policies, strategies and methods of intervention.

Health services planning and management

5.31 In the comprehensive study of the planning, programming, design and architecture of hospitals and other health care facilities in developing countries, started in 1974, another volume was published of Approaches to Planning and Design of Health
Care Facilities in Developing Areas. An evaluation of health care facilities was made in the field by way of case studies in Algeria, Senegal, Sudan, and Zambia. These were national studies supported by WHO and intended to ensure that the planning and operation of health care facilities are increasingly relevant to local needs and take into account local possibilities. The programme encompasses not only the health care system (especially at local level) of which the facilities are a component, but also health management, which conditions the proper use of the facilities. The report of the first study, which took place in Sudan, was finalized and approved by the Government at an intersectoral meeting (Khartoum, December 1979).

5.32 The need for linking subjects too often compartmentalized was also felt at regional level. In the Eastern Mediterranean Region, situation analyses on planning, design, construction, equipment and management of hospitals and other health care facilities were prepared in a number of countries and will eventually lead to a comprehensive regional programme in this field. In the Western Pacific Region, a complex intercountry project was in operation to provide training for national staff of the collaborating countries in hospital administration (at the University of the Philippines); in maintenance and repair of medical equipment (at the Central Institute of Technology, Upper Hutt, New Zealand); and in design of health care facilities (at the College of Architecture, University of the Philippines). In collaboration with the International Hospital Federation, a regional conference on health services in developing countries was organized (Manila, 1978), which, inter alia, gave attention to health care facilities.

5.33 In 1979 new activities were introduced to help countries in gearing their national health systems to the support of primary health care by ascertaining technical requirements and organizing the exchange of experience. Two international courses, in English, were held on the planning, organization and management of health care delivery in support of primary health care (Sofia, 1978 and 1979); these followed earlier courses on the subject in French.

5.34 In the African Region, workshops were organized on health services planning and management for both national and WHO staff (United Republic of Cameroon, 1978 and 1979). In the Western Pacific Region, WHO collaborated with the Philippines in the restructuring of its health care delivery system; with the Republic of Korea in the development of its basic health services, particularly with regard to allocation of resources as between hospital services and general services; with the Lao People’s Democratic Republic in the development of a rural health care system; and with Papua New Guinea in designing a primary health care system linked to health services, as part of the integrated health services and health manpower development project in that country. China was host to several study tours on various innovative aspects of primary health care, including the integration of traditional medicine into health services and the fostering of community responsibility.

5.35 A study group was held in Geneva (October 1979) on the measurement of coverage, effectiveness and efficiency of various patterns of health care. The experience of Burma, Costa Rica, Egypt,
Finland, Malaysia, Nigeria, the Republic of Korea, and Senegal was discussed and recommendations were made for continuing the study, which aims at developing material that will help countries to monitor progress in primary health care. The group emphasized the importance of decision-makers and managers using such data as an aid to assessing policy objectives, namely equitable provision of coverage, improved allocation of resources, and community participation.

5.36 To promote the use of epidemiology as a tool in health care administration, particularly for the peripheral health services, a WHO-sponsored study was initiated, with the participation of Botswana, Burma, Ecuador, Iran, Malaysia, Niger, and Thailand. Following a preliminary meeting of national health managers (Geneva, March 1979), these countries are now sifting their experience with a view to its exchange within the context of technical cooperation among developing countries. There is a clear trend towards providing an epidemiological basis for the practical day-to-day activities of primary health care, i.e., shifting epidemiology from the predominantly central position it has hitherto occupied and employing its methods more directly in primary health care.

5.37 An interregional seminar on emergency care in natural disasters was organized (Manila, 1978) in collaboration with UNDRO and various organizations (see Chapter 3, paragraph 5.38); it was well attended by participants from disaster-prone areas. In the Region of the Americas, a programme explicitly directed towards emergency and ambulatory health services was established, to meet increasing demands for such services. In the European Region, in the context of the programmes on road traffic accidents and on disability prevention, special emphasis was given to the organization of efficient emergency medical services. In the Eastern Mediterranean Region, a regional advisory committee on emergency medical services was set up.

5.38 Work on the economic aspects of health services was intensified. The Executive Board at its sixty-third session (1979) considered at length the recommendations of the WHO Study Group on Financing of Health Services. An interregional seminar on the same subject for senior health administrators (Mexico, 1979), in which 26 countries took part, discussed the suitability of a draft manual to guide surveys of health sector financing. Manuals and monographs on this subject were prepared in the Region of the Americas. WHO and CIOMS jointly organized an international conference on economics and health policy (Geneva, November 1979). The American Public Health Association, in cooperation with WHO and certain nongovernmental organizations, ran a workshop on health care financing in Latin America (Colombia, April 1979); and a consultation of countries of the South-East Asia Region was held on the same subject (New Delhi, July 1979).

5.39 The Regional Office for the Americas was particularly concerned with the additional resources that could be obtained for health work; among the action taken was assistance to countries in preparing requests for loans. International organizations—especially those of the United Nations and inter-American systems—have intensified their technical cooperation programmes and increased the financial resources available for them: an estimated US$ 25 million for technical cooperation, and some US$ 500 million.

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for construction of physical infrastructures, was spent or allocated throughout the Region during 1978 and 1979.

5.40 In the Western Pacific Region studies of unit costs or cost-effectiveness analysis were carried out for different parts of the health services in Papua New Guinea, the Philippines, and the Republic of Korea.

Health services research

5.41 Health services research has received particular emphasis during the past few years, as evidenced by the resolutions of the Health Assembly, the Executive Board, and the regional committees,\(^1\) and by various recommendations of the global and regional advisory committees on medical research. Moreover the Alma-Ata Conference specifically referred to the need for health services research and operational studies (recommendation 16 of its report). A subcommittee on health services research, established by the global Advisory Committee on Medical Research (ACMR) in May 1978, met four times during the biennium (in Geneva, Alexandria and Washington) and is trying to mobilize financial support for health services research in various countries.

5.42 By June 1978 all six regional advisory committees on medical research had considered the matter. Negotiations were in progress for the establishment of collaborating centres in Colombia, Cuba, Egypt, Iran, Mexico, and the United Kingdom, while in the Republic of Korea a collaborating centre was designated in which the main emphasis would be on health services research.


5.43 At the end of 1979, WHO was collaborating in more than two hundred cases in substantive health services research, or in activities in support of research, at various stages of development in 94 countries. Such collaboration is a part of WHO’s technical programmes and is described under the relevant headings in this report.

5.44 The African ACMR at its third session (N’dola, Zambia, November 1978) recommended that Member States should promote national activities in this area by setting up working groups to study specific aspects, giving priority to training of health services research workers, and ensuring appropriate information support. Three institutions—in Ghana, the United Republic of Cameroon, and the United Republic of Tanzania—were chosen for collaboration in health services research.

5.45 In the Region of the Americas, the regional ACMR (Lima, May 1978) recommended the establishment of working groups to examine definitions and methods of health services research. Meetings to promote the concept were held in Bolivia, Costa Rica, and Mexico and were planned for Argentina and Brazil. Steps were taken to establish contact with other groups concerned with health services research, to promote the methods of such research, and to give direct support to certain studies in progress. The latter concern mainly the extension of health services coverage, the financing of health services, hospital engineering, maintenance of equipment, and appropriate technology.

5.46 In the South-East Asia Region, priority was given to research on alternative strategies for health care delivery, with emphasis on primary health care. A study group convened by the Regional Director held three meetings (New Delhi, 1977
and 1978) and identified specific research priorities, which were endorsed by the regional ACMR and led to a variety of research and related activities at country and intercountry level. A regional meeting on the development of health services research (New Delhi, November 1979) brought together senior executives in the health sector and staff from development centres and academic institutions.

5.47 The European ACMR set up working groups to consider the following priority areas: (1) standardization of methods and measurements in biomedical and health services research; (2) prevention, prophylaxis and early detection of diseases; (3) evaluation of drugs and other therapeutic or diagnostic substances; (4) problems of health care delivery; and (5) economic aspects of health care. Its action was strongly endorsed by the Regional Committee in September 1978, which especially stressed the need for a better understanding of health services research, for more resources to be devoted to it, and for the collaborating research establishments to be chosen bearing in mind the interdisciplinary nature of the research. At its fourth session (October 1978), the European ACMR proposed two priority subjects: hypertension,¹ and economic aspects of health development.

5.48 In the Eastern Mediterranean the regional ACMR and an interministerial consultation on health services and manpower development both placed great emphasis on health services research as a way towards comprehensive health services in the countries of the Region. An orientation course was held to familiarize health administrators and research workers with the part that can be played by health services research in decision-making (Alexandria, January 1979); a national workshop (Islamabad, April 1979) had similar objectives.

5.49 In the Western Pacific Region, the task force on health services research at its third meeting (Manila, August 1978) was composed of representatives of seven countries (Australia, Japan, Malaysia, New Zealand, Papua New Guinea, the Philippines, and the Republic of Korea). It formulated a regional programme, and detailed strategies, tactics, and methods for planning of health services research at country level. Research on the health services in Malaysia, the Philippines, and the Republic of Korea led to changes in the general health services of those countries; the Korea Health Development Institute was designated a collaborating centre for health services development in 1979 and a plan of future activities was prepared. The task force held a fourth meeting during the biennium (Manila, July 1979) to consider the results of the second session of the global ACMR subcommittee on health services research.

Traditional medicine

5.50 During 1978–1979 traditional medicine became an important element in the strategy for attaining health for all by the year 2000. In particular, the Alma-Ata Conference recognized the role of practitioners of traditional medicine in primary health care teams at community level, as evidenced by Article VII of the Declaration of Alma-Ata. Moreover it became apparent during the biennium that interest in traditional medicine was not confined to the developing countries or to African and Asian cultures in particular but was worldwide.

5.51 A global programme was therefore instituted which, although coordinated in

¹ See also Chapter 4, paragraph 4.30.
Geneva, is implemented at regional or country level in accordance with the wishes of individual governments. In 1979 the Executive Board (resolution EB63.R4) requested the Director-General to intensify the development and implementation of the programme by way of a more realistic and flexible approach to traditional medicine through health care programmes adapted to different socioeconomic conditions.

5.52 Many governments are now reviewing their traditional and indigenous health care resources, recognizing the potential that these represent in terms of manpower and other health services components. Some are giving serious consideration to integrating traditional medicine into their national health services and are examining their health legislation with a view to revision. Governments where traditional medicine is already part of the national health system are able to provide technical cooperation at country level to other countries interested in following their example. The study tours conducted in China for this purpose (see paragraph 5.58 below) attracted not only participants from developing countries but also from the economically developed countries because of the interest aroused, for example, by medicinal plant therapy, production of plant extracts, and the use of acupuncture for specific disease therapy and for analgesia. Those countries have also expressed interest in the anthropological, cultural and psychosocial aspects of traditional medicine and in providing facilities for research training and studies.

5.53 There is no doubt that the growing recognition of systems of traditional medicine is mainly due to the fact that they are a logical and cost-effective way of ensuring health care at the grass-roots level and that they use locally available resources.

5.54 A number of meetings, consultations and seminars were held in 1978–1979 that brought together experts from many disciplines—not only from systems of traditional medicine such as Ayurveda, Unani and traditional Chinese medicine, but also from medical specialties such as cancer, diabetes, cardiovascular diseases and pharmacology and from such sciences as biology, botany, sociology, and anthropology; they came from all regions and from other organizations of the United Nations system.

5.55 A consultation on the potential for cancer therapy of plants indicated by traditional medicine was held in 1978, and there was a similar consultation in 1979 on the treatment of diabetes and cardiovascular diseases by such plants. It was agreed that the active participation of practitioners of traditional medicine in the health services would require appropriate and effective lines of communication; and that task forces should be established to provide WHO with the necessary expertise when developing guidelines for such programmes. WHO should encourage collaborative research on the development, evaluation and utilization of plants in the treatment of disease; pharmacological principles should be adhered to when evaluating the efficacy of medicinal plants; the WHO project to acquire, catalogue and make available information on the plants used in traditional medicine should be expanded; meetings should be encouraged between practitioners of traditional medicine and scientists involved in research on such plants; a dialogue at national level between traditional healers and health professionals should be instituted as soon as possible; traditional medical practices of proven value should be introduced into the curricula of medical students, nurses, pharmacists, health auxiliaries, and other health workers; and

3 See also Chapter 8, paragraph 8.16.
WHO should provide information to developing countries on the research being carried out in these areas in both developing and developed countries.

5.56 A meeting on research and training in traditional systems of medicine in developing countries, with particular reference to medicinal plants and herbs, was organized jointly with the Istituto Italo-Africano (Rome, April 1979).

5.57 At the first International Conference on Traditional Asian Medicine (Canberra, September 1979), which was cosponsored by WHO, it was recognized that, for traditional medicine to make further advances, western-trained doctors, scientists, and traditional healers must pool their knowledge in the interests of an integrated health system; such integration is already being examined by WHO.

5.58 Study tours on traditional medicine took place in China in 1978 and 1979, for participants from all regions; courses were given in both English and French. An interregional seminar on the use of acupuncture and acupuncture anaesthesia was also held in China (June 1979).

5.59 Participants from the African Region attended a three-month course on acupuncture (1978) and took part in the study tours in China mentioned above. Two such participants took part in a consultation on acupuncture, moxibustion and acupuncture anaesthesia, also in China (1979). Support was given to the fourth conference on postgraduate studies in central Africa and Mauritius (Libreville, June 1979), which reviewed traditional medicine, its pharmacopoeia, and the problems of integrating traditional and modern medicine. Thanks to DANIDA’s financial support, an intercountry workshop was organized in Bamako (1979) and preparations were made for a second, to be held in Accra in 1980. Their purpose is to evaluate the experience of practitioners of both traditional and modern medicine in a number of African countries, with a view to evolving strategies and approaches for close collaboration between the two systems.

5.60 In the Region of the Americas traditional medicine has been studied for many years, and recently Member States have shown an increased interest in its potential for extending health services coverage. An agreement was made between the Inter-American Indian Institute and PAHO/WHO for the study of traditional medical practices in the Andean countries; work started in 1979 and a report was submitted to the Fifth Meeting of Health Ministers of the Andean Group. Considerable research on medicinal plants is being undertaken in Mexico. PAHO/WHO also took part in a comparative study of institutional and traditional medicine in the coastal and mountainous regions of Ecuador, in which the characteristics, content and techniques of traditional medicine were analysed and data collected on the population served, the cost, and the results obtained. The Organization assisted in the updating and publishing of a bibliography on the practice of traditional medicine in all the countries of the hemisphere.

5.61 Traditional medicine plays a significant role in the South-East Asia Region, where in many countries it is the only type of health care for a large part of the population and is legally recognized as such in some countries. A recent study in a number of countries concluded that training programmes in Ayurveda, Unani, etc., could be improved, and that refresher courses, including training in preventive and social medicine, should be organized for practitioners of these systems. Further research was needed on traditional medi-
cinal formulas to ensure greater efficacy and standardization. WHO continued to give support to a research study on the efficacy of ayurvedic treatment of rheumatoid arthritis made by the Ayurvedic Trust and Research Institute, Coimbatore, under the aegis of the Indian Council of Medical Research; the study will be evaluated in 1980.

5.62 The Eastern Mediterranean regional Advisory Committee on Medical Research initiated a research programme in traditional medicine. A questionnaire for the collection of baseline information was sent to research workers and health authorities and the replies are being analysed. On the basis of the findings a programme for the effective utilization of the resources of traditional medicine in the extension of health care will be developed.

5.63 In the Western Pacific Region, a consultant requested by the Government of Kiribati classified and documented the medicinal plants used in that country, reviewed the practice of traditional Kiribati medicine, and made recommendations on further research and on the role of traditional medicine in the health care system.

5.64 Two WHO collaborating centres were established in 1979—at the Istituto Italo-Africano, Rome, and at the Gujarat Ayurvedic University, Jamnagar, India. Recommendations were made for collaborating centres to be designated in China on traditional medicine, medicinal plants, acupuncture, and acupuncture anaesthesia. Negotiations were also under way at the end of 1979 for centres in Africa, the Americas and the Eastern Mediterranean.

5.65 In 1979 a WHO expert advisory panel on traditional medicine was established, comprising, in addition to medical practi-}

Editorial note:

1 Formerly Gilbert Islands.

5.66 There is very little literature on the administrative aspects of traditional medicine as related to official health services. To bridge the gap, a handbook for use by health administrators and health workers is being designed. It will outline the main systems of traditional medicine, describe the position in selected countries, review legislation in force, and suggest procedures for the extension of health services coverage by a fuller use of traditional healers and indigenous health care systems.

Workers' health

5.67 WHO's work in occupational health, in its new orientation, emphasizes three main areas: (1) providing health care for underserved working populations; (2) establishing practical guides and standards for the assessment and control of specific problems encountered at the place of work; and (3) coordinating occupational health programmes with those of the general health and labour services. Technical cooperation with countries increased rapidly during the biennium, when WHO provided services in various fields of occupational health to some twenty countries in all regions.

5.68 Workers in agriculture and small-scale industries constitute the overwhelming majority of the productive manpower, particularly in developing countries, but occupational health services for these groups are often inadequate, or even nonexistent. During the biennium WHO conducted a series of field studies on the health problems encountered in these sectors, undertook the preparation of...
guidelines for the organization of appropriate occupational health care, and convened or participated in various meetings on the subject. Field investigations in Sudan continued in 1979 and further investigations were started in Burma, the Philippines, and the United Republic of Tanzania. In collaboration with UNEP, assistance was provided to the Government of Egypt for the development and coordination of occupational health services, particularly for workers in agriculture, where a major hazard is poisoning by pesticides. In Indonesia, a UNDP/WHO project on similar lines included advisory services on agricultural hygiene. A workshop on occupational health care in agriculture (November 1979) produced the first of a series of guidelines for the development of services in this sector. It is recognized, however, that much more work by WHO in relation to agriculture and small-scale industries is required.

5.69 The health problems of migrant workers were studied in the African Region (1978), in Botswana, Lesotho, Mozambique, and Upper Volta, to evaluate the degree of risk to the health and safety of workers taking up employment in the more industrialized countries of the Region with a view to recommending control measures. WHO also organized a series of meetings in 1978 and 1979 on health education of migrant workers, particularly directed to the recognition and control of adverse psychosocial factors at the place of work.

5.70 The development of occupational health services and institutions and their coordination or integration with national health services is a growing programme. In addition to the various projects referred to above, WHO collaborated with countries in reviewing their occupational health systems, in strengthening preventive measures, and in training personnel.

5.71 In the African Region, WHO assisted Ghana, the Ivory Coast, and Zambia in a national evaluation of their occupational health problems and services with a view to developing regional research and training centres.

5.72 In the Region of the Americas, activities were directed towards increasing national capabilities in occupational hygiene, developing control programmes suitable for small-scale industries, and reducing both accident rates and cases of exposure to toxic chemicals in agriculture.

5.73 In the South-East Asia Region, a UNDP-assisted project for the strengthening of health services in newly industrialized areas became operational in Burma in 1979; its main purpose is to provide integrated basic health services for workers and their families and to strengthen health care coverage of the surrounding population. In Bangladesh, support was given to the National Institute of Preventive and Social Medicine, Dacca, in setting up an industrial health laboratory. An interministerial coordinating committee was formed on which the ministries of health, labour, social welfare and industry are represented. Similar assistance is being given under a joint DANIDA/ILO/WHO project in Sri Lanka.

5.74 The Regional Office for Europe cooperated with Denmark and Poland in developing their institutes of occupational health and in training staff in industrial toxicology; with Portugal and Spain in improving occupational health services by way of epidemiological studies and intensified training; and with Greece in studying the establishment of a national institute for occupational health attached to the Ministry of Social Services.
In the Eastern Mediterranean Region plans were drawn up with Egypt, Jordan, Pakistan, Qatar, and Yemen for the national centres in occupational health which it is intended should be established in all countries of the Region. A joint ILO/WHO multidisciplinary team visited Iraq in 1978 to study and advise on various matters of occupational health and safety.

In the Western Pacific Region, a long-term project in occupational health in Malaysia led to the organization of a national interagency committee to coordinate activities relating to workers’ health; a series of surveys was conducted to obtain basic data, and a national centre for training and research is being established. WHO helped the Philippines to strengthen the Division of Occupational Health in the Ministry of Health and to organize training courses for occupational physicians and nurses. Preliminary studies on occupational health services were made in Fiji, the Republic of Korea, and Tonga.

In its work on guidelines and standards WHO has for several years been studying the methods used in various parts of the world to recommend exposure limits for occupational hazards, and the first study group on this subject (1979) recommended health-based permissible limits for the commonly encountered heavy metals—cadmium, lead, manganese and mercury—that constitute serious occupational risks.1 The aim is to harmonize the standards set by institutions in different countries, which have hitherto varied considerably. This programme is carried out with the cooperation of the National Institute for Occupational Safety and Health, United States of America.

A new programme was started to establish simplified methods of air analysis, in which WHO coordinates the work of a network of collaborating centres in Brazil, Bulgaria, Czechoslovakia, Egypt, and Switzerland that are testing analytical methods for selected pollutants in the working environment. Guidelines on the evaluation of gases and vapours in the working environment were produced in 1979, and work on the evaluation of particulate matter has begun.

The programme on methods for the early detection of health impairment in occupational exposure to health hazards began in 1976, and in 1979, following various scientific meetings, a document was compiled on such early detection in relation to selected organic solvents and metals (benzene, carbon tetrachloride, ketones, trichloroethylene, xylene, cadmium, lead, manganese and mercury). It summarizes present knowledge on the early signs of occupational disease caused by these substances and the corresponding diagnostic procedures.

Respiratory diseases due to the inhalation of vegetable and other organic dusts are among the most commonly encountered occupational diseases in developing countries. WHO organized two meetings during the biennium to review the epidemiology of occupational exposure to these dusts, and draft guidelines for early detection and control. This is the beginning of a long-term programme to explore the various health hazards represented by the wide variety of dusts encountered in agriculture and in the textile industry throughout the world.

As part of interagency coordination in occupational health work, UNEP convened three meetings during the biennium with a view to instituting a global pro-

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gramme on the improvement of the working environment, to be carried out by ILO, UNIDO, WHO, and other specialized agencies. WHO and ILO are reviewing their present Memorandum of Understanding, which dates back to 1954, and are intensifying their cooperation in occupational health matters. In 1979 the Health Assembly (resolution WHA32.14) requested the Director-General to prepare a programme of action that would embody the new orientation of WHO's programme for workers' health in the coming years. It emphasized the need for strengthening coordination with other organizations in the United Nations system, particularly ILO, and for effective technical collaboration with Member States in setting occupational health standards and guidelines. The meeting of a working group (November 1979) was the first step in elaborating such a programme.
Chapter 6

Family Health

6.1 The programme of family health reflects the priorities identified by countries in this field, namely maternal and child health, family planning, nutrition, and health education. They form an integrated component of health care and are closely linked with the other essential elements of primary health care. Family health care emphasizes the participation of families in health promotion and deals with the needs that cannot be met by organized health services alone. It reinforces self-care by the family; and it involves both traditional and community workers such as traditional birth attendants, schoolteachers and women's groups. While its aim is to promote the health of the family as a whole, it gives special attention to the health needs of women and the promotion of the healthy physical self-reliance in promotive and preventive work related to pregnancy and childbirth, and the promotion of the healthy physical and psychosocial development of children and adolescents. This broader perspective has become the forefront of current thinking in health, and is seen in the recommendations of the International Conference on Primary Health Care and the Declaration of Alma-Ata.

6.2 During the biennium, a medium-term programme in family health was developed, which consolidated activities within a new programme outline. It groups them according to (a) strengthening of the family health component of health care systems, in particular within primary health care; (b) development of technologies and advancement of knowledge in family health; and (c) development of intersectoral strategies related to family health, population and development. This grouping has facilitated the integrated programming of complementary activities at global and regional levels, both within the family health programme itself and in conjunction with other WHO programmes, and has allowed more coordinated and effective technical cooperation with countries.

6.3 Integrated family health care is receiving more emphasis in most countries, both developing and developed, for reasons of efficiency and because it corresponds to people's preference. During 1978-1979 WHO worked with UNFPA and UNICEF in providing support to an increasing number of national family health programmes—the number rose from 50 in 1978 to 75 by the end of 1979 (see paragraph 6.16 below).

6.4 Technical cooperation with these countries was backed up by the development of improved methods of management, training, education and technical interventions, focused on the peripheral levels. Related health services research included
the beginning of work on the development of new family health indicators, better adapted to the management and evaluation functions of primary health care. The emphasis is on information that can be used by the family itself, by primary health care workers, and by other development workers at local levels.

6.5 The integration of the components of family health and intersectoral approaches is further exemplified by the activities related to infant and young child feeding. A WHO/UNICEF meeting on that subject (Geneva, October 1979) called for urgent action to promote the health and nutrition of infants and young children and took a clear stand by stating that:

Breastfeeding is ... the natural and ideal way of feeding the infant and a unique biological and emotional basis for child development. This, together with its other important effects, on the prevention of infections, on the health and well-being of the mother, on child spacing, on family health, on family and national economies, and on food production, makes it a key aspect of self-reliance, primary health care and current development approaches. It is therefore a responsibility of society to promote breastfeeding and to protect pregnant and lactating mothers from any influence that could disrupt it.

6.6 The meeting was a milestone event in that it brought together more than 150 representatives of governments, intergovernmental and nongovernmental organizations, individual scientists, and representatives of the infant-food industry, all as equal participants. It made numerous practical recommendations, reached by consensus, on the encouragement and support of breastfeeding; the promotion and support of appropriate weaning practices; the strengthening of education, training and information; the health and social status of women; and the appropriate marketing of infant-formulas and weaning foods. It recommended that there should be no sales promotion, including promotional advertising to the public of products for use as breastmilk substitutes or bottle-fed supplements and of feeding bottles; and asked WHO and UNICEF to work out an international code for marketing infant formulas and other products used as breastmilk substitutes.

6.7 Developments in technology are described below under maternal and child health, nutrition, and the Special Programme of Research, Development and Research Training in Human Reproduction. The latter is the research arm of the programme insofar as family planning, including fertility, is concerned. It develops technology for family planning and infertility care that is safe, effective, low-cost, and simple enough to be provided within the framework of primary health care; it assists Member States in carrying out their own research programmes or in adapting technological advances made elsewhere.

6.8 During the biennium intersectoral strategies were promoted in relation to health and population issues, food and nutrition policies, legislation affecting the family, and other social support systems affecting family health. WHO took part in numerous UNFPA missions to assess the needs of countries in population-related fields in relation to overall socio-economic plans.

6.9 The status of women as related to family health—and its relationship to health and socioeconomic development in general—was reviewed. The complex changes

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in the economic and social position of
city and social position of women were reviewed, in particular the
compatibility of women's roles in repro-
duction, economic production and social
development, and the implications of those
roles both for women's own health and
for that of the family as a whole. Tra-
ditional practices affecting the health of
women in the Eastern Mediterranean
Region were examined with a view to
courage the beneficial practices and
discouraging the harmful. 1

6.10 Activities were initiated in 1979
on the role of the family in assuring its
own health care, and on other develop-
ments in family health care, in the context
of changing family structures in many parts
of the world. In the South-East Asia
Region a workshop discussed the implica-
tions of family health care for the health
systems of the Region. In Europe, a
comprehensive family health programme
was presented to the Regional Committee
in 1979.

6.11 The family health programme is
closely linked with the programmes on
strengthening of health services, health
statistical methodology and mental health,
and especially with the Expanded Pro-
gramme on Immunization and the pro-
grammes on control of diarrhoeal diseases
and acute respiratory infections.

6.12 In the field of family health WHO
continued to work with other organiza-
tions of the United Nations system, and
with nongovernmental organiza-
tions was intensified. Joint activities
were carried out with the International
Children's Centre, the International Feder-
ation of Gynecology and Obstetrics, the
International Paediatric Association, the
International Planned Parenthood Feder-
ation, the International Union of Health
Education, and the International Union of
Nutritional Sciences; and also with the
Swedish Agency for Research and Cooper-
ation with Developing Countries.

Maternal and child health
6.13 In 1979, the International Year of
the Child, a comprehensive report on
maternal and child health was presented
to the Thirty-second World Health As-
sembly, outlining the health status of
mothers and children throughout the
world, trends in the development of
relevant services (in particular within the
context of primary health care), advances
in technology, examples of action that
could be taken by countries, and sugges-
tions as to the type of activity that would
strengthen technical cooperation.

6.14 The subsequent Health Assembly
resolution ( WHA 32.42 ) gave the Organ-
ization a strong mandate for the further
reorientation of its policies. It urged
Member States to ensure that appropriate
national resources were available for ma-
ternal and child health work and to pro-
mote direct and massive action in line with
the concept of primary health care, calling
on the support of individuals, families
and communities, facilitating intersectoral
cooperation, and utilizing all community
workers, including traditional birth at-
tendants. This implied a radical change
in the way most of maternal and child
health care was organized, since tradi-
tionally services have been geared to
curative and rehabilitation care, with lim-
ited coverage.

6.15 WHO has therefore carried out
health services research on maternal and
child health care according to the level of
risk. The "risk approach" is a managerial
tool for determining the content of ma-
ternal and child health care and family
planning, and the relevant strategies, by

1 World Health Organization. Traditional practices
affecting the health of women and children. Alexandria, 1979
(WHO/EMRO Technical Publication No. 2).
means of an equitable and flexible allocation of resources in accordance with the needs and life style of the local community. Methods of implementing this concept were tested in a few countries, and the results were published in 1978. During the biennium the approach was utilized in Burma, Cuba, Czechoslovakia, India, Malaysia, Norway, Thailand, and Turkey. Preliminary results indicate that it is feasible on a large scale. In the South-East Asia Region, an analysis of requirements for operational research in this area was undertaken.

6.16 The main focus of WHO’s programme is at country level in support of national maternal and child health/family planning programmes, and 75% of its resources are spent at this level. The national programmes supported by WHO (UNFPA-funded) in 1979 are listed in Table 6.1.

<table>
<thead>
<tr>
<th>Table 6.1 Maternal and child health/family planning</th>
<th>country programmes, 1979</th>
</tr>
</thead>
<tbody>
<tr>
<td>African Region</td>
<td></td>
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<tr>
<td>Region of the Americas</td>
<td></td>
</tr>
<tr>
<td>Antigua, Belize, Bolivia, Caribbean Islands, Cayman, Chile, Colombia, Cuba, Dominican Republic, Ecuador, Haiti, Honduras, Jamaica, Mexico, Panama, Peru, St Kitts, St Lucia, St Vincent, Trinidad and Tobago, Uruguay</td>
<td></td>
</tr>
<tr>
<td>South-East Asia Region</td>
<td></td>
</tr>
<tr>
<td>Bangladesh, Bhutan,* Indonesia, Mongolia, Nepal, Sri Lanka, Thailand</td>
<td></td>
</tr>
<tr>
<td>European Region</td>
<td></td>
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<tr>
<td>Algeria, Bulgaria, Malta, Morocco, Portugal, Turkey</td>
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<tr>
<td>Eastern Mediterranean Region</td>
<td></td>
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<tr>
<td>Afghanistan, Democratic Yemen, Iran, Jordan, Pakistan, Somalia, Sudan, Syrian Arab Republic, Yemen</td>
<td></td>
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<tr>
<td>Western Pacific Region</td>
<td></td>
</tr>
<tr>
<td>Cook Islands, Fiji, Kiribati (formerly Gilbert Islands), Malaysia, New Hebrides, Papua New Guinea, Philippines, Samoa, Solomon Islands, Tonga, Tuvalu, Viet Nam</td>
<td></td>
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</tbody>
</table>

* Project request submitted but not yet approved as at end of 1979.

Perinatal mortality

6.17 Perinatal deaths account for the largest proportion of the persistent and tragically high rate of infant mortality. They are closely linked with the poor health and nutritional status of the mother and with the complications of pregnancy and childbirth, in particular those due to unregulated fertility. They are also associated with low birth weight, which is both an indicator of the health of the mother before and during pregnancy and a means of predicting the immediate health of the child and its development in the long term. During the biennium, WHO started a study of low birth weight in different parts of the world, with a view to ascertaining the most important local factors, testing specific preventive measures, and emphasizing the role of the community. Work was carried out, initially in the Latin American countries through the PAHO Latin American Center for Perinatology and Human Development, to develop appropriate technology for perinatal care at home and at the village level.

Disorders of pregnancy

6.18 Among the most important causes of maternal mortality and morbidity are the hypertensive disorders of pregnancy. A study was begun on the prevalence of these disorders, and simple tools for their surveillance, reporting, control and treatment within the framework of primary health care are being developed, concurrently with suitable training material.

Breastfeeding

6.19 Breastfeeding—a key practice for the health of the child—is declining owing to certain social and economic factors in modern society and positive action is...
required to reverse the trend. A collaborative study was undertaken by WHO in order to obtain a reliable picture of current practices in infant feeding, in particular breastfeeding. The study, funded by UNFPA and SIDA, was designed in two phases. In the first, information was obtained from approximately 23,000 mother-and-child pairs in at least three groups—rural, urban poor, and urban economically advantaged in nine countries.

6.20 The second phase, initiated during the biennium, is an investigation of the volume and composition of breastmilk. The results of the first phase showed that, contrary to what had hitherto been alleged, the decline in breastfeeding is greatest among the urban poor in developing countries, i.e., the population at highest risk; that health services were deficient both in encouraging and in facilitating breastfeeding; and that breastfeeding is compatible with the working and living patterns of modern society if suitable support is provided. It confirmed the positive correlation between breastfeeding and a delayed return of menstruation, a point of importance for fertility regulation; and it led the way to health educational and promotional activities at regional and national level.

**Growth and development**

6.21 Following a series of field tests, the Organization in 1978 published a growth chart for maternal and child health care,\(^1\) as a tool for monitoring the infant's development that can be used both by the family (the mother) and by the primary health worker.

6.22 A preliminary report was completed on the study on the physical and psychosocial development of children and adolescents, carried out jointly by WHO and the USSR Institute of Paediatrics. The report gives data on development in the first years of life.

**Health of adolescents**

6.23 During 1978–1979 a collaborative research programme on the reproductive health of adolescents was started with a view to strengthening national research and training capabilities in this field; important new information on the physiological and psychological aspects of maturation in girls and boys is being collected and analysed. To complement this research a study on the health services and health educational aspects was completed in 15 countries (1979), the data from which confirmed that most countries neglect the special needs—especially the psychosocial needs—of adolescents.

6.24 In the European Region, the growing problem of teenage pregnancies was one of the topics discussed at a regional conference on the child and adolescent in society (Athens, September 1978—see also Chapter 15, paragraph 15.113). The Regional Office for the Western Pacific convened a meeting on the reproductive health of adolescents (Sarawak, 1979).

**Family planning**

6.25 The provision of effective and acceptable family planning care within the general health care system is now a priority in most areas and WHO, both at regional and country level, emphasized training and health services research in family planning as part of maternal and child health care. (Details of the research carried out on family planning under the Special Programme of Research, Development and Research Training in Human Reproduction, are given under that heading below). Guidelines for health workers were pre-
pared on abortion care, female sterilization, intrauterine devices, injectable contraceptives, and oral contraceptives as they affect the health services.

6.26 In the South-East Asia Region a consultation on requirements for research in the family planning aspects of family health programmes (New Delhi, March 1979) made recommendations on the technological, psychosocial, and health services aspects of such research.

Training

6.27 The UNICEF/WHO Joint Committee on Health Policy (January 1979) reviewed the programme of support for the training in maternal and child health/family planning (within primary health care) of health and other workers in socioeconomic development. It outlined a new approach—intended to promote national self-reliance—based on the use of health teams, extensive field training, and curricula that take into account the priorities of the community and indeed are built up from task analyses made at local level. The institutional support is geared to integrated health services research, development and training, and to exchange between institutions in developing countries. This approach was adopted in the new family planning training programme in China, which receives WHO and UNFPA support; it is also reflected in the national teacher-training programmes in which WHO is collaborating in Papua New Guinea, Sudan, Turkey, and the United Republic of Cameroon, and in which teachers are trained at community level.

Intersectoral activities

6.28 Intersectoral services in 1978–1979 were mainly concerned with children, adolescents, and young people; they covered school health programmes and the organization of day care for young children. The International Year of the Child provided an opportunity for emphasizing maternal and child health as a fundamental element of primary health care and socioeconomic development, and for stressing the need for concerted effort on the part of national groups and intergovernmental and nongovernmental organizations to promote a long-term investment in childhood by all development sectors. WHO's regional offices cooperated with Member States in setting up multidisciplinary and intersectoral national commissions to plan such action, both immediate and long-term.

International Year of the Child

6.29 The International Year of the Child also provided an opportunity for raising awareness and stimulating long-lasting action to benefit children. Various conferences and workshops were held, bringing together thousands of professionals, in a variety of disciplines, from both developing and developed countries. As part of a symposium on the Child in the World of Tomorrow (Athens, June 1978), WHO and UNICEF sponsored a workshop on innovative approaches to the basic needs of young children in developing countries. A workshop was organized jointly by WHO and the International Federation of Gynecology and Obstetrics (Tokyo, October 1979) on innovative approaches to maternal and neonatal care as part of primary health care. Special efforts were made to urge professionals to take the lead in their own countries to ensure that maternal and child health had an appropriate place in the formulation of national strategies for attaining health for all by the year 2000.

6.30 The Regional Committee for Africa commemorated the twentieth anniversary of the Declaration of the Rights of the Child by a special exhibition at its
FAMILY HEALTH

The Regional Committee for Europe discussed a medium-term programme for maternal and child health in 1979. Child health was the theme of the Technical Discussions at the Regional Committee for the Eastern Mediterranean in 1978, at which time the Committee urged governments to increase their efforts, fix targets for the next ten years, determine their strategies, and allocate the resources to attain those targets.

6.31 The theme for World Health Day in 1979 was: “A healthy child, a sure future.” A kit of relevant material was sent to all countries; the March 1979 issue of World Health was devoted to child health; and a special publication was sponsored by WHO.1

Nutrition

6.32 Malnutrition especially as it affects young children is one of the most serious and widespread problems in the world today. Combined with infectious disease and unregulated fertility, it causes the death of millions, and retards the growth and development of an even greater number. Contrary to earlier and more optimistic expectations, the problem is increasing. The elimination of malnutrition, although not solely a public health problem, is fundamental for the attainment of an acceptable level of health. An adequate supply of food and a proper standard of nutrition are essential to primary health care.

6.33 The basic importance of suitable food and nutrition policies for socioeconomic development is increasingly recognized, and WHO assisted in formulating such policies by its technical cooperation with a number of countries and by participating in the work of the ACC Subcommittee on Nutrition and its Advisory Group.

6.34 Attention during the biennium focused on the promotion of breastfeeding and adequate weaning practices. The most notable development in the nutrition programme was the formulation of an action-oriented research, development and training programme, which was approved by the Thirty-first World Health Assembly and by the global Advisory Committee on Medical Research. Its object is to translate into operational activities the latest knowledge on how to improve nutritional status through action at community level; emphasis is on meeting the nutrition needs of young children, including infants during the weaning period, by foods that are both acceptable and locally available. The planning of the programme involved meetings of nutritionists, health administrators and social scientists from countries in different regions, and subcommittees on nutrition were set up by the global and regional advisory committees on medical research. Specific projects were started in the African and South-East Asia Regions.

6.35 Feasibility trials on the integration of nutrition and nutrition-related activities into primary health care were held in India, Sudan, Somalia, Thailand, and the United Republic of Tanzania. Home-made weaning foods were tested in India and Sudan.

Interaction of malnutrition and disease

6.36 In view of the interaction of malnutrition and diarrhoeal diseases, joint activities were carried out by the two programmes, in particular the formulation of guidelines for child care in the light of this interaction. The state of knowledge on the interaction of malnutrition and the

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host response to pathogens was reviewed and areas for research identified.

Training

6.37 The legacy of “vertical” or isolated nutrition programmes within the health services remains an obstacle. Moreover health workers at all levels, but particularly the community level, are inadequately trained in nutrition. During the biennium therefore WHO emphasized training, including curricula based on the actual tasks the trainee would be called upon to carry out at peripheral level. A model for training community health workers was developed in collaboration with national institutions and was tested at courses in which nearly 100 people from some 40 countries participated (Hyderabad, India, 1978; Ibadan, Nigeria, 1979; and Zinder, Niger, 1979).

Nutritional surveillance

6.38 Information on the nutritional status of the population, in particular data on those at high risk, has been given high priority by countries in recent years. Various methodological and operational problems were studied in collaboration with institutions in Colombia, Guatemala, Israel, Italy, and Sri Lanka. Guidelines for the use of anthropometric data of children and a set of international reference data on weight and height were prepared.

6.39 Some progress was made in establishing nutritional surveillance systems for use in planning or for early warning. A working group on nutritional surveillance was established by the ACC Subcommittee on Nutrition and met in 1979. Information on nutritional status is increasingly being combined with agricultural, social and economic data to improve overall planning and evaluation; WHO works closely with FAO in this regard.

Specific nutritional problems

6.40 To bridge existing gaps in knowledge of human energy and protein requirements, a collaborative research project continued in several institutions in Central America and South-East Asia. A manual on the management and treatment of severe protein-energy malnutrition was prepared in 1979, guidelines being given for circumstances where resources are limited, e.g., health care in rural areas.

6.41 The control of specific nutritional deficiencies—nutritional blindness resulting from vitamin A deficiency, endemic goitre and cretinism caused by iodine deficiency, and nutritional anaemia due to iron and folic acid deficiency—continued to receive attention.

6.42 WHO worked with the International Vitamin A Consultative Group in recommending a schedule for the treatment of xerophthalmia and the intramuscular administration of vitamin A preparations. The Group also reviewed reports on prevention programmes in Bangladesh, Brazil, Central America, Haiti, India, Indonesia, Iran, the Philippines, Sri Lanka, and Thailand, and noted the progress made in the fortification of foods to prevent vitamin A deficiency. A task force on the control of vitamin A deficiency and xerophthalmia (Manila, November 1979) made important recommendations for a programme of research and action.

6.43 Research on methods of preventing nutritional anaemia continued in various parts of the world. It included studies on the feasibility and efficacy of iron fortification of sugar, salt and fish sauce; and the field testing of controlled-release iron
preparations for oral use, to ascertain their efficacy and the absence of side effects.

6.44 A comprehensive review of the prevalence and control of endemic goitre was undertaken. The results show clearly that endemic goitre is still a significant public health problem affecting large populations, and that despite the existence of cheap and easily administered techniques there is no widespread application of control measures.

6.45 A joint FAO/WHO consultation on carbohydrates in human nutrition, with special emphasis on infants and young children (Geneva, September 1979), reviewed the influence of carbohydrates on the development of caries, diabetes, and hypertension and discussed the processing of starch, the significance of indigestible carbohydrates, and intolerance to lactose.

Health education

6.46 People's own responsibility for the attainment of health can be assumed only when individuals or families are educated, motivated, and psychologically committed to making a reasoned choice from among the alternatives for health action and really participating in such action. However, health education must be based not only on personal motivation but also, and more importantly, on cultural patterns and social systems. There can thus be no a priori stereotype for health education work. This is especially true of community participation, which is a key to primary health care and the promotion of which forms a major part of health education. A number of countries—Sri Lanka, Sudan, United Republic of Tanzania, and Yugoslavia—have undertaken studies in order to find the most effective pattern of community participation as an element of primary health care in general and for solving specific health problems in particular. Many of the investigations are based on the conclusions of the UNICEF/WHO study on community involvement in primary health care, carried out in 1976–1977.

6.47 Health education in support of national family health programmes was an important part of WHO's work at regional and national level during the biennium, and was particularly relevant at a time when countries were increasingly recognizing the family as the basic health care unit and childhood as the crucial period in which health behaviour is inculcated. In the Region of the Americas, particularly in the Caribbean area, programmes in family life education were promoted; in several of the islands these were combined with youth and school programmes. In the South-East Asia Region a survey was made in nine countries as a basis for collaboration with governments and with UNESCO in revising the health component of curricula in primary and secondary schools.

6.48 In the context of health education as part of socioeconomic development, a workshop—one of a series organized with FAO, ILO, UNESCO, and the International Planned Parenthood Federation—brought together a number of community workers in health, agriculture and education, and representatives of national family planning associations, to discuss education and communication for family well-being through integrated rural development (Ouagadougou, 1978).

6.49 In view of the need for social, anthropological and behavioural parameters on which to base health education, WHO

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organized a task force on research in health education for family health (Geneva, October 1978), which made a number of recommendations for strengthening this type of research. New emphasis was placed on the role of the individual and the family in self-care and health promotion, as well as on the importance of community-organized networks for health action.

6.50 In providing training in health education for both health and other workers in socioeconomic development, WHO worked with many countries: Benin, Federal Republic of Germany, Gabon, India, Indonesia, Malaysia, Nigeria, Papua New Guinea, Thailand, Turkey, the United Kingdom, and Yemen. Assistance was given inter alia in producing guidelines on health education for primary health workers.

6.51 There are a number of problem areas in health education, e.g., where it relates to family planning, infant feeding, childhood diseases, and tobacco smoking. The health education manual for workers in expanded programmes of immunization was revised and was adapted at local level in several countries. In the European Region a survey on tobacco smoking covered among other subjects the health education measures taken in the countries surveyed.

6.52 Health education in relation to malaria control is exemplified by the support given to Papua New Guinea, where community involvement was encouraged by decentralizing antimalaria operations to the level of the village council, which then selected the local spraymen. In Kiribati health education was carried out in conjunction with environmental sanitation programmes and a series of workshops was organized to prepare health inspectors for their new educational role.

6.53 The opportunities that are offered for health education when people are using health facilities were emphasized. Health education for patients in hospitals was especially strengthened in Bangladesh, Mongolia, and Sri Lanka.

6.54 Various forms of communication with the public were explored. In the African Region, a meeting discussed the utilization of communication sciences for health promotion (Brazzaville, 1979), and an inventory was made of regional health education material and of institutes producing such material. In the Western Pacific Region the training of personnel in audiovisual technology—including the designing, pretesting, and production of audiovisual aids and their use through both modern and folk media—was continued.

6.55 At policy level regional panels of experts were organized and in two regions—Africa and the Eastern Mediterranean—meetings of members of those panels have already been held.

6.56 In 1979 the Technical Discussions at the twenty-ninth session of the Regional Committee for Africa had as their theme: “Community health information and education”. In the Americas, preparations began for the Technical Discussions at the Regional Committee in 1980. The theme will be: “Community health education—Evaluation of present programmes, new approaches and strategies.”

Special Programme of Research, Development and Research Training in Human Reproduction

6.57 The Declaration of Alma-Ata affirmed that family planning was a basic component of primary health care. Had the conference been held ten years earlier,
it is doubtful whether such a statement would have been made, or the controversial topic of family planning even mentioned. Despite the gains in acceptance of family planning at governmental and community levels, there are still many more people demanding and in need of such services than are actually practising family planning. Considerable differences of opinion exist as to the reasons for this gap and how to bridge it. The protagonists fall roughly into three camps: the "hardware" enthusiasts, the "software" advocates, and those who champion a blend of the two.

6.58 The hardware enthusiasts consider that the answer lies in better birth control technology, i.e., a wider range of effective, safe and acceptable contraceptives. The software advocates point out that, where motivation is high and the service infrastructure satisfactory, currently available methods are largely adequate. The third group recognizes the shortcomings of both hardware and software, but also their interdependence. They point to the inadequacy of present technology, and to the small choice of methods available. They stress that family planning is a relatively new area of care, with strong personal and cultural connotations that are frequently not understood, and that it demands a delivery system that will reach large portions of the population and is suited to local circumstances. All three viewpoints are represented among the Member States of WHO.

Objectives of the Programme

6.59 The WHO Special Programme of Research, Development and Research Training in Human Reproduction addresses itself to research on fertility regulation, and to the strengthening of capabilities for such research, in both cases directed to the needs of developing countries. In 1979 it was able to marshal the talents, skills and resources of scientists from 70 countries, of which 45 were developing countries. This collaboration was highlighted by the representative of the Executive Board at the Thirty-second World Health Assembly (1979), who stated that:

Over 70 countries were involved in such collaborative research and strengthening of institutions, in which Member States, through their scientists and administrators, themselves planned, conducted, monitored and evaluated the research. That had led the Executive Board, at its meeting in January 1979, to describe the programme as a unique venture in international collaboration in the health field.²

6.60 In research, the Programme is concerned with both the hardware and the software of fertility regulation through studies on the safety and effectiveness of current methods of birth control; the development of a variety of new techniques; the psychosocial aspects of family planning; the delivery of family planning care; and the diagnosis and treatment of infertility. In the strengthening of research capabilities, it collaborates with national authorities in building up the manpower and facilities that will enable developing countries to plan and to carry out research, adapt technology, and contribute fully to the advancement and application of science. This mix of activities in the Programme was endorsed by the Health Assembly in 1978 (resolution WHA31.37), with the proviso that health services research should be intensified.

¹ A fuller description of the programme can be found in Special programme of research, development and research training in human reproduction, Seventh annual report, 1978; and Eighth annual report, 1979.
Resources for research

6.61 Research in human reproduction suffers from an acute shortage of manpower and of facilities, particularly in developing countries, in many of which there is still not a single scientist in the field of human reproduction. Few have research groups of the size that can provide the "clinical mass" needed to generate ideas and translate them into research that is both original and relevant to local conditions.

6.62 The variety of approaches used in the Programme to strengthen research and development capabilities in developing countries is shown in Table 6.2.

<table>
<thead>
<tr>
<th>Research manpower</th>
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<tbody>
<tr>
<td>- Research training and grants to visiting scientists</td>
<td></td>
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<tr>
<td>- Research training courses</td>
<td></td>
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<tr>
<td>- Involvement of scientists in planning, coordination and evaluation of research</td>
<td></td>
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<tr>
<td>- Financial support for salaries of investigators and other personnel</td>
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<tr>
<td>- Consultant services, including WHO staff</td>
<td></td>
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<tr>
<td>- Workshops, conferences and symposia</td>
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<table>
<thead>
<tr>
<th>Research facilities</th>
<th></th>
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<tbody>
<tr>
<td>- Provision of equipment, supplies and spare parts for:</td>
<td></td>
</tr>
<tr>
<td>epidemiological research</td>
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<tr>
<td>clinical research</td>
<td></td>
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<tr>
<td>laboratory research</td>
<td></td>
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<tr>
<td>health service research</td>
<td></td>
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<tr>
<td>computing and data analysis</td>
<td></td>
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<tr>
<td>- Maintenance of equipment</td>
<td></td>
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<tr>
<td>- Schemes for quality control and standardization of methods and reagents</td>
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<tr>
<td>- Provision of books, journals, and devices for information retrieval</td>
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<table>
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<tr>
<th>Other activities</th>
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<tbody>
<tr>
<td>- Establishing guidelines for scientific and ethical review of research</td>
<td></td>
</tr>
<tr>
<td>- Transfer of technology for use in manufacture</td>
<td></td>
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<tr>
<td>- Assistance in obtaining patents</td>
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Research training

6.63 In 1979 the Advisory Group to the Programme made an in-depth assessment of the research training component from its beginning. It emphasized that the Programme was practically alone in providing opportunities for research training in human reproduction to scientists from developing countries. It endorsed the continuation and expansion of the different approaches adopted.

6.64 Research training grants. To date, over 350 research training grants and grants to enable scientists to visit other institutions have been awarded, representing an investment of over US$ 4 million. To assess the impact of this training, questionnaires were sent to all scientists who had completed their training by September 1978. Replies were received from 80% of those holding research training grants and 90% of those receiving grants to visit other institutions. More than 90% of the first group considered that the training had met their needs in terms of content, length of training, and facilities at the training institution (only one trainee complained that the training he had been given was too sophisticated to be of general use to him afterwards); 93% answered that they had been able, on return to their home institution, to apply what they had learnt; and over 80% were still engaged in research on human reproduction/fertility regulation at the time of the survey. Moreover 71% of the respondents were currently training other research workers, so that the hoped-for multiplier effect was being attained.

6.65 Questionnaires were also sent to the home institutions of trainees, which reported that 14% of the trainees had not returned. However, this is not a measure of brain drain, since 80% of those who did not return to their home institution took up work in another institution in their home country.

6.66 Ninety-five per cent of recipients of grants to visit other institutions considered that the grant had met their needs.

6.67 Of the 128 grants of both types awarded between October 1977 and Oc-
October 1979, all but four went to scientists from developing countries.

6.68 Research training courses and workshops. The courses organized by the Programme in 1978 and 1979 are shown in Table 6.3.

Table 6.3 Research training courses, 1978-1979

<table>
<thead>
<tr>
<th>Title of course and country or area from which trainees came</th>
<th>Duration</th>
</tr>
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<tbody>
<tr>
<td>Application of epidemiology to research in fertility regulation, China, Egypt, Thailand, Turkey</td>
<td>6 months</td>
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<tr>
<td>Clinical pharmacology of fertility control drugs, Brazil, China, Egypt, Mexico, Philippines, Singapore, Thailand</td>
<td>1 to 2 years</td>
</tr>
<tr>
<td>Recent advances in human reproduction, Brazil, Chile, Cuba, Egypt, Kenya, Mexico, Pakistan, Philippines, Singapore, Thailand</td>
<td>2 weeks</td>
</tr>
<tr>
<td>Theory and practice of radioimmunoassay (three courses), Argentina, Brazil, Chile, Cuba, Egypt, Kenya, Mexico, Singapore, Tunisia, USSR</td>
<td>1 month each</td>
</tr>
<tr>
<td>Botanical methods in research on plants for fertility regulation, Bangladesh, Brazil, Hong Kong, India, Kenya, New Caledonia, Paraguay, Republic of Korea, Sri Lanka, United States of America</td>
<td>1 week</td>
</tr>
<tr>
<td>Health services research in family planning, Turkey</td>
<td>2 months</td>
</tr>
</tbody>
</table>

6.69 Training by collaborating centres. The four WHO collaborating centres for research and training in human reproduction have to date, using WHO funds, trained nearly 500 scientists by means of short courses on specific topics and by involving them in research projects. In addition these centres, and several of the collaborating centres for clinical research in human reproduction referred to below, run courses—for teachers in medical and nursing schools, clinicians and public health workers—on the implications for clinical practice and community health of recent research findings.

6.70 Five collaborating centres for clinical research in human reproduction in developing countries—in Bangkok, Bombay, Chandigarh (India), Mexico City, and Singapore—are strengthening the resources of other institutions in their own country or region. For instance, the centre in Mexico City provides a two-year training course in human reproductive biology, and assists trainees in setting up research nuclei in provincial universities. The centre in Bangkok has organized a number of short courses, for scientists in the capital and from provincial universities, on such subjects as maintenance of research equipment, instrumentation for research in reproductive biology, and analytical and quality control methods in clinical chemistry.

Collaborating centres

6.71 The 40 collaborating centres are major resources for research, and those in developing countries are the main focus of the Programme’s institution-strengthening activities. Twenty-seven of them are located in developing countries. The network of centres for clinical research, and the clinical departments of the research and training centres (see following paragraph) conduct most of the clinical research described below. In 1979 about 30,000 subjects were involved in WHO multicentre clinical trials, and in other studies at the community level. Several of the collaborating centres in clinical research in developing countries have become important national research resources. In many cases their directors are members of advisory committees of the ministry of health, national family planning bodies, drug regulatory authorities, or medical research councils.

6.72 The four research and training centres are located in Delhi, Moscow,
Stockholm, and Buenos Aires/Santiago, in institutions that have the broad research basis, the facilities and the necessary number of scientists to allow multidisciplinary research and research training. Two additional centres, in Nairobi and in Shanghai (China), are being strengthened as potential research and training centres.

6.73 Several collaborating centres provide resources for the Programme’s research in specialized areas, e.g., health services research, infertility, epidemiological methods, and immunoassay of reproductive hormones. Over the past two years, a major effort has gone into building up institutions in Brazil, Hong Kong, the Republic of Korea, and Sri Lanka, and these centres, together with two others, in the United Kingdom and the United States of America, will constitute a network for research on plants that can be used for fertility regulation.

6.74 To ensure comparability of results in the multicentre trials and other collaborative studies, the programme of standardization and quality control of laboratory procedures has been extended from radioimmunoassay of reproductive hormones and clinical chemistry to various other laboratory procedures. A total of 172 laboratories in 52 countries are now included in this programme.

6.75 In addition to equipment and supplies for projects and collaborating centres, journal subscriptions, small quantities of general laboratory supplies, minor equipment, chemicals, reagents, labelled compounds and spare parts are provided by the Programme to scientists in developing countries or in those developed countries where currency restrictions limit purchases from abroad. In 1979, 78 departments or institutions in 30 countries received journals and supplies.

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Research on current methods of fertility regulation

6.76 The questions of safety and efficacy most frequently raised in the past two years relate to the drugs or devices to be chosen for national family planning programmes; the medical reasons for the disturbingly high discontinuation rates with practically all methods; the safety of injectable contraceptives; and the long-term effects of birth control methods, e.g., the risk of cancer, subsequent infertility, or congenital anomalies.

6.77 The Programme’s research on the safety and efficacy of current methods of fertility regulation relates to oral contraceptives, intrauterine devices, injectable contraceptives, natural family planning methods, female sterilization, and techniques for termination of pregnancy. Selected studies completed in 1978–1979 are described below.

6.78 Oral contraceptives. In a study in India and Thailand on the use of oral contraceptives by inadequately nourished women, after one year of use no differences were noted in continuation rates, clinical signs, complaints, or changes in metabolic indices that could be attributed to nutritional status or to differences in the oestrogen content of the two preparations studied, the amount of progestogen being the same; the changes in metabolic indices were essentially the same as those observed in developed countries. Most of the subjects showed clinical or laboratory evidence of vitamin deficiency, but the use of the oral contraceptive did not cause further deterioration.

6.79 Following the recommendations of a scientific group,1 eight institutions in

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six developing countries took part in a pilot case-control study on the possible association between hormonal contraceptives and neoplastic disease, which has now been expanded into a full-scale study.

6.80 *Intrauterine devices* (IUDs). To assist national family planning programmes in choosing between the plastic-only intrauterine device and the newer copper-releasing devices, clinical trials have been carried out since 1975 in Cuba, Egypt, Hungary, India, the Philippines, the Republic of Korea, Singapore, Thailand, the Union of Soviet Socialist Republics, the United Kingdom, the United States of America, Yugoslavia, Zambia, and Berlin (West). Data on a total of 55,357 woman-months of experience had been analysed by March 1979, and a statement was widely distributed to ministries of health, national family planning programme administrators, and other agencies concerned with family planning; its conclusion was that the Copper T 220C device was more effective and was associated with a smaller increase in menstrual blood loss than the Lippes Loop D. The Copper T 220C was therefore recommended as a suitable alternative for national family planning programmes.

6.81 *Injectable contraceptives*. Only two long-acting injectable contraceptives are available for widespread use: depot-medroxyprogesterone acetate (DMPA), which has been in use for a number of years, and the more recently marketed norethisterone enanthate (NET-OEN).

6.82 Three statements were issued by WHO in 1978 and 1979, based on careful review by the Programme's Toxicology Panel of animal data provided by industry and by WHO clinical studies. They concluded that the disquieting data on DMPA in beagles was not relevant, since the beagle was an inappropriate animal model; and that the data from monkeys resulted from gross overdosage. Thus there was no toxicological reason for discontinuing the use of DMPA in family planning programmes. For NET-OEN the conclusion was that no modification was required to the extensive WHO studies.

6.83 *Natural family planning methods*. Two main studies on the effectiveness of the two natural family planning methods, the ovulation method and the symptothermal method, were completed in 1979 in centres in Colombia, El Salvador, India, Ireland, New Zealand, and the Philippines. The Advisory Group to the Programme, at its September 1979 meeting, recognized that these two studies had fulfilled a useful function in providing a scientific assessment of the two methods; this enabled it to conclude that the methods had very limited application, particularly in developing countries.

6.84 *Termination of pregnancy*. The technique for the early (fifth to sixth) week abortion known as "menstrual regulation" has been promoted by various agencies and individuals on the basis of its simplicity, low cost and supposed minimal complications. A WHO trial comparing different types of equipment and different times of termination of pregnancy was completed in 1979; it covered 3,137 women recruited in centres in India, the Republic of Korea, Singapore, the United States of America, and Yugoslavia. When abortion performed during the fifth or sixth week of pregnancy was compared with that at the seventh or eighth week, it clearly emerged that safety and effectiveness were far greater at seven or eight weeks.

6.85 Extensive studies on the short-term complications of induced abortion, conducted by an Indian task force collab-
orating with the Programme, were completed in 1979. The complication rates of first-trimester vacuum aspiration in the Indian setting were similar to those found in other countries. The data from this study support the conclusion from other WHO studies that the seventh to eighth week of gestation is the optimal time for termination of pregnancy. Second-trimester abortions showed mortality rates equivalent to or higher than maternal mortality rates in the same settings in India, thus emphasizing the need to reduce the incidence of second-trimester abortion and develop better techniques for it when it is unavoidable.

Research and development of new methods of fertility regulation

6.86 Public health authorities, clinicians and the public continue to point to the dangers and the crudeness of available birth control technology, and to its failure to meet the wide range of individual needs, cultural requirements, and health service constraints. In developing countries, only about 15% of women of reproductive age, and a much smaller percentage of men, practise family planning; and the discontinuation rates for both oral contraceptives and intrauterine devices are very high. A new and improved technology would undoubtedly have great impact. Industry on the whole is not interested in producing new contraceptives for developing countries, and the developing countries alone cannot set up the research required.

6.87 The Programme follows two main lines. One seeks to make present techniques—injectable contraceptives, intrauterine devices, methods based on periodic abstinence, barrier methods (vaginal rings), and sterilization techniques—safer, more effective, more acceptable, and simpler to use and to provide. The other aims at developing entirely new birth control methods which would considerably extend acceptance and use, e.g., postcoital preparations, once-a-month pills, drugs for men, kits to predict the fertile period, vaccines, and preparations from indigenous plants.

6.88 Two approaches that were shown during 1979 to be less promising—intracervical devices and the intranasal administration of contraceptive steroids—are being discontinued. To concentrate manpower and financial resources on a smaller number of products, the Advisory Group, at its September 1979 meeting, also recommended discontinuation of a number of other lines of research.

6.89 WHO studies have documented the increase in menstrual bleeding after the insertion of a traditional plastic-only IUD, or a copper-releasing IUD, and the detrimental effect of this bleeding in women from developing countries where malnutrition is common. They have also shown that with new hormone-releasing IUDs bleeding is reduced to below preinsertion level with no loss in efficacy. A progesterone-releasing device developed by industry, with a maximum life-span of 5 years, is being assessed in the collaborating centres for clinical research. To extend the life-span of the device to the more useful duration of 10 or more years, the Programme is developing a levonorgestrel-releasing device the clinical testing of which is well advanced.

6.90 To meet the demand for better long-acting injectable contraceptives, a programme was started in 1976 to synthesize and screen new compounds. By the end of 1979, about 175 new compounds had been prepared in university laboratories in Australia, Brazil, Bulgaria, Iran, Israel, Mexico, Nigeria, Poland, Singapore, Spain, and Sri Lanka. Seven of them show promise. This is more than a scien-
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tific breakthrough: for the first time, the Programme has shown that a multinational cooperative project in drug chemical synthesis can be established outside the traditional channels of the drug industry.

6.91 One aim of the Programme is to develop inexpensive technology, primarily for use in developing countries, that will permit women to ascertain the fertile and infertile phases of the menstrual cycle with greater confidence than at present. Data were collected during 1978–1979, in different population groups, on variations in the excretion patterns of urinary metabolites of oestrogen and progesterone that could be used for monitoring ovulation; studies were carried out to develop non-isotopic assay systems for measuring these steroid metabolites.

6.92 For termination of pregnancy, the availability of a drug that could be administered in the outpatient department, or even self-administered, would facilitate the provision of abortion services where these are included in the family planning programmes of developing countries. The usefulness of prostaglandins for termination of both first- and second-trimester pregnancy was established in large-scale clinical trials conducted by the Programme, and the search continues for prostaglandin analogues with high efficacy but lower rates of gastrointestinal side effects.

6.93 Basic biological and chemical research was carried out on other much needed technology, e.g., contraceptive methods for men, postcoital drugs, and vaccines. For the first two methods it included work on compounds made available by China and by the German Democratic Republic.

Psychosocial research in family planning

6.94 Both for evolving national family planning policies and for improving local programmes, decision-makers are asking for more information on the psychosocial background. For example, what are people’s perceptions of current family planning programmes and providers? What is the optimal mix of contraceptive methods for a particular population? What characteristics do new fertility regulating methods require if they are to be accepted? These and other questions that point to the complex interaction between cultural factors, socioeconomic development, human motivation, and fertility are being investigated.

6.95 A study in 6000 women of patterns of menstrual bleeding and how it is perceived was completed in 1979 in centres in Egypt, India, Indonesia, Jamaica, Mexico, Pakistan, the Philippines, the Republic of Korea, the United Kingdom, and Yugoslavia. Since changes in menstruation are the single most commonly cited reason for discontinuation of most female contraceptives, a better understanding of attitudes to and beliefs about menstrual bleeding has important implications for family planning programmes. Other things being equal, women in the cultural groups studied tended to prefer a method that does not result in amenorrhea; does not reduce or increase the amount of blood loss; ensures that the periods of bleeding are relatively short and occur regularly; permits the prediction of those periods with a fair degree of accuracy; and does not result in the production of blood of thinner consistency or a different colour from “normal” menstrual blood.

Health services research

6.96 The scope of health services research was increased, as shown in Table 6.4, and a cost-analysis component has been added to many studies. The studies are
taking place in Canada, Colombia, Egypt, India, Kenya, Malaysia, Mexico, Nigeria, Pakistan, the Philippines, the Republic of Korea, the Syrian Arab Republic, Thailand, Turkey, the United Kingdom, and Venezuela.

Table 6.4 Health services research on family planning

<table>
<thead>
<tr>
<th>Need for services:</th>
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<tbody>
<tr>
<td>health rationale for family planning</td>
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<tr>
<td>traditional methods of child spacing</td>
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<tr>
<td>impact of illegal abortion on health and health services</td>
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</tbody>
</table>

| Use of different categories of health personnel: |
| nurse-midwives; theatre nurses; medical students; lay workers; supervision of field personnel |

<table>
<thead>
<tr>
<th>Integration of family planning with other health activities</th>
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</table>

| Use of different methods of delivery for services |

| Community participation in planning of services |

| Field testing of contraceptives new to a programme |

| Cost-analysis studies |

6.97 Two governments requested collaboration in extending to the whole of the country the WHO studies completed in 1978, namely (1) the study in Turkey on the training and supervision of nurse-midwives for IUD insertion and other family planning tasks; and (2) the study in Thailand on female sterilization by theatre nurses. The findings of a second study in Thailand, on the performing of vasectomies by medical students, were taken into account in revising the undergraduate medical curriculum. Such research, like other studies on the use of nonmedical staff, showed that with appropriate training such staff can perform as well as, or better than, physicians. On this basis, national legislation is being changed and the reluctance of the medical establishment overcome.

6.98 One of the main constraints on the development of health services research has been the shortage of personnel with expertise in the several disciplines required. A collaborating centre for research and research training in the services aspect of family planning was designated at the Institute of Community Medicine, Hacettepe University School of Medicine, Ankara. In 1979 the centre conducted a two-month course on health services research and family planning.

Infertility

6.99 Governments are increasingly stressing the social, public health and service implications of infertility, which is estimated to affect between 5% and 10% of couples throughout the world; in some areas, its prevalence is alleged to be much higher. For these reasons, and because infertility remains an aspect of health care plagued by lack of standard definitions, inadequate knowledge of the etiological factors, questionable diagnostic procedures, and therapeutic measures of doubtful value, a task force on the diagnosis and treatment of infertility was established in 1978. A manual for the standardized evaluation of the infertile couple was prepared, along with standard forms, and these were pre-tested in three developed and three developing countries. The first phase of a prevalence study of infertility in the East Province of the United Republic of Cameroon showed the rate of primary infertility to be 11% and of secondary infertility to be 35%, half of the primary and a third of the secondary infertility being apparently attributable to the man.

Dissemination of information

6.100 Within the Programme, the sharing of experience and information is largely achieved through meetings of investigators and of task force steering committees. In 1978–1979 more than 120 such meetings took place. Other mechanisms include newsletters on the pro-
gress of specific studies, visits by staff and consultants to projects, and grants for scientists to visit other institutions.

6.101 The wider dissemination of information takes place mainly through publications, symposia, the issuing of guidelines interpreting research results, and the provision of journal subscriptions. During the biennium nearly 1000 publications resulted from research supported by the Programme. Twenty-one WHO symposia were organized—in Bulgaria, Cuba, Fiji, India, Kenya, Mexico, Nigeria, the Republic of Korea, the United Kingdom, the United Republic of Cameroon, the United States of America, and at WHO headquarters. Some provided scientists and public health administrators with an overview of recent advances in fertility regulation; others were on specific subjects, e.g., infertility, psychosocial research, contraceptive methods for men, long-acting contraceptive agents, oral contraceptives, immunological methods, and the use of nonhuman primates for research on reproduction. Guidelines on IUDs and injectable contraceptives were issued for the use of public health administrations, manuals on IUDs were prepared for midwives, and manuals on the analysis of semen for andrologists. Support was given to the publication of the proceedings of ten symposia.

Coordination

6.102 The annual meetings of the principal agencies and medical research councils conducting or directly supporting research on the biomedical aspects of family planning and infertility took place in September 1978 and 1979. The agencies reviewed their programmes, discussed coordination and funding, and examined areas where complementary action, collaboration or replication were required, as well as areas of relative neglect. These meetings, which complement the frequent contacts between agencies at working level, showed that there were few areas of duplication or overlap. Several agencies are in fact collaborating in joint projects.

Funding

6.103 The Programme is largely financed by voluntary contributions. For 1979, the donors were Canada, Denmark, Finland, India, Mexico, Norway, Sweden, Thailand, the United Kingdom, and UNFPA. In spite of the generous contributions however, the income required to meet the US$ 22.6 million budget approved for 1979 fell short by US$ 6.1 million. A number of activities had to be discontinued or delayed.

Chapter 7

Mental Health

7.1 THE PERIOD 1978–1979 saw the implementation of the first phase of the medium-term programme in mental health, formulated after consultation with the Member States that had requested the Director-General to develop new activities in response to their urgent mental health problems, and approved in 1978 by the Thirty-first World Health Assembly (resolution WHA31.21). The scope of the programme was considerably expanded and it now covers not only prevention and control of psychiatric disorders—the traditional concern of the mental health professions—but also several new areas of work, including:

(1) Programmes concerned with neurological and psychosomatic disorders and with alcohol and drug dependence.

(2) The application of mental health knowledge in general health care. Many techniques, in themselves effective, have failed because insufficient attention was given to the psychology both of those receiving and those providing health care; over-reliance on technology has led to a dehumanization of medicine even where such technology is scarce; and up to one-fifth of all the contacts of general health care services are with people whose problems are mainly psychological. Even so, in most countries the staff of the general health services is not trained to deal with these matters.

(3) A new approach to the psychosocial aspects of health in general, which entails not only attention to the psychological side effects of rapid socio-economic change but also a partnership between mental health workers and those working in disciplines or social sectors other than health, e.g., welfare, labour, and education. The most striking examples of this approach have been in the work carried out on the psychological aspects of uprooting, the mental health impact of apartheid, and the consequences for health of disintegration of traditional family patterns.

7.2 The extension in scope of the programme required a strict selection of priorities. Moreover new strategies had to be established for programme implementation. Among them, the system of coordinating groups at country, regional and local level has proved the most useful (see paragraphs 7.48 to 7.55 below).

Community health services and health manpower

7.3 WHO continued its work of incorporating essential elements of mental health into primary health care. Seven developing
countries (Brazil, Colombia, Egypt, India, the Philippines, Senegal, Sudan) are taking part in a collaborative study to develop and evaluate mental health care in a community with limited resources, and representatives of the participating teams met twice during 1978–1979. They reported on the frequency of mental disorders encountered in primary health care (approximately 15% of all adults attending the health centre and 19% of all children), on community attitudes to mental disorders (including recourse to traditional healers), and on plans for action. The latter included brief training courses for primary health care workers, the provision of a limited range of drugs, the establishing of appropriate referral channels and supervision, and the promotion of community participation. These measures met with an enthusiastic response from local communities and health workers. Their feasibility was clearly established, and the participating teams went on to provide training to WHO fellows from other developing countries.

7.4 A set of flow-charts for the diagnosis and management of common mental disorders was designed and at the end of 1979 was being tested in Colombia and Lesotho. This work was carried out with the cooperation of the WHO collaborating centre for educational technology, London, and the support of the United Kingdom Overseas Development Administration.

7.5 During the biennium, technical cooperation in mental health among countries in the Region of the Americas benefited from the participation of several centres, particularly in Canada, Chile, Colombia, Costa Rica, Mexico and the United States of America, where professionals for the various disciplines associated with mental health were trained. The exchange of experts was another form of cooperation that substantially increased during the biennium: 59 consultants visited 19 countries to advise governments or universities on matters related to programming and evaluation, organization of services, and teaching and research.

7.6 In the South-East Asia Region, projects in mental health and in drug abuse control were coordinated in Bangladesh, Burma, India, Indonesia, Mongolia, Sri Lanka and Thailand. In all those countries the Regional Office collaborated in national seminars, workshops or meetings of advisory/coordinating groups for mental health or drug abuse programmes, and advised on national programmes. In Bangladesh the development of community mental health services was given technical support by the provision of consultants and financial support in the form of subsidies to local training programmes. Indonesia was advised on its development plan for mental health information systems and was assisted with a national teaching seminar on traditional healing (Jakarta, December 1979). In Sri Lanka WHO collaborated in curriculum development in university departments of psychiatry, and introduced a programme on group dynamics for multidisciplinary teams working in the mental health services.

7.7 In the European Region, ten new pilot areas were included in the study on development of comprehensive community mental health care; there are now 22 existing or potential pilot areas in 18 countries. Particularly striking was the interest of the participating centres in studying direct cost measurement as a preliminary to cost/benefit analysis. The working group that examined changing patterns in mental health care (November 1978) produced practical evidence that, given the necessary political determination, it is possible to make progress towards com-
prehensive community care by effecting changes in the structure and organization of existing services. A study was made of crisis admission units and emergency psychiatric services in Europe, their functions and shortcomings being examined in the light of the increasing demand for help in dealing with sudden episodes of emotional illness and acute stress.

7.8 Collaboration was extended to several countries in the Eastern Mediterranean Region—Afghanistan, Democratic Yemen, Egypt, Iraq, Kuwait, Libyan Arab Jamahiriya, Oman, Saudi Arabia, Sudan and the Syrian Arab Republic—in developing their manpower resources and restructuring their psychiatric facilities.

Mental health of children

7.9 Work on the mental health problems of childhood began in 1979 in developing countries, with a view to planning relevant and practical programmes for the psychosocial development of children. The UNICEF Executive Board (May 1979) approved proposals for joint action with WHO in this field; and work was supported by the United States National Institute of Mental Health. Programmes for early stimulation of children at risk were promoted in ten countries in the Region of the Americas. A UNDP/UNICEF/WHO workshop took place in the Western Pacific Region on behavioural principles in the development and management of community health programmes, with special reference to the needs of children and adolescents (December 1979).

7.10 In the South-East Asia Region, an intercountry workshop on mental retardation was held. Baseline data were obtained from most countries, and the recommendations made gave full recognition to the fact that the problems of the mentally retarded patient and his family require action not only by the health sector but also by other government departments.

Social and psychological dimensions of health

7.11 A series of activities focused on the assessment of the social and psychological dimensions of health, the measurement of these two components in operational terms, their incorporation into routine recording and reporting at primary health care level, and their utilization for health service planning and evaluation. Seven countries—Bulgaria, Ghana, Kuwait, Panama, Papua New Guinea, Thailand, and the United States of America—collaborated in a project on the monitoring of mental health needs and reported on the collection and utilization of data for mental health planning in their country. A manual on the mental health component of health statistics was drafted and submitted to a group of experts for review. Following a comparative review of the statistical indicators used by countries in their official publications, indicators for mental health projects were proposed and were applied in selected predictions for the period 1980–2000. An interregional workshop was organized on the classification, recording and reporting of psychological and social health problems that can be dealt with at primary health care level.

7.12 In the global programme for health care of the elderly, a work on prevention of mental disorders and long-term hospitalization of the elderly was published.1

7.13 Mental health legislation is increasingly recognized as a key element in

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ensuring equitable mental health care and preserving the rights of the mentally ill. In the course of 1978-1979 WHO published further material relating to the international review of such legislation which it had completed in 1977. Direct technical cooperation was undertaken with a number of countries where new legislation was being drafted or enacted. A further review of the more recent mental health laws began in 1979.

7.14 The criterion of "dangerousness" in individuals has emerged as a key issue in commitment proceedings leading to hospitalization and in other legal processes involving mental health expertise (parole boards, mental health reports to courts, child custody, etc.). A collaborative study on the way the concept is used and the use to which it is put was started in six countries (Brazil, Denmark, Egypt, Swaziland, Switzerland and Thailand). The work on mental health legislation and the assessment of "dangerousness" was supported by contributions to the Voluntary Fund for Health Promotion from the United States National Institute of Mental Health.

Alcohol-related problems

7.15 In 1979 the Thirty-second World Health Assembly recognized that problems related to alcohol, in particular to its excessive consumption, rank among the world's major public health problems (resolution WHA32.40). It stressed the urgent need to strengthen national and international programmes. A sound basis has been laid for a WHO programme by means of two projects. One is an investigation of the nature and extent of the physical, mental and social repercussions of alcohol consumption in urban and rural communities; existing resources or measures for dealing with them; and ways of improving the community response. The project has been in operation for three years with the collaboration of study teams in Mexico, the United Kingdom and Zambia, and it is now being extended to other countries. A second project, still at the planning stage, will monitor the implementation of community plans and develop model guidelines for use by countries.

7.16 An international review of prevention of alcohol-related problems was completed for publication with the help of collaborators in more than 80 countries. It gives planners and administrators detailed information on preventive measures, policies and programmes, together with a critical appraisal of their effectiveness. Country profiles on the nature and extent of alcohol problems, current preventive policies, and future plans were prepared in collaboration with experts in 30 countries. A meeting of experts reviewed the experience of individual countries and the results of recent studies, and made recommendations on programmes to deal with alcohol-related problems at country, regional and global level (November 1979).

7.17 In the Region of the Americas, the Organization collaborated with several countries in investigating alcohol-related problems and planning relevant programmes.

7.18 At a conference on public health aspects of alcohol and drug dependence (Dubrovnik, 1978), representatives of 26 Member States agreed that since 1950 there had been a startling growth—in some countries over 300%—in the con-


sumption of alcohol in the European Region. It was clear from the evidence presented that there had been a concomitant increase in the range of medical and social problems related to alcohol consumption and the conference unanimously advocated the promotion of all known measures for limiting that consumption. A study by the Regional Office is exploring educational programmes on alcohol and drug problems, including smoking.

7.19 In the Western Pacific Region, the Government of Papua New Guinea in 1979 initiated a survey on alcohol consumption and related problems, with WHO cooperation.

Prevention and treatment of drug dependence

7.20 In collaboration with UNFDAC and other international organizations, programmes for the assessment, prevention and treatment of drug dependence as part of primary health care were under way during the biennium in Afghanistan, Burma, Egypt, Indonesia, Pakistan, Peru and Thailand. They emphasize an intersectoral, multidisciplinary approach in the case of medicosocial and community-based methods of treatment.

7.21 At the end of 1979 the network of collaborating centres for research and training in drug dependence comprised five institutes, in Canada, Malaysia, Mexico, Thailand and the United States of America; two of these institutes also had programmes on alcohol-related problems.

7.22 A review of data on the extent of drug abuse throughout the world was undertaken in 1979, and a study on drug problems in their sociocultural context, to be used as a basis for policies and programme planning, was completed.

7.23 In the project on epidemiological research and reporting of drug dependence, operational tools were tested that should meet the data-collecting needs of planners in developing countries where drug dependence is a serious problem. Methodologies were established for surveying drug use in young people and in the general population, and for organizing reporting systems, including case registers. A method for evaluating treatment in the case of drug dependence was finalized, in collaboration with investigators in Burma, Malaysia and Pakistan; it consists of a set of standardized data-collecting forms and software packages for electronic data-processing (tested for use by the WHO collaborating centre in Malaysia), which can also be used for the systematic identification of low-cost treatment methods, including indigenous therapies for use in developing countries.

7.24 A working group on the use of laboratory methods in the surveillance and epidemiology of drug dependence (Manila, November 1978) underlined the need for defining national objectives in epidemiological research and subsequent measures, carefully selecting the laboratory methods required, and training staff in laboratory techniques for drug abuse programmes.

7.25 The Executive Board (resolution EB63.R29) stressed the need for assessing the public health and social consequences of drug abuse and urged Member States to cooperate with WHO in developing suitable monitoring instruments. Preparations are therefore being made for an expert committee to review methodology for assessing the problems associated with the use of psychotropic substances.

7.26 The United Nations Commission on Narcotic Drugs adopted a number of WHO recommendations. Nicocodine was included in the list of drugs in Schedule III, paragraph 1, of the Single Conven-
tion on Narcotic Drugs, 1961; and methaqualone was transferred from Schedule IV to Schedule II of the Convention on Psychotropic Substances, 1971, on the grounds that it constituted a threat to public health in many countries. WHO also recommended that tildine should be subject to control under Schedule I, dextropropoxyphene and mecloqualone under Schedule II, and Sufentanil under Schedules I and IV of the Single Convention; and that three analogues of phencyclidine (TCP, PHP and PCE)\(^1\) should be controlled under Schedule I of the Convention on Psychotropic Substances. At the request of the Commission on Narcotic Drugs, and further to Article 10 of that Convention, WHO's recommendations concerning the cautions or warnings in the leaflet accompanying retail packages of psychotropic substances were distributed to Member States.

7.27 WHO collaborated with national authorities in Finland, Madagascar and Thailand to review the problems and needs of countries in meeting their responsibilities under international instruments for the control of the narcotic and psychotropic drugs.

7.28 Research on the dependence potential of thebaine, a principal constituent of *Papaver bracteatum* and a possible source of codeine, was finalized and presented to UNFDAC. Although such potential had long been believed to be minimal, significant dependence was found in studies on the rhesus monkey, the possible mechanism of which is being investigated.

7.29 Following the isolation by the United Nations narcotics laboratory of 30 substances from freshly frozen specimens of *khat* (*Catha edulis*), pharmacological investigations were carried out on its stimulant and reinforcing properties. It was found that (−)-cathionine was the main pharmacologically active agent, that it showed a high degree of reinforcing capacity in monkeys, and that it was most probably responsible for the repeated use of *khat*.

7.30 In both 1978 and 1979 WHO collaborated with the USSR in organizing a travelling seminar on the safe use of psychotropic and narcotic substances. Participants were introduced to the means by which the safety of using dependence-producing drugs could be enhanced, with particular reference to the needs of the developing countries.

### Training

7.31 The training programmes carried out during the biennium focused on (1) training in mental health for general health personnel, including physicians, public health administrators, nurses and other primary health care workers; (2) training in public health for mental health workers, e.g., in programme planning; (3) training in specific aspects of mental health work, e.g., biological research methods, the neurosciences, and the rational use of psychopharmacological drugs; and (4) training in mental health for community workers outside the health sector such as teachers and social welfare workers. Details are given in Chapter 12, paragraphs 12.102–12.109.

### Biomedical and health practice research

7.32 Collaborative studies on mental disorders of major public health significance were intensified with a view to advancing knowledge of their causes and sequelae in different societies, and developing new methods for their prevention and control.
7.33 In biological psychiatry and psychopharmacology, the search for primary preventive measures and the improvement of secondary preventive measures for the control of mental disorders of major public health importance continued. During 1978–1979, 38 centres in 28 countries were collaborating in 17 WHO-coordinated projects. The participating institutions, comprising more than 200 scientists, provided the infrastructure for a unique type of “international institute” in this field.

7.34 There were several important findings during the biennium. For example, collaborative research on the biological basis of mental disorders led to the tentative identification of new biological markers of schizophrenia and affective psychoses that could be used in studying high-risk groups. Several studies were devoted to elucidating the role of biologically active substances (endorphins, encephalines) in mental disorders. The effects of a specific morphine antagonist, naloxone, were investigated by collaborating centres with a view to the control of acute and chronic psychotic states. The pharmacokinetic properties of one of the most widely used antidepressant compounds, amitriptyline, were assessed in a multicountry trial, and methods for the routine measurement of the plasma levels of this substance were published.

7.35 Work was undertaken to improve and rationalize treatment methods for psychotic, depressive and neurotic conditions. The Minimal List of Drugs for the Treatment of Neuropsychiatric Disorders was widely circulated and is being used in various centres for administrative and managerial purposes. A global project on the effects of various dosages of psychotropic drugs in different populations, in which 12 countries are collaborating, was launched to clarify the efficacy of widely used antidepressant and antipsychotic drugs accepted as “essential” drugs under the Minimal List (e.g., imipramine, amitriptyline, chlorpromazine). Studies were carried out in various countries on the efficacy and safety of psychotropic drugs and their optimal dosages, taking into account climatic, cultural and nutritional conditions; preliminary results indicated that low-dosage psychotropic drug regimes were possible for the control of the principal mental disorders. In emphasis of the “rational treatment” approach to depressive disorders (one of the most widespread groups of mental disorders), an international symposium on the prevention and treatment of depression was organized, with participants from 20 countries (Washington, DC, October 1979).

7.36 Information on the efficacy and safety of psychotropic drugs obtained from 25 collaborating centres is being analysed and regularly published in the Psychopharmacology Bulletin, a publication available in 151 countries. A directory of WHO’s long-term experience in collaborative research and training in biological psychiatry and psychopharmacology was finalized and will be distributed in more than 40 countries.

Psychosocial aspects

7.37 At the end of 1979, 24 centres in 20 countries were collaborating in a series of epidemiological and behavioural studies. They included investigations on the incidence of severe psychoses in different

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1 Bulgaria, Canada, Colombia, Czechoslovakia, Denmark, Federal Republic of Germany, India, Iran, Ireland, Japan, Netherlands, Nigeria, Philippines, Sudan, Switzerland, Turkey, USSR, United Kingdom, United States of America, and Yugoslavia.
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cultures; depressive disorders in various communities; new approaches to the prevention of social impairment and disability; the influence of stressful life events on mental health and human behaviour; the role of the family as a protective factor in maintaining mental health; and the relationship between mental and physical disease. The preliminary results of these studies, which entailed the detailed assessment of over 2200 patients and their families, indicate that: (1) the severity of social impairment and disability resulting from mental disorders varies considerably according to the community and can be reduced by an environment that encourages and facilitates the early return of the patient to his normal social role; (2) the capacity of the family and other sources of social support to take an active part in prevention or therapy can be enhanced by specifiable, planned interventions; and (3) psychosocial factors—such as the ability to cope with stressful life events, the patterns of emotional interaction in the family, and the degree of social cohesiveness of the community—are powerful determinants of the course and outcome of mental disorders and are amenable to specific trial interventions.

Collaborative research also focused on the assessment of the psychosocial aspects of public health measures and programmes to improve the quality of life of the family and the community, e.g., family planning programmes. A project, coordinated jointly with the Special Programme of Research, Development and Research Training in Human Reproduction, and carried out by field research centres in India, Colombia, Nigeria, the Philippines and the United Kingdom, is examining the psychological and social sequelae of female sterilization. By the end of 1979 over 600 women who had chosen tubal ligation as a fertility regulation method, along with control groups, had been examined and were being followed up with a view to ascertaining not only the psychological safety of the method but also possible positive effects.

A project was initiated to assess the effectiveness of various types of self-help groups as a form of community participation in health promotion and protection.

The findings of the above research were published in monographs and in scientific journals. The results of a major WHO-coordinated cross-cultural study, which demonstrated a better prognosis for patients with psychotic disorders in developing countries as compared with patients in developed countries, were also published.

Surveys of prospective longitudinal research in Europe with mental health implications, which can be used for assessing the trends of mental morbidity, and also for evaluating the impact of WHO's mental health programme, were in press at the end of 1979.

Neurological disorders

The report of the Study Group on the Application of Advances in Neurosciences for the Control of Neurological Disorders was presented to the Executive Board in January 1979. Work in this field concentrated on defining and implementing appropriate intervention measures and depended in large measure on the nine WHO collaborating centres for research and training in neurosciences.


7.43 The studies being developed for community control programmes in epilepsy—and covering drug therapy, risk factors in epilepsies, risk factors in cerebrovascular disorders, neuro-epidemiology, and peripheral neuropathies—should make it possible to determine which parts of the world have a particularly high or low incidence of a given neurological disorder, evaluate the effectiveness of present methods of treatment, and forecast the needs in programmes and facilities.

7.44 A study involving a number of centres is under way for the development of “rational treatment” methods for convulsive disorders in populations living under different ecological conditions and manifesting different levels of sensitivity to anticonvulsive drugs.

7.45 The neurological sequelae of cerebrovascular accidents, e.g., paralysis, are among the major causes of long-term disability, and research on this subject in different populations received particular attention. Research was also under way on the role of such factors as post-infective arteritis, parasitic infections, nutritional factors, and neurotransmitters. The data obtained were discussed at an international symposium on cerebrovascular accidents sponsored by WHO and the Menarini Foundation (Florence, 1978). A booklet on the clinical and research classification of cerebrovascular disorders was published in 1978.¹

7.46 Peripheral nerve diseases are common in all parts of the world. The putative etiological factors (genetic, nutritional, metabolic, toxic, traumatic, etc.) are diverse and their control requires various approaches. The meeting of a task force on peripheral neuropathies (July 1979) was followed by a study group on the same subject (October 1979). Field studies were being carried out in four Regions: Africa, the Americas, South-East Asia and the Western Pacific.

7.47 Several international symposia were organized in collaboration with nongovernmental organizations, the subjects including immunopathology of the nervous system; neurological disorders due to long-term treatment with neuroleptics; the interaction of biological membranes with the environment; the interaction of kidney and nervous system; and headache.

Mechanisms for programme development and support

7.48 All six regional coordinating groups met during the biennium and by the end of 1979 over 20 countries had formed national coordinating groups for integrated mental health programmes. The membership of national, regional and global groups is intersectoral and multidisciplinary, involving other organizations of the United Nations system, nongovernmental organizations, and WHO staff from all echelons and from different programmes.

7.49 In the African Region, the Mental Health Action Group met in May 1978 and May 1979, and national coordinating groups were formed in Botswana, Lesotho, Rwanda, Swaziland, United Republic of Tanzania, and Zambia. National plans of action were formulated and are now being implemented. Bilateral agreements, e.g., between Rwanda and Belgium, and between the United Republic of Tanzania and Denmark, were in process of negotiation. Mental health activities were included in the bilateral agreement between Botswana and Norway. Members of the African

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Regional Expert Panel on Mental Health met in March 1979.

7.50 The strategies for developing a coordinated mental health programme in the Region of the Americas were established by a consultative group composed of representatives of seven countries (Colombia, 1978). Costa Rica, Nicaragua and Venezuela have since formed national coordinating groups on mental health in which representatives of the health, welfare and education sectors are represented.

7.51 The first meeting of an inter-country group on mental health in the South-East Asia Region (December 1977) provided a stimulus for developments during 1978–1979. The group met again in March 1979 to review developments and practices in mental health services, including training and research. Recommendations on policy and programme were put forward. Bangladesh, Burma, Sri Lanka and Thailand all established intersectoral, multidisciplinary coordinating or advisory groups at ministerial or government level for mental health or drug dependence.

7.52 In the European Region, in addition to meetings of the Consultative Committee for the European Mental Health Programme (May 1978) and the Technical Advisory Committee (February 1979), the first regional meeting of national mental health advisers was held (Federal Republic of Germany, November 1979).

7.53 At the Regional Office for the Eastern Mediterranean, the Coordinating Group Meeting on Mental Health reviewed developments in the Region and made recommendations for the next biennium (November 1978).

7.54 The Coordinating Group on the Mental Health Programme of the Western Pacific Region (April 1979) reviewed WHO’s medium-term mental health programme, underlining the role of the WHO collaborating centres, the research being carried out, and the psychosocial factors encountered in the Region; and analysed the scope and role of national coordinating groups.

7.55 These national and regional consultations were followed by the third meeting of the Coordinating Group for the WHO Mental Health Programme (Alexandria, September 1979), which enabled representatives of all coordinating groups and WHO staff to review that programme in the context of “Health for all by the year 2000”; decide what activities should be undertaken in the next biennium; and agree on the specific steps to be taken in formulating the mental health section of the Seventh General Programme of Work.
Chapter 8

Prophylactic, Diagnostic and Therapeutic Substances

Drug policies and management

8.1 THE REORIENTATION of WHO’s programme on drugs in response to Health Assembly resolution WHA28.66 (1975) focused attention on the problems of relating the supply of pharmaceuticals to health needs at the global, regional and country level. The Technical Discussions of the Thirty-first World Health Assembly—whose subject was “National policies and practices in regard to medicinal products; and related international problems”—served to underscore the difficulties.1 The programme on drug policies and management has followed the directives in resolutions EB61.R17, WHA31.32 and WHA32.41, which inter alia requested the Organization “to cooperate with Member States in formulating drug policies and management programmes that are relevant to the health needs of populations and are aimed at ensuring access of the whole population to essential drugs at a cost the country can afford”.

8.2 The International Conference on Primary Health Care (Alma-Ata, 1978) also recognized the crucial need for essential drugs for primary health care and recommended that governments should formulate national policies and regulations with respect to the import, local production, sale and distribution of drugs and biologicals in order to ensure the availability of appropriate drugs at all levels of the health care system. The reoriented programme is consonant with these recommendations and with the strategies to achieve health for all by the year 2000.

8.3 During 1978–1979 global, regional2 and country studies were undertaken in collaboration with Member States, and seminars, workshops and meetings were organized to promote and formulate comprehensive national drug policies. A number of problems common to all developing countries emerged. They were: (1) the inability of countries to meet the demand for drugs, particularly those required for primary health care; (2) the need for assessing requirements in drugs at different levels (particularly the primary health care level) and strengthening the potential for local manufacture; (3) the need for rationalizing procurement and utilization by making a selection of drugs and adopting national formularies (lists of essential drugs); (4) the inadequacy of distribution and storage facilities, particularly in rural areas; (5) the shortage of personnel trained for management and for technical work at all levels; (6) the inadequacy of facilities for proper quality control; and (7) the

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1 See Chapter 1, paragraph 1.12.

need for reviewing, and where necessary revising, drug legislation and regulatory control.

8.4 Feasibility studies, some with the financial support of UNDP, were undertaken in several Member States with a view to establishing national drug policies and strengthening the local formulation of essential drugs. At the end of 1979 guidelines and recommendations on the establishing of low-cost formulation plant for essential drugs in developing countries were prepared.

8.5 Guidelines on other aspects of national drug policies—including procurement, distribution and quality assurance—were also planned, which should be instrumental in advancing country programming in the field of drugs.

8.6 The subject of drug policies and management received similar attention at regional level, where a number of programmes were formulated. In the African Region, an Expert Committee on Drug Policies and Management was convened in 1978. Studies with a view to local production, establishment of subregional quality control laboratories, distribution, and joint purchasing of essential drugs were initiated. Preparations were being made for a subregional meeting on cooperation in drug policies and management.

8.7 At the Technical Discussions at the Regional Committee for the Americas in 1978, which had as their subject “The impact of drugs on health costs: national and international problems”, the need for comprehensive national drug policies was emphasized. To support the local and regional programmes that should result from such policies, contact was established with the Latin American Federation of the Pharmaceutical Industry (FIFARMA) to define the areas of cooperation between the public sector and the pharmaceutical industry and establish the necessary mechanisms. Meetings were held to acquaint Member governments with significant developments in drug control within the Region.

8.8 In the South-East Asia Region the Technical Discussions at the 1979 Regional Committee were devoted to “Drug policy, including traditional medicine, in the context of primary health care”. Most countries in this Region have by now prepared lists of the essential drugs needed for primary health care, and many existing or projected units of pharmaceutical production are aiming at achieving self-reliance.

8.9 The Regional Office for Europe in April 1979 established a new unit of prophylactic, diagnostic and therapeutic substances to stimulate research on drug evaluation, and assist in formulating national drug policies. Studies on drug evaluation and drug utilization were undertaken, and are being expanded.

8.10 In the Eastern Mediterranean Region, several projects were implemented in various countries and the Region is expanding its activities in relation to procurement of drugs, administration and control, pharmaceutical inspection, registration, dissemination and control of information, and manpower development. Studies on drug utilization were in progress in some countries of the Region.

8.11 In the Western Pacific Region a working group reviewed regional aspects of drug policies and management (March 1978), identified priority areas for consideration, and laid the basis for a medium-term programme.

8.12 Technical cooperation in this field among developing countries began in 1978 in

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the South Pacific countries, which adopted a common list of essential drugs. In 1979 a task force and subsequent working groups outlined the role, organization, location and financing of four proposed components of a South Pacific pharmaceutical service, namely: a joint purchasing office, a warehouse for centralizing the reception, storage and distribution of drugs purchased, a quality assurance unit, and a drug information service. The political and technical implications of the programme were considered at a Conference of Ministers of Health of the South Pacific Areas (Manila, November 1979). The Association of South-East Asian Nations (ASEAN) also met in November 1979 to discuss technical cooperation in drug legislation, evaluation, and quality assurance; problem areas were identified and the activities that should make up the technical cooperation programme were agreed upon. In the Caribbean area, the development of a subregional pharmaceutical policy was strengthened by the establishment of a Caribbean Regional Drug Testing Laboratory for the microbiological and pharmacological analysis of drugs obtained by the individual governments or through the bulk-purchasing schemes sponsored by the Caribbean Community (CARICOM).

Selection of essential drugs

8.13 In January 1978, the Executive Board praised the report of the Expert Committee on the Selection of Essential Drugs ¹ and called for an action programme on technical cooperation in that area (resolution EB61.R17). The Board particularly emphasized the importance of dialogue and collaboration with private and State-owned pharmaceutical companies to make essential drugs available on favourable conditions for exclusive use in the public sector of health services of the least developed countries. It established an Ad Hoc Committee on Drug Policies, whose proposals for an action programme were subsequently endorsed by the Health Assembly (resolution WHA34.32). More than 30 governments have expressed interest in participating in consultations and negotiations for the proposed action programme and designated representatives for this purpose.

8.14 The report of the Expert Committee was enthusiastically received in Member States and has served as both an impetus and a guide for countries drawing up their own national lists. A second expert committee (July 1979) reviewed the first list of essential drugs and considered the commonly used dosage forms for each drug appearing in the revised list.² Information sheets on the proper use of the drugs were further discussed, and methods are being explored to present them in a format useful for developing countries.

8.15 Three meetings were held with the pharmaceutical industry during 1979 and many major drug manufacturers pledged their collaboration in furnishing the governments of the least developed countries, on specially favourable conditions, with selected products needed to extend and improve health care coverage in the public sector.

Use of medicinal plants

8.16 The use of natural resources, particularly medicinal plants, is an aspect of drug policies and management that is of great moment to many developing countries. At global level, general guidelines for the selection and characterization of medicinal plants are being developed.

Interagency collaboration

8.17 Close contacts were maintained with UNICEF, UNIDO, UNCTAD and other organizations of the United Nations system which, under their terms of reference, have activities related to essential drugs. With the financial support of UNDP, a United Nations interagency task force on economic and technical cooperation among developing countries in the pharmaceutical sector carried out country surveys in 1978 to determine the most serious problems arising in connexion with the supply of pharmaceuticals. The Government of Guyana, on behalf of the non-aligned countries, acted as coordinator for the project, which was carried out with the cooperation of the United Nations Department of Technical Cooperation for Development, UNCTAD, UNIDO, and WHO. The report on the project, “Pharmaceuticals in the developing world—Policies on drugs, trade and production”, was issued in 1979.

Pharmaceuticals

8.18 WHO increased its activities to improve the quality of drugs, the main effort being directed towards essential drugs used in developing countries where technical facilities for the full quality assessment of manufactured or imported pharmaceutical products are rare.

8.19 Quality assurance in pharmaceutical supply systems is an important element of national programmes on regulatory control of drugs, and is designed to prevent the manufacture, importation and distribution of low-quality, non-effective, or harmful drugs. During the biennium WHO directed its work towards strengthening national capabilities in this area. In the African Region a study began on the possibilities of setting up regional drug control laboratories. In the Region of the Americas the development of laboratory capabilities in the drug field was strengthened by the establishment of the Caribbean Regional Drug Testing Laboratory described in paragraph 8.12 above. In the South-East Asia Region a regional seminar on drug quality control was held in New Delhi (January 1978). The emphasis in the countries of the Region was on training specialists in drug quality control and strengthening governmental drug control laboratories. In the European Region a review of training programmes for pharmacists was initiated. The development of national drug quality assurance systems in the Eastern Mediterranean Region was promoted by providing specialists for national drug control laboratories, awarding fellowships, and sending trainees from countries of the Region to the courses on pharmaceutical inspection held in the Federal Republic of Germany. In the Western Pacific Region a number of countries were visited by a special task force and as a result proposals were made for a joint South Pacific pharmaceutical service, which would include a joint drug quality control laboratory (see paragraph 8.12 above). Since lack of resources prevents many developing countries from introducing a comprehensive system of drug quality assurance, the WHO Expert Committee on Specifications for Pharmaceutical Preparations (November 1979) 1 made recommendations for priority action that could be taken by health authorities establishing or expanding their national quality control systems.

8.20 The certification scheme on the quality of pharmaceutical products moving in international commerce, a revised text of which was adopted in 1975 by the Twenty-eighth World Health Assembly

(resolution WHA28.65), is a mechanism by which the health authorities of a developing country that is importing a drug can receive a certificate from the health authorities of the exporting country stating that the product is authorized for sale in the exporting country and that the manufacturer is subject to regular inspection. During the period 1978–1979, a further 28 Member States joined the scheme and designated responsible national authorities, bringing to 54 the total number of participating countries. A supplementary list of participating Member States was published.¹

8.21 The WHO recommendation on good practices in the manufacture and quality control of drugs (resolution WHA28.65) continued to influence the pharmaceutical regulations of most drug-producing countries, including those that are major exporters to developing countries. These recommendations concern the ways of carrying out the manufacturing and the control procedures that affect the quality of drugs at the production stage. During the biennium the question of in-process quality control of dosage forms produced in developing countries was evaluated with a view to extension of the relevant “good practices” recommendations.

8.22 The development of procedures for basic tests for drugs continued. The procedures established for some 200 essential pharmaceutical substances were the object of field studies, and work began on simple dosage forms containing those substances. The basic tests are primarily designed to confirm the identity of the pharmaceutical product and to ensure that gross deterioration has not occurred along the distribution chain. In the Western Pacific Region a workshop on drug quality assurance (Fiji, December 1979) dealt with the practical application of the tests evolved so far, especially as regards drugs purchased for use in organized health services.

8.23 The revision of the International Pharmacopoeia continued. The process was completed for Volume 1, which covers general methods of drug analysis, and the third edition of that volume was published at the end of 1979.² The revision of monographs for substances essential for primary health care continued, with the help of members of the WHO Expert Advisory Panel on the International Pharmacopoeia and Pharmaceutical Preparations and of specialists from national pharmacopoeia commissions. Draft monographs for some 120 substances were under review at the end of 1979.

8.24 The WHO collaborating centre for chemical reference substances, Sweden, continued to maintain and distribute international reference material for pharmaceuticals needed for the analytical methods of the International Pharmacopoeia. In 1978–1979 the centre provided annually more than 2800 packages of reference substances to governmental and industrial drug control laboratories in over 50 Member States. Seven new reference substances were established, bringing to 81 the total number maintained at the centre. One of the ways of satisfying the increasing need of developing countries for reference substances for the most widely used essential drugs is to arrange for regional reference materials to be available. This was discussed at a workshop on reference materials for Latin America (Brazil, October 1979) and possible solutions were recommended, in the context of technical cooperation among developing countries.


8.25 New international nonproprietary names for pharmaceutical substances were selected on the basis of requests by national nomenclature authorities and by pharmaceutical manufacturers. During the biennium new names were proposed for 323 substances, bringing to 4155 the total number of nonproprietary names so far established by WHO.

8.26 A quarterly WHO bulletin, Drug Information, has become established as a vehicle for prompt and direct exchange of information on drug safety and efficacy. It is of prime importance for all drug regulatory authorities to be in touch with current issues of international concern. The rapid evolution of drug epidemiology, and the obligation of many national authorities to review all currently available drugs within their jurisdiction, creates an important measure of interdependence; this is accentuated by the fact that the complex multidisciplinary assessments required to resolve many drug-safety issues can tax the technical and financial resources of even the most economically developed nations. The call for more information of the type required for the evaluation and licensing of medicines was reflected at regional level, particularly in the programmes of three Regions—the Americas, Europe, and the Eastern Mediterranean.

8.27 The WHO collaborating centre on international drug monitoring, Uppsala, Sweden, assumed responsibility for the operational aspects of the programme for monitoring of adverse reactions to drugs in March 1978. WHO headquarters retained responsibility for policy coordination, participation of national and other centres, and dissemination of information.

8.28 The series of annual symposia on clinical pharmacological evaluation in drug control, organized by the Regional Office for Europe in collaboration with the Government of the Federal Republic of Germany, continued in 1978 and 1979. A considerable amount of research on patterns of drug utilization has been stimulated as a result of programmes developed in this Regional Office.

**Biologics**

8.29 It is now three years since governments and regional offices were informed that training in the quality control of biologics would receive the financial assistance of UNDP. Since then, seven candidates have been trained and a further four are in training—but this is a very disappointing response. Either the importance of using biologics known to be safe and effective is not appreciated, or there are not enough people with a suitable background for this specialist training. An analysis of the problem will be made with a view to stimulating the establishment of national quality control. It is clear however that this is an area where technical cooperation is greatly needed: when vaccines prepared in the developing world are tested for safety and potency by an independent laboratory it is not uncommon to find that they do not meet the WHO requirements. And it is important to emphasize that communicable diseases will not be brought under control unless safe and potent vaccines reach the majority of the target population.

8.30 On the other hand, the three-week refresher courses in the quality control of measles and poliomyelitis vaccines were well attended. In 1978–1979 such courses were held in Argentina, Australia, France, India, Mexico and the United Kingdom. They are intended for scientists already working in the quality control of vaccines.

8.31 The research programme to improve the stability of measles and poliomyelitis vaccines made good progress.
Some of the pharmaceutical companies producing low-stability measles vaccine, when presented with the evidence that there was a marked difference in stability among their products and that only high-stability vaccines are suitable for use in countries with high ambient temperatures, took steps to improve their products. As regards the improvement of pertussis vaccine, the amount of research being carried out has never been so great. The WHO programme, with UNDP support, is stimulating the development of more potent and less toxic vaccines.¹

8.32 The establishment of new international standards and reference preparations continued for all biologicals. In the two-year period, international reference materials were established for three antibiotics, one antibody, four antigens, six blood products or related substances, seven endocrinological or related substances, nine reagents, and five miscellaneous substances. These reference materials are particularly important, since the first requirement of a research programme is a common standard for comparison of data between laboratories, countries and continents. To some countries struggling to meet their basic needs, much of the new research may appear to be exotic, but today’s research findings in the developed world will be needed by the developing world tomorrow (this was true of the standards for vaccines and antibiotics and is becoming equally true for hormones and blood products). It is interesting to note that in 1978 and 1979 more than half of the thousands of international reference materials that were issued went to the developing countries.

8.33 In addition to the establishment of reference materials, the requirements for some biological substances were revised to adapt them to the latest findings. The programme places emphasis on the vaccines used in immunization programmes, and the requirements for diphtheria toxoid, tetanus toxoid, pertussis vaccine and dried BCG vaccine were therefore revised.² Manuals covering the production of these vaccines were brought up to date and distributed widely.

8.34 Since the establishment of the “Requirements for the procurement, processing and control of blood products and related substances”, a programme has been initiated in this area supported by extrabudgetary resources. With the assistance of the regional offices a panel of experts was established, and a review was made of potential needs. Emphasis will be placed on fractionation techniques for plasma and on the quality control of the fractions.

8.35 Work continued under the programme on the production and control of oral poliomyelitis vaccine, assistance with their national production being given to India and Mexico. There is a current shortage of this vaccine in the world, and the programme will continue for some years. The trend in certain countries towards reconsidering the use of killed poliomyelitis vaccine was recognized, and the WHO requirements for this type of vaccine were revised.

8.36 The increase in national legislation on the control of biologicals has led to WHO being requested to formulate international requirements to ensure that a common standard is applied in all countries. Such requirements are needed, for example, in the quality control of antitumour antibiotics; hepatitis vaccines; and quality assurance of reagents and kits used in pregnancy tests.

¹ See also Chapter 9, paragraph 9.209.

To promote local production of vaccines in the context of technical co-operation among developing countries and to strengthen the quality control of such vaccines, the Regional Office for Africa organized a consultation of directors of centres for the production and quality control of vaccines (April 1979); six countries took part. The main recommendations made were for: an inventory of regional laboratories and their production potential, with a view to establishing independent networks; and the orientation of present production capacity towards vaccines recognized as priority, support to applied research on such vaccines, as well as the development of a coherent policy for the training of personnel at regional, subregional, national and institutional level.

Health laboratory technology

In line with resolution WHA29.74, which inter alia requested the Director-General to develop a programme of health technology relating to primary health care and rural development, emphasis during 1978–1979 was placed on the promotion, in all regions, of peripheral health laboratory services in support of more effective rural health care, particular attention being given in the Eastern Mediterranean Region to the public health aspects. There was a favourable response to the policy in many countries: in Viet Nam, for example, a network of 80 peripheral laboratories was established.

Guidelines on the organization and operation of such laboratories in support of preventive, curative and promotive services for both the community and the individual were published in the form of a document entitled, “Laboratory services at primary health care level”. Field operational studies to assess the validity of the guidelines began in Algeria, and preparations were made for similar studies in other countries. A particular aspect is evaluation of the cost and usefulness of the laboratories in relation both to individual health care and to public health. Further technical guidelines for peripheral laboratories were in preparation at the end of the biennium, to cover the collection of specimens and their despatch to immediate referral laboratories, the maintenance and repair of equipment at this level, and the training of staff. Two documents were prepared in collaboration with the League of Red Cross Societies: on the organization of blood transfusion services at the peripheral level; and on the production of blood-grouping reagents.

Cooperation was given in the strengthening of public health and other referral activities at intermediate and central level and in the management of health laboratories. In countries of the South-East Asia Region particularly, priority was given to expertise in disease surveillance and emphasis was placed on laboratory diagnosis of dengue, Japanese encephalitis, diarrhoeal diseases, malaria, and filariasis. Cooperation also covered the development of public health laboratories at different levels in Algeria; national blood transfusion services based on voluntary non-renumerated donation of blood, particularly in the Eastern Mediterranean Region and the Region of the Americas; the establishment of a clinical toxicology unit and training of staff in Malta; the setting up of a quality control programme in clinical chemistry in Portugal; and the assignment of long-term staff to the health laboratory services of Fiji, Papua New Guinea, and Tonga.

The emphasis on appropriate technology in laboratory practice includes the
promotion of simple, inexpensive but reliable equipment, particularly for peripheral laboratories. During the biennium, a consultation at WHO headquarters identified areas for development and research and recommended that particular attention should be given to local production or assembly of such equipment.

8.42 National production and control of reagents was similarly promoted, particularly in the Region of the Americas. Cooperation was initiated with several countries for the establishment of centres for this work.

8.43 The containment of costs and the optimal use of laboratories are universal problems. A working group organized by the Regional Office for Europe (London, September 1979) reviewed rational and economical technologies available for various laboratory disciplines.

8.44 Many countries are now undertaking the training of laboratory staff to meet local needs, in particular the preparation of technician instructors to train peripheral laboratory workers. By the end of the biennium facilities were increasingly available at national level. Thus, in the Eastern Mediterranean Region, laboratory assistants were being trained in almost all countries, technicians were being trained in 90% of them, and university courses leading to a degree in medical laboratory technology were open to students in Lebanon, Sudan, and Yemen. In the Americas, regional centres were being selected for training personnel in microbiology, laboratory administration, and maintenance and repair of equipment.

8.45 Training courses in various laboratory disciplines laid emphasis on simplified, inexpensive methodology and quality control. Regional or intercountry courses on identification of enterobacteria and on quality control were held in Bangladesh, Jordan, Kenya, and Morocco; and a course on diagnosis of the most frequent pathogenic bacteria took place in the Philippines. In the South-East Asia Region, there were intercountry workshops in immunohaematology, food microbiology and immunology; training was also given in laboratory management and evaluation and in microbiology. Courses on quality control in clinical chemistry were held in Argentina, Iraq and Malaysia for trainees from the Americas, the Eastern Mediterranean, and the South-East Asia/Western Pacific Regions respectively. In Africa, workshops on the development of blood transfusion services were held in conjunction with the League of Red Cross Societies—in Bujumbura for French-speaking countries and in Nairobi for English-speaking countries.

8.46 National courses were held in many countries, including Argentina (identification of enterobacteria), Egypt (virology), Jamaica (diagnosis of mycotic infections), Malaysia (laboratory methods in blood transfusion), Philippines (laboratory management), and Viet Nam (bacteriology, blood transfusion and haematology). In Papua New Guinea, a third group of laboratory assistants for peripheral laboratories attended a one-year course. Other countries in the Western Pacific Region were considering introducing the same type of training, and some progress was noted in Laos.

8.47 Documents published or in preparation, and intended for training purposes as well as for use in intermediate laboratories, covered simplified procedures for the isolation and identification of enteric pathogenic bacteria; quality control in clinical chemistry; fundamental diagnostic laboratory haematology as related to the
anaemias; and a manual of routine methods in clinical chemistry. In collaboration with the League of Red Cross Societies, an addendum was published to the book, *Blood Transfusion: a Guide to the Formation and Operation of a Transfusion Service.*

8.48 In the programme for standardization of materials and methods, WHO-sponsored quality control projects in microbiology, haematology, clinical chemistry and blood group serology were in operation; and national quality control programmes in clinical chemistry and haematology were started in several countries, including India, Indonesia and Thailand. Specifications were published for salmonella polyvalent agglutination sera and for streptococcus grouping sera; and international reference sera with assigned values for a number of constituents were established for use in clinical chemistry. International reference methods were agreed upon for the rubella haemagglutination inhibition test and the histoplasmosis micro-immunodiffusion test. Guidelines on methods for determination of the haemoglobin content of blood, of packed cell volume, and of the erythrocyte sedimentation rate, were prepared.

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Chapter 9

Communicable Disease Prevention and Control

9.1 ONLY SOME 12 years ago smallpox was endemic in 33 countries with a total population of 1 200 000 000; and 12 other countries had imported cases. The entire world was still at risk. Now smallpox transmission has ceased throughout the world, significantly during the International Year of the Child. This history over a deadly disease was brought about through national commitment everywhere and effective international cooperation. It is a step towards a better standard of health for all the people of the world.

9.2 Nevertheless, much remains to be done in communicable disease prevention and control. Malaria, the acute diarrhoeal and respiratory infections, childhood infections, tuberculosis, preventable blindness, and other endemic and epidemic diseases continue to contribute heavily to unacceptably high levels of mortality and morbidity and impaired quality of life in most developing countries. The Sixth General Programme of Work focuses on practical approaches that should reduce significantly in any country the heavy burden of communicable diseases, particularly in children under five, through the application of knowledge and well-tested technology. Primary health care, in fact, presupposes a determined attack on such problems, which are of major social relevance to this and future generations.

Epidemiological surveillance

9.3 The basis of the remarkably effective system instituted for smallpox eradication was unrelaxing epidemiological surveillance and the organization of containment measures. The application of epidemiological methods guides public health administrators in deciding on the most effective and feasible strategies for communicable disease control within the social and operational constraints imposed on them.

9.4 Inadequate epidemiological services and the shortage of trained epidemiologists in most countries remain the weakest component of communicable disease control programmes. They give rise to insufficient evaluation, lack of responsibility and, consequently, chronically poor management. In all regions efforts are being made to relate training to the functions the personnel should perform in a national epidemiological service. In cooperation with national health administrations, greater emphasis was placed on training relevant to conditions in the country. An assessment is accordingly being made of the manpower needs of existing epidemi-
logical services and training facilities, so that the latter should meet the needs of the health services, adopting a problem-oriented, learning-by-doing approach linked with an ongoing communicable disease control programme, an outbreak of disease, or a research project in the laboratory or in the field.

9.5 Health authorities are being encouraged to re-examine vaccination certificate requirements for international travel in the light of the epidemiological situation of the diseases subject to the International Health Regulations. The certification on 26 October 1979 of the last known endemic countries as smallpox-free will accelerate the disappearance of the smallpox vaccination certificate as a requirement for travellers.

Safety measures in microbiology

9.6 Much public concern has been expressed recently about the hazards of new research on pathogenic microorganisms. Several tragic laboratory accidents have occurred. New pathogens of great virulence have been discovered, and old pathogens have re-emerged in epidemic form. The dangers call for the strengthening of safety precautions in diagnostic and research laboratories, in the transfer of specimens and other biological products between laboratories, and in the management of communicable diseases.

9.7 WHO therefore established a special programme on safety measures in microbiology at the beginning of 1979. During the rest of the year, with the financial support of several countries, it established a classification of microorganisms by risk;¹ started developing international guidelines on laboratory safety and emergency action; prepared a guide on emergency action in laboratory and transport-associated accidents;¹ and drew up minimum standards of laboratory safety.²

9.8 With the Giovanni Lorenzini Foundation WHO had cosponsored in 1978 an international symposium on genetic engineering. In 1979 it organized an international consultation on the management of emergencies caused by “unusual” diseases. It collaborated with the Universal Postal Union and the International Air Transport Association in the revision of the regulations for the international shipment of biological specimens and materials.

Smallpox eradication

9.9 Only two cases of smallpox were reported to WHO during 1978 and 1979. They occurred in August and September 1978 in the United Kingdom, in a laboratory holding stocks of variola virus. The last case recorded elsewhere, in October 1977 in Somalia, remains the last known case of endemic smallpox in the world.

Certification of eradication

9.10 In October 1977, 79 countries still required special procedures prior to being certified as smallpox-free. With the approval of the World Health Assembly in 1978, a Global Commission consisting of 19 international experts was established to monitor these procedures and the certification process. By the beginning of 1978, 45 of the 79 countries had been visited by international commissions that had certified that smallpox had been eradicated.


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During 1978 and 1979 the remaining 34 countries were also certified.

9.11 The principal criterion for eradication (as defined by the WHO Expert Committee on Smallpox Eradication in its second report) was evidence of no reported case of smallpox for at least two years despite surveillance sufficiently sensitive to have detected such cases had they occurred. All the available evidence was reviewed for each country either by a visiting international commission or by a special visit and/or submission of a detailed report to the Global Commission.

9.12 As the last foci of endemic smallpox were in the Horn of Africa, assessment of this area was particularly emphasized. Independent international commissions involving a total of 20 experts were convened in Djibouti, Ethiopia, Kenya, and Somalia, each meeting lasting 10–20 days. A final meeting was held in Nairobi to consider the findings in all these countries, as their links through common nomadic populations are of epidemiological importance. It was concluded that the extensive surveillance programmes in these countries during 1978 and 1979 had, indeed, been sufficiently sensitive; no smallpox had been reported. Certification of smallpox eradication in the Horn of Africa was announced by the Director-General on 26 October 1979.

9.13 At its meeting in December 1979, the Global Commission concluded that smallpox had been eradicated throughout the world and that there was no evidence suggesting that it would return as an endemic disease.

**Surveillance**

9.14 Extensive surveillance programmes were carried out in the countries of the Horn of Africa; over 50,000 cases of rash with fever were detected and investigated and almost 8000 laboratory specimens were collected during 1978 and 1979. In no case was smallpox diagnosed. From countries in other parts of the world already considered as smallpox-free, a total of 104 rumours of smallpox were received; investigations by government or WHO teams or both excluded a diagnosis of smallpox in every case. WHO will collaborate with any government requiring assistance in the investigation of suspected smallpox cases, and the laboratory service provided by WHO collaborating centres will remain available.

**Variola virus in laboratories**

9.15 At the beginning of 1978 at least 16 laboratories kept samples of variola virus strains. WHO efforts to reduce this number to a minimum met with good cooperation and at the end of 1979 only seven laboratories still kept variola virus (Table 9.1). Representatives from all the laboratories retaining variola virus and associated national control authorities met in Geneva (April 1979) to discuss ways of assuring the maximum security for these

| Table 9.1 Laboratories retaining variola virus as at 28 September 1979 |
|-----------------------------|------------------|
| Laboratory                  | City/country     |
| 1. Center for Disease Control (CDC)* | Atlanta, Georgia, USA |
| 2. Institute for the Control of Drugs and Biological Products | Beijing (Peking), China |
| 3. National Institute of Virology | Sandringham, South Africa |
| 4. Research Institute of Virus Preparations* | Moscow, USSR |
| 5. Rijks Instituut voor de Volksgezondheid* | Bilthoven, Netherlands |
| 6. St Mary's Hospital Medical School* | London, United Kingdom |
| 7. United States Army Medical Research Institute for Infectious Diseases | Frederick, Maryland, USA |

*WHO collaborating centre.
strains. The laboratories will continue to be inspected periodically by teams of experts convened by WHO.

Poxvirus research

9.16 Various consultations were held during the period on research into orthopoxviruses. The main purpose of this research is to confirm that there is no animal reservoir of smallpox. Particular attention was focused on the use of genome mapping for the differentiation of orthopoxviruses and a research schedule was drawn up. It is possible that, following thorough characterization of the DNA of various strains of variola virus, retention of the virus itself for reference purposes may not be essential.

9.17 In June and July 1979 a Zaire/CDC/WHO team carried out research in the Equateur Province of Zaire, where a number of human monkeypox cases have been detected, to define further the natural history of monkeypox and whopox viruses. Paired specimens (blood and organ tissues) from more than 90 species of African mammals were collected for identification of poxviruses by serology and culture; and about 500 serum specimens were collected from unvaccinated persons living in monkeypox-infected areas, to be tested for evidence of prior monkeypox infection.

9.18 In 1978 and 1979, 17 cases of human monkeypox were reported from Zaire and one case from Benin, the latter originating in Nigeria. A total of 46 cases of this disease have been detected since 1970, when it was first identified in Zaire. A programme to continue surveillance for monkeypox from 1980 to 1983 was supported by the Global Commission and endorsed by the Thirty-second World Health Assembly.

Vaccination policy

9.19 Progress was made in changing the requirements for smallpox vaccination certificates from travellers. At the end of 1979 only 32 countries still required such certificates from travellers, compared with 100 at the end of 1977. On the other hand, routine smallpox vaccination has not been so widely discontinued; at the end of 1979 it was no longer obligatory in only 31 countries (Figure 9.1). The Global Commission, in its final report, recommended cessation of all smallpox vaccination except for investigators at special risk.

9.20 While there is no scientific evidence to suggest that smallpox might recur, WHO has taken steps to ensure that any future smallpox alert can be adequately dealt with by maintaining an effective surveillance mechanism. WHO collaborating centres will continue to provide diagnostic services, and further research will be carried out on orthopoxviruses. Reserve stocks of vaccine are being accumulated for long-term storage in Geneva and New Delhi, and its continued potency will be confirmed by periodic testing.

Malaria

9.21 Following the dramatic resurgence of malaria, particularly in South-East Asia and in Turkey, the disease now shows a downward trend; but the general epidemiological situation still causes concern, especially as many of the technical, financial, and administrative problems responsible for the worsening of the situation during the past decade are far from being solved.

9.22 The Thirty-first World Health Assembly endorsed a new malaria control strategy (resolution WHA31.45), in pursuance of which a number of actions have been taken at all levels of the Organization.
At the beginning of 1979 a malaria action programme was established as a cooperative effort of Member States affected or threatened by malaria, of WHO, and of international and bilateral agencies. An advisory committee on malaria was set up in 1979 to advise on steps to be taken in monitoring the activities of the global malaria programme. With WHO assistance, the antimalaria programmes of Algeria, Bangladesh, Colombia, Haiti, Pakistan, Thailand, and Turkey, and the *Plasmodium falciparum* containment programme in India were assessed.

9.23 A regional malaria advisory panel was established in the Eastern Mediterranean Region and met in 1979. Meetings of national experts with WHO regional and headquarters staff were held in countries of the Americas, South-East Asia, and the Western Pacific to advise on the development of regional programmes. In order to further stimulate implementation of the regional antimalaria programmes adopted by the WHO Regional Committee for Africa in 1977, the World Health Assembly in 1979 requested the Director-General to establish a special task force to cooperate and collaborate with Member States in Africa in the development of organized antimalaria activities.

9.24 In the African Region intercountry teams carried out an assessment of the malaria situation in 13 countries. At the training centre in Lagos 37 health inspectors were trained in malaria control techniques, while at the Institute of Health Development, Cotonou (Benin), 54 people were given postgraduate training in public health, including malaria and its control. A seminar was organized by the Government of Mauritius in 1979 with the partici-
9.25 In the Region of the Americas no substantial progress was observed in the malaria eradication programmes. Twelve countries or areas comprising about one-third of the population originally at risk remained malaria-free and in eight the risk was kept to negligible levels; but the continuous influx of imported cases, the reduction in antimalaria measures, and increased technical problems in areas of high receptivity have in some instances led to a rapid re-establishment of transmission. In another five countries where malaria is localized slow progress is being made. In most of the remaining countries (Bolivia, Colombia, El Salvador, Guatemala, Haiti, Honduras, Nicaragua, and Peru) the epidemiological situation has deteriorated. In addition to financial and operational factors, other problems hinder control, such as resistance of malaria vectors to the current insecticides, which are also widely used in agriculture, and resistance of P. falciparum to the 4-aminoquinolines.

9.26 In the South-East Asia Region the reduction in the number of cases reported during the last two years seems to indicate an overall improvement in the malaria situation. A significant reduction in the incidence was reported in India, the number of cases decreasing from 4.7 million in 1977 to 3.7 million (provisional data) in 1978. In Sri Lanka the incidence decreased by about 70% in 1978 as compared with 1977. A deterioration of the epidemiological situation was reported for Bangladesh and Burma: in the former the case detection system has not yet been reorganized to an adequate level, and in the latter the programme is hampered by serious administrative, operational and technical problems. In Indonesia (Java and Bali), Nepal, and Thailand the incidence of malaria has continued to show an upward trend in recent years. The situation remains critical in all countries of the region because, in addition to the already well-known obstacles to control, P. falciparum strains resistant to the 4-aminoquinolines are spreading. A large programme for their containment was launched in the north-eastern states and the states of Orissa and Bihar in India, with the technical cooperation of SIDA and WHO.

9.27 In the European Region the number of cases remains very low in Algeria and Morocco, where extensive antimalaria measures are being continuously carried out. Considerable improvement is reported in south-eastern Turkey, where the malaria epidemic, which is associated with agricultural development and large population movements, has been contained. Foci of active transmission are, however, spreading malaria to receptive areas outside the epidemic area. A working group on receptivity to malaria and other parasitic diseases was convened (Izmir, Turkey, 1978).

9.28 In the Eastern Mediterranean Region Cyprus, Israel, Lebanon and a few other areas are free from malaria. The risk remains moderate to high in the remaining part of the Region. Fewer malaria cases have been reported for Afghanistan, Iraq, and Pakistan, but the incidence is on the rise in Iran and the Syrian Arab Republic. A coordinated malaria programme in the Arabian peninsula, to be carried out simultaneously in Democratic Yemen, Oman, the United Arab Emirates, and Yemen, is still in preparation.

9.29 In the Western Pacific Region, Australia, Brunei, Hong Kong, Japan, and Macao remain free of malaria and the risk is minimal in the Republic of Korea and Singapore. Malaria is being contained in large areas of China. In peninsular Malaysia considerable progress continues to be made and about 70% of the population are now living in areas free from the disease; the prospects for malaria control in Sarawak are good and in Sabah the situation now appears stabilized after a deterioration that started in 1973. In the Philippines, while 40% of the population live in areas where the malaria risk is negligible, an increase in the incidence has been reported in the rest of the country since the early 1970s. For the Lao People's Democratic Republic and Democratic Kampuchea, unofficial reports suggest that the malaria situation is serious. In the Solomon Islands the efforts made since 1977 have failed to prevent an epidemic situation. Similarly, in Papua New Guinea a 50% increase in cases was reported in 1977, 1978, and 1979.

9.30 One of the main priorities of the malaria action programme is the development of the necessary human resources through the promotion and support of a training programme. WHO initiated action to establish a permanent international secretariat to be based in an Asian country, to support the development of a regional comprehensive training programme for malarious countries of Asia. Plans are being made to cooperate with Member States in the development of similar programmes for Africa and the Americas. For countries of the Eastern Mediterranean Region, courses are organized for professional staff by the Ain Shams University, Cairo, and the School of Public Health, Teheran, but it is expected that training facilities existing in Baghdad and the Sudan will also be used for the training of Arabic-speaking staff.

9.31 Courses on the in vitro testing of *P. falciparum* susceptibility to the 4-aminoquinolines were held in all the WHO regions except that of Europe. To enable national services to apply serological techniques for epidemiological evaluation, workshops on the enzyme-linked immunosorbent assay were organized in Beijing and Shanghai (China), Jena (German Democratic Republic), Moscow, New Delhi, and Zagreb (Yugoslavia). Under the auspices of the Special Programme for Research and Training in Tropical Diseases, courses on the in vitro cultivation of *P. falciparum* were held in Bangkok, Beijing, Belém (Brazil), Ibadan (Nigeria), and Shanghai. A review of research within the framework of the Special Programme was carried out with the participation of malariologists, scientists, public health administrators, and representatives from tropical countries and the WHO regions. Coordination meetings were also held with international and bilateral agencies.

9.32 In the field of chemotherapy, clinical trials with mefloquine were begun in Brazil and others approved for Thailand and Zambia. Other fields given special emphasis were: the development of a microtechnique for testing *P. falciparum* sensitivity to antimalaria drugs; the formulation of sustained release systems; reduction of the toxic effects of primaquine by lysosomotropic techniques; genetic studies on drug resistance; the mode of action of antimalaria drugs; and the development of methods for screening long-acting blood and tissue schizontocides.

9.33 In the field of immunology, efforts were mainly directed towards the purification and fractionation of parasite antigens as a prerequisite for the standardization of
serodiagnostic techniques and the development of malaria vaccines. Studies also continued with the aim of clarifying the phenomena involved in the immune response following natural infection. In view of the experience gained so far with immunizing agents, the search was continued for adjuvants applicable to human medicine.

9.34 Research on basic biology covered areas essential to the implementation of strategic plans in chemotherapeutics and immunology. These activities are concerned mainly with the mass production of exoerythrocytic stages, parasitic isolation and fractionation, the mechanism of parasite invasion of host cells, parasite metabolism related to antigen production, drug action, and the development of new animal models for drug and vaccine testing.

9.35 In applied field research global collaborative studies were carried out on the drug response of malaria parasites, and a project was continued in Bendel State, Nigeria, that aims at selecting the best methods for malaria control with the means currently available under different ecological conditions and at extrapolating the results to other parts of Nigeria and tropical Africa. Other projects that started in 1979 deal with: (1) species complexes of malaria vectors, their epidemiological importance, and their bionomics and ecology in relation to amenability to control; (2) spraying equipment, the formulation of insecticides to be used against larval and adult stages of mosquitoes, insecticide resistance, and the use of larvivorous fish; (3) the use of antimalaria drugs; and (4) the implementation of antimalaria operations with the active participation of the community.

9.36 WHO convened a meeting of donor countries in 1978 at which the status and requirements of global malaria control were considered. It subsequently continued discussions with bilateral agencies, from which it transpired that most potential donors would prefer a coordinated consortium type of assistance. This approach has been adopted in Nepal, Sri Lanka, Sudan, and Turkey.

9.37 Consultations continued with USAID on the development of the training programme for the Americas and Asia, with the possibility of a similar programme for Africa later. WHO participated in a workshop in Washington in connexion with the development of malaria control programmes for Africa.

Other parasitic diseases

9.38 In both tropical and subtropical countries parasitic diseases remain serious public health problems, with a depressingly high prevalence of the major protozoal and helminthic infections. Their impact on the economies of developing countries, too, is insufficiently appreciated. They have increasingly become recognized as complex syndromes, often not amenable to simple control measures because of their intimate association with human behaviour and the human environment. Many have complicated transmission cycles and some have animal reservoirs of infection. Continuing efforts for their control and increased research are needed.

Schistosomiasis

9.39 Consultant teams in an interregional project reported on health dangers in African man-made lakes and in the major water resources development projects in South America and South-East Asia, and comprehensive bibliographies of the risks associated with such projects
were produced. The aim is to elaborate and disseminate a methodology for the prevention of parasitic infections in water resources development schemes and to draw the attention of potential funding sources to the danger to health that they involve.

9.40 WHO was the executing agency for the originally UNDP-financed research project on the epidemiology and methodology of control of schistosomiasis in man-made lakes. This project, through the application of an integrated control strategy combining the identification of transmission sites with regular focal mollusciciding, annual selective chemotherapy for the infected population, continuous health education, and the installation of village water supplies, has made fundamental advances in the control of schistosomiasis in man-made lakes in Africa and produced a highly satisfactory reduction in the prevalence, incidence, and intensity of infection. In December 1978 the project was formally transferred to the Government of Ghana. The continuation of research has been secured by the support of the Special Programme for Research and Training in Tropical Diseases.

9.41 There was close and continuing collaboration between WHO and a pharmaceutical company in developing a new schistosomicide, praziquantel, which is effective orally against all three main species of schistosome infecting man and promises to be a fundamental step forward in population-based chemotherapy of these infections. The compound will be used in further jointly planned extensive field trials.1

9.42 Technical cooperation continued with Member States. In Brazil, assessment of the large national control programme launched in 1976 revealed good progress. In Egypt, assistance was provided in redesigning the strategy of control in the light of the epidemiological circumstances. In the Philippines, a regional committee was set up for research into S. japonicum infections and a compilation of internationally assisted land development projects was prepared; the Government is to include schistosomiasis control as an intrinsic component in all development schemes in endemic areas.

9.43 In the Eastern Mediterranean Region assistance was given in continued evaluation of the highly successful schistosomiasis control programme in Tunisia. Teaching was undertaken at the second postgraduate course in Teheran ending in 1978 for the master's degree in public health, the emphasis of the course being on malaria and parasitic diseases. Recently an ambitious project for a comprehensive approach to the prevention and control of water-associated diseases in irrigation systems was launched in the Sudan. The aim is to reduce malaria, schistosomiasis, and diarrhoeal diseases in the Gezira, Managil, and Rahad irrigated areas by the use of multiple integrated control techniques in which the emphasis is on environmental modification. Preliminary technical planning has been carried out and the first meeting of the scientific advisory group held.

9.44 In the African Region agreement was reached between the Federal Republic of Germany and the Regional Office for the provision of financial and technical cooperation in the Government of the Congo's schistosomiasis control project in the Niari valley in the area of Loubomo. WHO collaborated with the Government of the United Republic of Tanzania in finalizing the strategy of schistosomiasis control that

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it hopes to implement in Zanzibar through a primary health care approach.

9.45 In the Special Programme for Research and Training in Tropical Diseases (paragraphs 9.213–9.239 below) research activities continued through the mechanism of the Programme's scientific working groups and steering committees. Numerous research projects in the immunology, chemotherapy, and epidemiology of schistosomiasis were financed.

9.46 Close cooperation was maintained between WHO and the major national, international, and private agencies concerned with research on and the control of schistosomiasis.

9.47 For other snail-borne trematode infections, a task force met to identify research priorities and plan future control activities (Manila, 1979).

Filarial infections (including onchocerciasis)

9.48 WHO assisted Brazil in the planning and evaluation of the campaign to control Bancroftian filariasis by selective chemotherapy with diethylcarbamazine and in the planning of a strategy to contain the threatened spread of onchocerciasis in the Amazon and Orinoco river basins. Workshops on the taxonomy of simulids of medical importance were held in Brazil and Venezuela. A small simulid control trial was begun in Guyana.

9.49 In China material assistance was given to determine, by blood filtration techniques, whether previously conducted diethylcarbamazine campaigns have eliminated *Wuchereria bancrofti* in some counties. In Indonesia and Malaysia the outstanding problems of control of Brugian filariasis were investigated, especially in those areas where there are animal reservoirs.

9.50 The problems of keeping the incidence rates of Bancroftian filariasis low in many South-East Asian countries and Pacific islands through mass administration of diethylcarbamazine were explored and maintenance strategies using primary health care approaches were developed. WHO support was given to national epidemiological surveillance and vector control. A meeting of a research study group on Bancroftian filariasis of the South-East Asia and Western Pacific Regions (New Delhi, 1979) reviewed the epidemiological situation, identified research priorities and proposed ways of employing existing institutions or programmes for the conduct of research.

9.51 In Africa the problem of onchocerciasis and river blindness continues to predominate. Although the transmission of onchocerciasis can be controlled by the continuous use of larvicides against Simulium, the treatment of infected persons at high risk of blindness remains extremely difficult. Chemotherapeutic trials were organized in Ghana, Mali, Sudan, United Republic of Tanzania, and Upper Volta.

9.52 Assistance was given to Liberia, Nigeria, and Sudan in the control of onchocerciasis. In Sudan WHO helped the Government to finalize a plan for onchocerciasis research and control to begin in 1980. Work in relation to the onchocerciasis control programme in the Volta River basin continued (see paragraphs 9.54–9.61 below). A global research programme was begun, funded mainly by the Special Programme for Research and Training in Tropical Diseases. In the search for new drugs effective against the adult filarial worm, particularly *Onchocerca volvulus*, a network of laboratories was supported in Australia, the Federal Republic of Germany, Japan, the United Kingdom, and the United States.
of America, where some 2500 or more compounds can be screened for filaricidal activity each year.

9.53 Studies are being conducted in Malaysia, Mali, Nigeria, Samoa, Sri Lanka, Sudan, United Republic of Tanzania, and Upper Volta in which drugs already approved for human medicine are used in clinical trials against human filarial infection.

Onchocerciasis control programme

9.54 WHO's executive function in relation to the onchocerciasis control programme in the Volta River Basin area (West Africa) continued during 1978–1979, which represented the last two years of the first financial phase of that programme. Consequent on a decision of the Joint Coordinating Committee, operations were extended southwards in Ivory Coast and the programme area now covers 785 000 km². Concurrently, at the request of the governments, studies on further extension were undertaken south of the area, in Benin, Ghana, and Togo.

9.55 Encouraging results were recorded, with the vector, Simulium damnosum, being successfully controlled and transmission of the parasite, Onchocerca volvulus, drastically curtailed. In approximately 80% of the original territory the annual biting rate of the vector was below 1000 at the end of 1979, and the annual transmission potential below 100—levels corresponding to the criteria adopted in 1977 for the settlement of populations in the river valleys. The second round of epidemiological surveys revealed that there was not only a stabilization of the clinical situation, but also a recognizable decline in the number of new cases in the younger age groups, as well as indications of reduced intensity of infection.

9.56 The vector continues to be controlled by the aerial application of insecticide, using up to eight helicopters and two fixed-wing aircraft. In 1979 a new aerial spraying contract was signed for the period 1980–1982.

9.57 Research financed by the programme was carried out under contract with institutions and by consultants. Considerable progress was made in understanding the reinvasion phenomenon and in developing morphological characteristics to identify the different species of the S. damnosum complex. Trials of new insecticides continued in an endeavour to find an alternative to temephos. The aquatic monitoring programme was maintained, and data collected indicated minimal effect on the riverine invertebrate fauna and no change in river productivity.

9.58 The socioeconomic development of the area is the responsibility of each participating government, and at the 1979 Joint Coordinating Committee meeting each country presented its own progress report. WHO is emphasizing the public health component of all development activities. In order to obtain a better understanding of the socioeconomic effects and implications of onchocerciasis control, and also develop national expertise for undertaking studies, a programme of training and research was introduced.

9.59 In preparation for the second financial phase, 1980–1985, an evaluation report on the programme was prepared in 1978, the first part dealing with operations and costs and the second with the socioeconomic implications. The World Bank convened two meetings of potential donors (Paris, 1979) as a result of which financial support was pledged for the operations over the next six years, the estimated cost being approximately
US $106 million. New donors were Switzerland and the OPEC Special Fund; in addition, the participating governments agreed to increase significantly their monetary contribution to the programme.

9.60 New structures were approved for the second phase. The Joint Coordinating Committee will be replaced by a Joint Programme Committee, again composed of members from donor and participating countries and from sponsoring agencies. The Scientific and Technical Advisory Committee, the Ecological Panel, and the Economic Development Advisory Panel, which have advised regularly on relevant aspects of the programme, will be replaced by a 12-member Expert Advisory Committee. The latter will make a single report to the Joint Programme Committee, reviewing the operational, research, environmental, and economic development activities of the programme.

9.61 The Director-General of WHO in 1978 established an independent commission to advise on the long-term prospects of the programme. Under its terms of reference, this commission will be concerned with alternative appropriate technologies for control, the possible role of chemotherapy, the effects on present activities of extending the area of control, and the feasibility of controlling other vector-borne diseases under the programme. It will also determine the structures, national and international, that are required to ensure effective maintenance of the programme's achievements beyond 1985.

African trypanosomiasis

In the last two years the reported incidence of sleeping sickness has shown a steady increase. Several epidemic resurgences were also reported in Uganda and the United Republic of Cameroon, while the foci in Sudan are still active.

9.63 Several governments, notably members of the Organization for Coordination in the Control of Endemic Diseases in Central Africa, have again accorded high priority to trypanosomiasis control; the Congo Government has established a national programme that includes intercountry efforts for the control of endemic areas on its borders with Gabon and Zaire. WHO provided technical and material assistance to Mozambique and Uganda to alleviate immediate control needs.

9.64 During the period under review three new serodiagnostic tests emerged from laboratory research supported by WHO; they can provide results on the spot within one hour after blood sampling. Trials under field conditions are taking place in Ivory Coast, United Republic of Cameroon, and Zaire.

9.65 Simple means of vector control are being introduced. Traps and screens impregnated with insecticides are being tried out in West Africa as a means of reducing the contact between man and Glossina, although it is not anticipated that they will control the tsetse population completely. A third phase of large-scale insecticide spraying by helicopter was completed; this is an effective and ecologically justifiable technique for spraying riverine vegetation in the moist savanna. It is a relatively costly technique, for use only in emergencies when rapid interruption of the transmission cycle is required.

9.66 The extensive WHO-executed applied research programme in West Africa initiated with UNDP funds was transferred in 1978 to the Special Programme for Research and Training in Tropical Diseases, with additional funding support from voluntary contributions (paragraph 9.226 below). Training within this pro-
gramme has become increasingly important and WHO has cooperated with FAO and the OAU International Council for Trypanosomiasis Research and Control. Following a joint OAU/FAO/WHO seminar in Nairobi, a course on surveillance organized in Zaire was sponsored by the Special Programme, and in 1979 a course on tsetse ecology and control was held in Bobo-Dioulasso (Upper Volta). In addition some 20 individual research grants were made through the research-strengthening group of the Special Programme to visiting research workers and trainees from endemic countries.

9.67 Thirty research projects are being supported by the Special Programme as well as 12 under the WHO regular budget. Research, control, and training are carried out in close collaboration with OAU and FAO, the three organizations being represented in all the technical committees, including expert committees and the Special Programme’s scientific working groups and steering committees.

American trypanosomiasis

9.68 The Chagas’ disease programme carried out jointly with PAHO has been principally oriented towards coordinated data collection and standardization of research and control techniques. Through PAHO an exchange of health personnel involved in Chagas’ disease control took place between Bolivia, Ecuador, Paraguay, and Peru. An attempt at control of Chagas’ disease by improving traditional rural housing was made in Brazil with emphasis on sanitary education, and in Venezuela through the Chagas’ disease research centre in Maracay, operated collaboratively by WHO/PAHO and the Government.

9.69 In serodiagnostic standardization a significant step was taken with the establishment of two associated reference serum banks, one in Argentina and one in Brazil.

9.70 A workshop was held in Brasilia in 1979 under the aegis of the Special Programme for Research and Training in Tropical Diseases to standardize methods of epidemiological surveillance and clinical examination.

Leishmaniases

9.71 Recent outbreaks of kala-azar in India and Kenya reemphasize the importance of the leishmaniases. In most countries of the Eastern Mediterranean Region the infantile form of visceral leishmaniasis has again become a high-priority health problem, notably in Afghanistan, Iran, and Iraq.

9.72 A workshop was organized in Brasilia for the standardization of clinical trials and the treatment of mucocutaneous leishmaniasis in South America. In collaboration with the Gorgas Memorial Laboratory, Panama, PAHO/WHO began a programme in 1978 to produce and distribute antigens and reagents to national laboratories and give technical training to health workers in affected countries.

Gastrointestinal protozoal and helminthic infections

9.73 The international register of helminth species and strains, which is of great value to parasitologists in the maintenance of helminth cycles, was brought up to date. Consultant advice on chemotherapy and epidemiology was given to Member States requesting it and in relation to the Cape Verde helminthiasis control project. Assistance was given to the Rockefeller Foundation in the development of a programme strategy for research into helminthic infections of the gastrointestinal tract.
Bacterial and viral diseases

_Tuberculosis and other communicable diseases affecting the respiratory system_

9.74 About 3.5 million people develop tuberculosis each year; more than half a million die from it; and the estimated annual incidence of the pulmonary form in some areas is as high as 300–500 cases per 100,000 inhabitants. Although the risk of infection is generally on the decline, in some developing countries the decline, if any, is relatively slow.

9.75 For operational and economic reasons tuberculosis control must form part of primary health care. A control technology appropriate for this approach is now available, and WHO collaborated in the planning and implementation of integrated national tuberculosis control programmes (e.g., in Nepal, the Philippines, and the United Republic of Tanzania) and in programme evaluation (e.g., in Argentina, Cook Islands, Guam, Kiribati, Mexico, New Hebrides, Republic of Korea, Singapore, Solomon Islands, Trust Territory of the Pacific Islands, Tonga, Tuvalu, and Venezuela). Technical collaboration also continued with Afghanistan, Bangladesh, Brazil, Burma, Democratic Yemen, Pakistan, Papua New Guinea, Somalia, and Yemen. In the United Republic of Tanzania tuberculosis and leprosy control is provided jointly in one programme. The Regional Office for Africa invited representatives from 13 African countries to a consultation on integration, with emphasis on leprosy and tuberculosis services, in Monrovia in November 1979.

9.76 The training of national key workers in the epidemiology and control of tuberculosis was organized at the inter-

regional level in Tokyo. Regional training was provided at Buenos Aires and Caracas. In Washington, DC, at the third regional seminar on tuberculosis of the American Region, recent advances in the chemotherapy of tuberculosis and their practicability in national programmes were discussed. The present situation of tuberculosis control in the Caribbean was analysed at an intercountry seminar held in Trinidad and Tobago. National seminars and conferences on tuberculosis control were supported in Bolivia, Brazil, Colombia, India, Mexico, and Nepal. Several of these meetings were held in close collaboration with the International Union against Tuberculosis.

9.77 A textbook on tuberculosis case-finding and chemotherapy, in the form of questions and answers, was published as a commentary to the ninth report of the WHO Expert Committee on Tuberculosis. It will be available in English and French and is being translated into Chinese, Japanese, and Spanish. A manual on norms and procedures for integrated tuberculosis programmes in Latin American countries was published in Spanish by PAHO. The International Union against Tuberculosis technical guide to sputum examination for tuberculosis by direct microscopy as well as a PAHO/WHO teaching aid on the same subject have been given worldwide distribution through the regional offices.

9.78 In spite of the comprehensive research programme that has been carried out in the field of tuberculosis and its

1 Formerly Gilbert Islands.
control, there obviously are still substantial lacunae in our present knowledge. This was clearly borne out by the surprising, and so far not well understood, findings of the tuberculosis prevention trial in India in which WHO, with financial assistance by DANIDA, collaborated with the Indian Council of Medical Research. The project presented the findings of the first 7½ years of follow-up. The incidence of infection was high in the study population; the incidence of bacillary disease was higher among initial tuberculin reactors (especially among older persons) than among non-reactors (of which the majority were in the younger age groups); and the distribution of new cases of bacillary tuberculosis among those not infected at intake did not show any evidence of a protective effect of BCG vaccine. Great caution is needed in extrapolating the findings to other areas, even in India, and since infant tuberculosis was not observed in the trial the present results cannot be extrapolated to infants. Although prospective as well as retrospective studies appear to confirm that BCG provides a high level of protection from all forms of childhood tuberculosis, recent information on its effect in infancy is scarce and more research is needed, especially now that BCG vaccination has become a component of the Expanded Programme on Immunization. In this connexion, WHO continued to collaborate with Hong Kong and with the Medical Research Council, London, in a BCG vaccination trial in newborn infants.

9.79 Research on mycobacteriophages received support, since it may throw new light on the geographical distribution of tubercle bacilli of different levels of virulence and on the role exogenous reinfection plays in the development of infection as compared with endogenous reactivation of a former infection.

9.80 Because of the high prevalence of mycobacteria other than Mycobacterium tuberculosis in tropical and subtropical countries, tuberculin testing as a means of measuring infection rates lacks the usual precision in those countries where, in the absence of reliable statistics, this surveillance technique is most needed. In addition to continued efforts to isolate a more species-specific tuberculin preparation, it has been suggested that comparison of the tuberculin reactions before and after BCG vaccination of the entire survey population might provide a clearer separation of infected from non-infected individuals. This new approach is now being submitted to field testing.

9.81 The effectiveness and cost-benefit of different programme approaches to tuberculosis control in the community were studied in Romania with WHO support, while in Algeria case-finding and diagnostic techniques in rural areas were the subject of evaluation and the applicability of short-course chemotherapy is being studied in terms of overall programme effectiveness (cure rates). Similar studies were supported in Chile, Colombia, and Japan.

9.82 It is estimated that about 2.2 million deaths occur every year in the world from acute respiratory infections, mostly pneumonias. If all the reported causes of death are taken into account, pneumonia contributes about 5%, although there are considerable differences between and within continents, the percentages ranging between 13.6 and 3.3. For the child population alone respiratory infections may account for up to 26% of the mortality.1 The main

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COMMUNICABLE DISEASE PREVENTION AND CONTROL

task in this new programme area, which started in 1978, is to develop a simplified technology for the clinical management and prevention of such infections, and to find ways of applying it as a component of primary health care.¹

9.83 Technical and financial support was given to studies of the type, relative frequency, and distribution of acute respiratory diseases as well as to the development of simple (and standardized) decision trees for diagnosis and treatment. A general design was formulated for a development strategy for programmes that would allow countries themselves to devise management schemes appropriate to the existing health infrastructure and so operable by maternal and child health services and by the general health services as part of primary health care at village level. Programme development along these lines was begun in the United Republic of Tanzania, with the support of the Government of the Federal Republic of Germany.

9.84 A WHO scientific group on acute viral respiratory diseases met in 1979.² One of its recommendations was that the activities of national influenza centres should be extended to include other respiratory diseases. The way such centres would monitor the clinical management of acute respiratory cases in the community was the subject of a separate meeting. By the end of 1979 a programme on the application of virus and bacterial diagnosis to the evaluation and management schemes of acute respiratory disease in primary health care was launched.

9.85 Development of the new programme on respiratory infections was energetically pursued by the Western Pacific Region, with collaboration from the Australian Government. A task force proposed details for a regional programme (focusing to start with on Fiji, Papua New Guinea, and the Philippines), and a regional advisory panel was created for periodic technical review of the programme and monitoring of its implementation. Direct involvement of, and support by, the scientific community and national health authorities were among the aims. A research centre was established at Goroka (Papua New Guinea) to conduct clinical, immunological, epidemiological, and demographic investigations as well as to provide research and management training facilities. The problems of acute respiratory infections and of programme development were the subject of the Technical Discussions at the Regional Committee in 1979.

9.86 WHO maintained close collaboration with the International Union against Tuberculosis through its scientific committee on respiratory diseases. It also collaborated with the Communicable Disease Center, Atlanta, USA, in respect of legionnaires’ disease.

Leprosy

9.87 The Thirty-second World Health Assembly (resolution WHA32.39) called on Member States to allocate adequate resources for carrying out effective leprosy control programmes, and on WHO to develop further the research aspects of the Special Programme for Research and Training in Tropical Diseases. WHO is concentrating on (a) the cooperative development of effective leprosy programmes within national health programmes, (b) the training of adequate multidisciplinary personnel, and (c) increased research efforts under the Special Programme.

Collaborative research other than under the Special Programme is progressively developing into operational and epidemiological research and into technical cooperation, such as supplying lepromin to leprosy control programmes and materials for sulfonuria field testing.

According to the latest data there are probably not less than 4 million registered leprosy patients in the world and the estimated number of cases is 10.5 million. The only method of control available at present is secondary prevention by chemotherapy for known cases and surveillance of contacts. The effectiveness of chemotherapy in infectious cases has, however, been partly undermined by the emergence of sulfone resistance, the incidence of which probably varies in its seriousness in different parts of the world. Research is vital to solve the technical and operational problems posed by the present limited strategy of secondary prevention, particularly research to develop a vaccine for primary prevention and also potent therapeutic regimens based on a combination of drugs.

Regional leprosy advisory committees or working groups were established in the South-East Asia and Western Pacific Regions for the purpose of selecting areas for coordinated action that would be of benefit to the countries in those regions. Coordination meetings with voluntary agencies and associate members of the International Federation of Antileprosy Associations strengthened cooperation with governments in leprosy control services.

WHO revised and issued a guide to leprosy control in the form of a document particularly addressed to planners and programme managers, and this will appear as a nonserial publication in 1980.

A standard recording and reporting system was devised as a research project in collaboration with the Epidemiology Unit, Louvain University, Brussels. It is at present undergoing field testing in 11 countries. If found acceptable, this system could be in general use by 1981.

In Africa, consultants reviewed leprosy control programmes in nine countries. In 1978 and 1979, 23 nationals from 17 countries participated in courses on leprosy at the Dakar Institute of Applied Leprology and at the All Africa Leprosy and Rehabilitation Training Centre in Ethiopia. A consultation on integration, with emphasis on leprosy and tuberculosis services, was convened by the Regional Office and cosponsored by the International Union against Tuberculosis (Monrovia, November 1979). There were 18 participants from nine countries. The meeting provided a useful exchange of ideas on how to integrate specialized leprosy and tuberculosis activities into the general health services, including primary health care. The purpose of these courses and meetings was to train teachers for the integration of leprosy control into primary health care.

In the Americas a standing committee on leprosy control, coordinated by the Caribbean Epidemiology Centre, aims at making the best use of the resources available in the area. Similar committees were established in Central America and are being planned for other countries.

In South-East Asia an alternative approach to the treatment of multibacillary forms of leprosy was studied in the rifampicin trial in Burma. The first phase, in which lepromatous patients who have

\[1\text{Weekly Epidemiological Record, 3: 17-23 (1979).}\]
become noninfective by rifampicin treatment are identified, was completed.

9.96 A workshop on community involvement and participation in leprosy control, jointly sponsored by the Government of Nepal, WHO, and the Sasakawa Memorial Health Foundation, took place in Kathmandu (October 1979). There were 30 participants and observers from 22 countries. The workshop provided much useful information on the role the community should play in leprosy control.

9.97 In the Western Pacific Region WHO sponsored a sociological study in Papua New Guinea on community behaviour with regard to leprosy. A second training course on leprosy took place in Suva (April 1979), with 21 participants from seven countries. Also in Fiji, a national seminar on leprosy control and management of leprosy patients was sponsored by WHO, at which there were 13 participants.

9.98 For research in leprosy by the Special Programme for Research and Training in Tropical Diseases, see paragraph 9.229 below.

Other acute bacterial diseases

9.99 Diphtheria, pertussis, tetanus. Technical cooperation with countries and collaborative research on specific problems in relation to the Expanded Programme on Immunization continued in 1979, with the aim of improving the efficacy of existing vaccines and developing new ones. Of particular importance was a coordinated research project to develop a protective fraction of pertussis antigen with low toxic properties.

9.100 An international cooperative study on the immunological effectiveness and safety of tetanus prophylaxis in emergency cases, which started in 1977, is being carried out with the participation of six laboratories in different parts of the world.

9.101 Streptococcal infections. Vaccines against Streptococcus pneumoniae infections are available, but their serotype content is based on prevalence studies in only a few countries, the distribution of serotypes not yet having been established for most countries. In 1979 WHO initiated an international cooperative study on the typing of S. pneumoniae. WHO collaborating centres were established at the State Serum Institute, Copenhagen, and at the University of Pennsylvania (United States of America). Twelve laboratories in different countries were designated for participation in the study in 1979.

9.102 WHO continued to coordinate the work carried out by the WHO collaborating centre in Prague for reference and research on streptococci, with the participation of laboratories in different parts of the world.

9.103 Cerebrospinal meningitis. Several serious epidemic outbreaks affected numerous countries in 1978–1979, particularly in Africa. WHO provided these countries with technical and material assistance. Applied research was started by WHO with a view to putting simplified methods of diagnosis at the disposal of health services that would permit rapid and early identification of meningitis. This should lead to specific prevention and immunization.

9.104 A workshop on these problems was held in Africa in 1978, and an international conference sponsored by WHO in 1979 studied the problem of developing effective vaccines for those meningococcal serogroups against which existing vaccines are still powerless, as well as for other pathogenic agents such as Haemophilus
influenzae and S. pneumoniae that are responsible for meningitis, particularly in children.

9.105 Plague. An informal consultation on plague surveillance and control was held in Geneva in 1979. The meeting emphasized the need (a) to increase the manpower in developing countries by providing training for plague workers at all levels, (b) to establish fully equipped and fully staffed regional laboratories, and (c) to strengthen the laboratory and epidemiological capabilities in countries where a specific endemic or epidemic situation is causing serious problems. In 1979 preliminary steps were taken to establish regional collaborating centres in Africa and the Western Pacific and to organize interregional and regional training courses.

9.106 Cholera. Consultant services, supplies, and equipment were provided for countries experiencing epidemics of cholera. Eight new countries were infected with cholera during 1978 and two more in 1979, but the total number of cases in the world remained much the same.

9.107 Sexually transmitted diseases. WHO, in collaboration with nongovernmental and national organizations, continued to promote awareness of the importance of these diseases and their complications and of the need for appropriate control measures. Besides disseminating information on the present state of knowledge, it organized training courses at regional and national level to train the participants to apply effective standardized control methods, not only medical but also socioeconomic, integrated into all levels of the public health structure.

9.108 Research on the most serious individual and socioeconomic consequence of sexually transmitted diseases—acute pelvic complications, one of the main causes of infertility—was carried out in several regions, encouraged and financed in part by WHO. Operational research based on a simplified methodology within the primary health care framework was also carried out, particularly in Africa. The first results were highly encouraging and there is ground for hope that effective standardized control can be developed. This new approach was supplemented by research on the feasibility of a social approach to control in rural areas and on the reliability and sensitivity of simplified diagnostic methods accessible to even the least sophisticated laboratory.

9.109 Effective treatment remains the basis of successful control. Worldwide surveillance of the sensitivity of the pathogenic agents to antibiotics was stepped up with a view to helping health authorities choose effective standardized methods of treatment.

9.110 Endemic treponematosis. The Thirty-first World Health Assembly drew attention to the resurgence of endemic treponematosis, in particular yaws and to their seriousness especially in children, of whom 10% are affected in certain countries. An expanded intercountry control programme for the populations at risk in affected areas, particularly in Africa, began in 1979 with a cooperative study by interested countries to determine the extent of the problem and develop an appropriate methodology to interrupt transmission on the basis of the experience gained in previous mass treatment campaigns. Thus programmes could be integrated into other public health programmes aimed at the same target populations, as part, for example, of the Expanded Programme on Immunization.

9.111 For sexually transmitted viral and chlamydial diseases, see paragraphs 9.123 and 9.124 below.
Viral, chlamydial, rickettsial, and related diseases

Influenza. Influenza A strain of the H1N1 subtype reappeared in 1977 after having been virtually absent for over 20 years. It spread all over the world, causing in general mild illness in the age groups below 25 years. During 1978 a minor antigenic drift was observed and the new variant, A/Brazil/1/78 (H1N1), had to be considered for inclusion in the vaccines. An unusual feature of the 1977/78 season was the concomitant circulation of H1N1 and H3N2 subtypes of influenza A in many countries, occasionally even in one and the same local outbreak. The H3N2 subtypes, A/Texas/1/77 and A/Victoria/3/75, were found in all age groups and were associated with more severe disease and excess mortality than the H1N1 subtypes. During the influenza season 1978/79 a similar pattern evolved, with influenza A (H1N1) predominating, although in many instances H3N2 strains were also found. During 1979 the A/Brazil/11/78 virus also spread to Australia, China, and the USSR. H1N1 strains that seemed to differ from both the A/USSR/90/77 and the A/Brazil/11/78 were isolated. At the end of the season increased activity of influenza B was noted. This virus was frequently associated with more severe disease than usual in older age groups, and some fatal cases were reported.

The reappearance of the H1N1 antigenic subtype of influenza A virus stimulated further research on the virus. This in turn led to a better understanding of the differences among the influenza A viruses. Use was made of this knowledge in revising the nomenclature of influenza A. A joint meeting of WHO and the Communicable Disease Center, Atlanta, USA, was held in 1978 proposed a system grouping of the viruses, whether human or animal, into 11 groups; this was published in the Bulletin of the World Health Organization.

Viral respiratory diseases other than influenza. A WHO scientific group on acute viral respiratory diseases met in 1979 and is described in paragraph 9.84 above.

Viral hepatitis. Recent progress in laboratory diagnosis has provided a better understanding of the epidemiology of hepatitis and opened up the possibility of vaccination against hepatitis B and possibly hepatitis A. Other hepatitis viruses have recently been identified.

A WHO collaborative serological study demonstrated the high prevalence of hepatitis B in the developing world and the great variations among communities. The same sera are at present being tested for hepatitis A.

A network of WHO-recognized national centres for viral hepatitis was set up.

The Regional Office for the Eastern Mediterranean sponsored two workshops on hepatitis, that in 1979 introducing rapid diagnostic techniques

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to the participants; to secure the necessary reagents the participants were trained to prepare them. The Regional Office for South-East Asia is sponsoring a collaborative study (with Burma) on the vertical transmission of hepatitis. An informal consultation was held in Geneva in 1979 to discuss progress in the field of hepatitis and evaluate its application to control measures.

9.120 **Poliomyelitis.** A programme of laboratory support for the surveillance of poliomyelitis was started in 1978. A guide to poliovirus isolation and serological techniques was produced in 1979.\(^1\)

9.121 The rapid progress in molecular chemistry has opened the way to relatively simple but efficient methods for the intratypic differentiation of wild and vaccine strains of the polioviruses and such methods promise to provide accurate means of investigating individual cases and outbreaks. A WHO collaborative study of these techniques was begun in 1979.

9.122 **Diarrhoeal diseases.** Two collaborative studies on the determination of the role of viruses in the etiology of diarrhoeal diseases were carried on during the period, in collaboration with laboratories in 14 countries. The preliminary results are now being evaluated. (See also paragraphs 9.140–9.144 below.)

9.123 **Sexually transmitted viral and chlamydial diseases.** A collaborative study on sexually transmitted chlamydial infection was begun in 1979. The first phase will elucidate the public health importance of these infections in the developing world.

9.124 Collaborative studies on cytomegalovirus have shown that half to two-thirds of the adult female population of developed countries have been exposed to this virus. In other areas the rate may approach 100%, and in them the infection rate in infancy varies from over 40% to 70%, to reach in some areas 95%. A further collaborative study on fetal infection has shown that the presence of maternal antibody to cytomegalovirus does not protect the fetus from infection.

9.125 **Yellow fever.** Outbreaks of yellow fever (mainly jungle yellow fever) were reported from both the African and American continents during 1978 and 1979. In the American continent, increasing infestation in urban areas by the vector, *Aedes aegypti*, increases the risk of the reappearance of urban yellow fever. The strengthening of programmes by reinforced vaccination and vector control and the improving of surveillance measures are priorities in both regions.

9.126 **Dengue and dengue haemorrhagic fever.** Dengue viral infections now constitute major public health problems in South-East Asia, the Western Pacific, and tropical America. Dengue virus type 1, which was not found in the American Region until 1977, spread during 1978 and 1979 from the Caribbean area to Central America and Mexico. Dengue virus type 4 was for the first time found in the Western Pacific Region in 1978, associated with outbreaks in China, and in 1979 appeared in French Polynesia.

9.127 The three regions mainly concerned and the Eastern Mediterranean Region were represented on a technical advisory committee that met in Manila in 1978 and revised the technical guide for the diagnosis and treatment of dengue haemorrhagic fever. The WHO collabo-

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rating centre for research on its immunopathology continued its investigations on the immunological mechanisms and on the development of a vaccine. A research study group (New Delhi, 1978 and 1979) evaluated the prospects for a vaccine and prepared a protocol for a centre and for multidisciplinary studies on the epidemiology of dengue haemorrhagic fever.

9.128 Japanese encephalitis. This disease, which has been known in the Western Pacific Region for many years, caused concern for the first time in the South-East Asia Region, extensive outbreaks occurring in India and Nepal during the second half of 1978. The disease later spread to Burma, Thailand, and Viet Nam.

9.129 During the outbreaks in India the Regional Office was involved in building up national facilities for the production and quality control of vaccine. An interregional meeting in 1979 reviewed the situation, which differed somewhat from the classical picture in the Western Pacific Region, the much lower incidence rate making systematic vaccination of the population unrealistic. Guidelines for the development of national control programmes and a technical guide on Japanese encephalitis were prepared at the meeting.

9.130 Rift Valley fever. Until recently endemic in Africa south of Sahara, it spread in early 1977 to the southern part of Egypt, and caused severe outbreaks among human and animal populations of the north-eastern parts of the Nile delta in 1977 and again in 1978. The Regional Office played an important role in containment operations and epidemiological investigation of the outbreaks.

9.131 Rickettsial diseases. Reagents were distributed and laboratory proficiency testing programmes conducted in national laboratories in South and Central America. To increase the availability of reagents for diagnosis and control, a fourth WHO collaborating centre for rickettsial reference and research was established in 1979 in the Center for Disease Control, Atlanta (United States of America).

9.132 Diseases restricted to circumscribed geographical areas. Some viral infections may lead to severe haemorrhagic fevers with high mortality rates. Because of a specific animal reservoir the diseases have a limited geographical spread. In some, however, man-to-man transmission increases the possibility of spread outside their natural geographical limits. Two such outbreaks of haemorrhagic fever with high fatality rates occurred in Iraq and in Sudan, and in 1979 WHO was requested to coordinate the containment operations and the epidemiological investigations.

9.133 The outbreak in Sudan, which occurred in the same areas as the Ebola virus outbreak in 1976, again proved to be associated with this virus. Experience had shown the vital importance of strict isolation of the cases and the use of protective clothing and barrier nursing to prevent nosocomial spread, which in 1976 had been the main cause for the severity of the outbreak. After intensive case-finding and careful history-taking, 33 cases were ascribed to the outbreak, of which 22 were fatal. In Iraq, seven cases of haemorrhagic fever occurred during October 1979, of which five were fatal. Only the first three reported cases were related. Congo virus was isolated from one of the cases.

9.134 Two WHO consultations about emergencies of this type took place in Moscow in 1979. The aim of one was to prepare a manual of clinical and laboratory diagnosis and public health measures; of the other to produce a simple guide for
the investigation and control of epidemics, meant to give developing countries self-reliance in outbreaks of communicable disease.

9.135 Rapid laboratory techniques. WHO has played a leading role in the development of rapid, simplified, and accurate laboratory diagnostic methods that do not require sophisticated laboratory equipment or highly specialized technicians. It has promoted collaborative studies for the preparation of reagents, evaluation of the techniques, and training courses in their use, in cooperation with the European and Pan American groups for rapid laboratory viral diagnosis. Studies for the standardization and quality control of the reagents used were started.

9.136 Two workshops on selected techniques were organized, one in Stockholm and the other in Cairo.

9.137 Reagents programme. Reagents produced by the WHO collaborating centres were supplied to laboratories in 37 countries. In a special project a stock of basic good-quality antigens for the most common acute and other viral diseases was distributed to 21 laboratories, mainly in the developing countries, for diagnostic and epidemiological investigations or for the calibration of locally produced reagents.

9.138 Exchange of information. During 1978 and 1979 the network of participating laboratories in the WHO virus reporting system was expanded, resulting in a 50% increase of data received in the system in 1978 as compared with 1977. Increased participation of laboratories in the developing countries was encouraged.

9.139 In 1979, an expanded and revised world list of virus laboratories was distributed to the 600 or more laboratories providing information for the list, and to others on request.

Diarrhoeal diseases

9.140 High priority was accorded by the Thirty-first World Health Assembly (resolution WHA31.44) to the development of an expanded programme for control of the acute diarrhoeal diseases, which constitute a major public health problem in children of the developing world. A global technical advisory group was established and met in May 1978. Following a review of the extent of the problem and of recent advances in knowledge, it helped formulate strategies for immediate implementation and identify areas for further research. Regional meetings and consultations took place in the six regions, to begin the formulation of national and regional programmes.

9.141 In 1978 and 1979 about 35 countries prepared plans for national programmes and some 20 others expressed interest. While oral rehydration supported by dietetic management is the basis of treatment, WHO also promoted action on other critical aspects of child care; environmental health measures for prevention of the diseases; and surveillance to evaluate programmes and help in the early detection and control of epidemics. Technical and managerial training materials were developed to assist in the training of national health workers.

9.142 At the UNICEF/WHO Joint Committee on Health Policy (January 1979) UNICEF pledged full support for national programmes at the country level as an

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integral component of primary health care. UNICEF collaborated with the programme by providing oral rehydration salts and supporting local production.¹

9.143 Research was supported by UNDP and the World Bank, and global scientific working groups were set up to review knowledge and set research priorities in relation to immunology and vaccine development,² epidemiology, clinical management, child care, and environmental health. Regional study groups were established in five of the six regions to identify regional research priorities and research workers and institutions. The number of WHO collaborating centres for diarrhoeal disease research was increased. A management scheme for the execution of the research programme was also developed. (See also paragraph 9.122 above.)

9.144 WHO continued its collaboration with the International Centre for Diarrhoeal Disease Research, Bangladesh (formerly the Cholera Research Laboratory, Dacca).

Prevention of blindness

9.145 The WHO programme for the prevention of blindness, established on 1 January 1978, is a development of earlier WHO activities. It was recognized as a priority programme for technical cooperation and its main emphasis is on the promotion of national programmes. Its long-term objectives are (1) to reduce national blindness rates to less than 0.5%, with no more than 1.0% in individual communities, and (2) to introduce adequate eye care in underserved communities and promote eye health. It is estimated³ that there are 28 million blind in the world, of whom 21 million are now in developing, 5.5 million in intermediate, and 1.6 million in developed countries.

9.146 A 12-member global programme advisory group was established in 1978 and met again in 1979. Four task force meetings were convened during this period —on strategic planning, on data on blindness, on the training of auxiliary personnel in eye care, and on methods of assessment of avoidable blindness. Regional meetings were held in the Regional Offices for the Americas, South-East Asia, the Eastern Mediterranean, and the Western Pacific, to outline regional strategies and promote the formulation of national programmes.

9.147 A network of WHO collaborating centres for the prevention of blindness is being established in all regions. In two of these—Baltimore (United States of America) and London—new centres or departments were established within existing academic institutions and will offer formal multidisciplinary training in epidemiological and preventive ophthalmology.

9.148 Close collaboration and coordination with nongovernmental organizations active in this or in related fields were developed, notably with the International Agency for the Prevention of Blindness, the International Federation of Ophthalmological Societies, the International Organization against Trachoma, the International Union of Nutritional Sciences, and the World Council for the Welfare of the Blind. The first of these organizations has established or recognized 56 national committees for the prevention of blindness. A number of bilateral and multilateral agreements were reached in support of

national programmes, with or without direct WHO participation. Regional policies and strategies were formulated in four of the six WHO regions, and in five of them national programmes are being developed with the active cooperation of WHO. National programmes were formulated in 11 countries and are in operation in eight. Advisory services were provided by WHO to 12 countries in 1978 and to 14 in 1979.

9.149 A basic work of reference for the development of national programmes and a guide for the control of xerophthalmia were published. Sets of five colour slides with explanatory notes for the diagnosis of trachoma were prepared and distributed. A total revision of the guide for the control of trachoma was begun.

9.150 The contribution made to the Voluntary Fund for Health Promotion by the Japan Shipbuilding Industry Foundation (Sasakawa Memorial Health Foundation) for the prevention of blindness (US$200,000 in 1978) made it possible, among other global activities, to hold a working group and to support national programmes in South-East Asia and the Western Pacific.

Veterinary public health

9.151 The WHO Expert Committee on Parasitic Zoonoses which met in Geneva in 1978 reviewed the socioeconomic aspects and factors influencing their prevalence and recommended measures for surveillance, prevention, control, and elimination. It dealt in detail with toxoplasmosis, echinococcosis, cysticercosis, schistosomiasis, trichinellosis, and larva migrans. A WHO informal consultation on mycotic zoonoses that met in Tel Aviv in 1979 discussed their prevalence and surveillance, prevention, and control. There was also an expert consultation (Warsaw, 1978) on the surveillance, prevention, and control of cysticercosis/taeniasis and echinococcosis/hydatidosis.

Zoonoses centres

9.152 Through its headquarters and field staff, including the Pan American Foot-and-Mouth Disease Center in Rio de Janeiro and the Pan American Zoonoses Center in Buenos Aires, PAHO cooperated with the national authorities and institutions of several countries in planning new control and prevention programmes for zoonoses and exotic diseases, conducting applied research on vaccines and diagnostic procedures, and training staff in various fields of veterinary public health and animal health. Several countries, with close technical cooperation from the Zoonoses Center, carried out control programmes for brucellosis, bovine tuberculosis, hydatidosis, leptospirosis, and rabies. Studies using mathematical models were conducted during 1978 and 1979 to evaluate various strategies for controlling animal diseases and to determine the economic loss caused by brucellosis, bovine tuberculosis, hydatidosis, and tick infestation. Extensive field trials carried out by the Foot-and-Mouth Disease Center showed that oil adjuvant vaccines against foot-and-mouth disease considerably reduce programme costs and increase the immunity of young animals. The Zoonoses Center also performed experiments with an easy-to-prepare economical rabies vaccine produced in tissue culture.
The Mediterranean zoonoses control programme, the principal centre of which is in Athens, began on 1 February 1979. Five countries—Bulgaria, Egypt, Greece, the Libyan Arab Jamahiriya, and Turkey—participate, but other countries on the Mediterranean have shown interest and have already collaborated with the centre in some specific fields.

Cooperative efforts with OAU resulted in plans for at least two zoonoses centres for east and west Africa. They were endorsed by the meeting of the OAU Council of Ministers and the Economic Commission for Africa (Nairobi, 1979).

In 1979 WHO convened two meetings, one in New Delhi for countries in South-East Asia and the other in Istanbul for countries participating or showing interest in joining the Mediterranean zoonoses control programme. At these meetings planning procedures, the selection of suitable methods for the control of zoonoses and foodborne diseases, and the execution and evaluation of national projects were reviewed in detail.

Surveillance of foodborne diseases

An international surveillance programme of foodborne infections and intoxications to aid national control programmes was started in the European Region. A meeting of representatives of countries in Europe was held (Geneva, April 1979) to discuss implementation of the programme. A manual for food inspectors was developed by WHO in collaboration with FAO.

An FAO/WHO working group met in Geneva in 1979 and amended draft general principles for the establishment of microbiological criteria for foods. It decided not to recommend microbiological criteria for raw meat and poultry or for raw foods in general as they were not considered to be of any significance for the protection of human health.

The work carried out jointly with FAO on an international code of principles for ante-mortem and post-mortem judgement of slaughter animals and meat continued and a draft was finalized by a group of experts in 1979. The document will be submitted to the Codex committee on meat hygiene and if approved will be passed to the Codex Alimentarius Commission for final endorsement.

In addition to the existing WHO collaborating centre on food virology at the Food Research Institute, Madison, Wisconsin (United States of America), a second centre was established at the Veterinary Research Institute, Brno (Czechoslovakia). The centres collect, evaluate, and make available data on the characteristics of viruses.

Contribution of veterinary public health to primary health care

Consultations held by WHO with the participation of FAO (Moscow, July 1979) reviewed the role of veterinarians in public health, the importance of their activities for national primary health care programmes, and ways and means of strengthening their contribution.

Training in prevention and control of zoonoses and foodborne diseases

Teaching of these subjects at undergraduate and postgraduate level was reviewed at a WHO interregional seminar on manpower development in veterinary public health (New Delhi, 1978). It recommended substantial strengthening of both the medical and the veterinary curriculum.
The same recommendation was made at the fourth meeting of the FAO/WHO expert consultation on veterinary education (Uppsala, Sweden, 1978).

9.162 Coordination of international postgraduate training courses in food microbiology for students from developing countries resulted in integration of the activities of the four training centres in Europe participating in this programme. The present trend is to run the courses in developing countries. Thus a WHO intercountry workshop on advanced microbiological methods in food hygiene was held in India in 1979.

9.163 The Pan American Foot-and-Mouth Disease Center and the Pan American Zoonoses Center offered a wide range of workshops, courses, and seminars with the participation of hundreds of professionals from all countries in the Americas.1

Comparative medicine

9.164 Two WHO consultations (Geneva, 1978 and 1979) reviewed naturally-occurring tumours in large animals (mostly canine) as models for cancer in man and the histological diagnosis, prognosis, and clinical staging of animal tumours in relation to neoplasia in man. The consultations also formulated plans for collaborative clinical trials on the treatment of canine osteosarcoma and mammary carcinoma and coordination of the results, and prepared staging forms (27 in number) for the most important animal tumours of interest in comparative medicine.

9.165 Under the WHO project for the creation of an international histological classification of tumours of domestic animals,2 study sets of Part II of the classification were prepared and distributed to more than 350 institutions throughout the world through the WHO collaborating centre for worldwide reference on comparative oncology, Washington.

9.166 Through the network of WHO collaborating centres for defined laboratory animals, Member States in the past two years received more than 1,000 breeding nuclei of various strains and stocks of defined laboratory animals for the establishment of their own animal colonies. Research work on the development of new animal models is constantly being undertaken and new strains of animals were added to the earlier stocks. The cryobiological technique introduced in the centres permits the establishment of frozen embryo banks of mice strains and thus the storage of standard strains for many years without change in their genetically stable condition. The centres held consultations and conducted training programmes in laboratory animal medicine and husbandry for personnel from many different countries. A WHO consultation on laboratory animal medicine (Carshalton, United Kingdom, 1978) reviewed collaborative work and planned the future development of the programme, in respect especially of technical cooperation with developing countries.

9.167 PAHO cooperated with Brazil, Colombia, and Peru in their programmes to breed the American nonhuman primates most used in biomedical research. The Peruvian primate centre at Iquitos now has four large monkey shelters.

9.168 Many new strains of mycoplasma and virus isolated from animals were characterized and new reference strains and standard sera prepared within the framework of the FAO/WHO programmes on comparative mycoplasmology and comparative virology. In Freiburg

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1 See also Chapter 12, paragraph 12.113.
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(Federal Republic of Germany) the board of the programme on comparative mycoplasmology in 1978 discussed recent developments and accepted new reagents prepared by the working teams of the programme and WHO in consultation with the WHO collaborating centre for comparative mycoplasmology in Aarhus (Denmark).

9.169 At a WHO/FAO consultation on comparative virology (Rome, 1979) the programme was revised and strengthened by the establishment of a new organizational structure and priorities with more practical targets. An inventory of reference reagents prepared within the programme was drawn up and a repository for the reagents established at the WHO collaborating centre for veterinary public health in Brno (Czechoslovakia).

9.170 Collaboration in the WHO expanded programme on the study of the ecology of influenza in animals now covers approximately 90 laboratories in different parts of the world. Many different species of animals, including domestic and wild birds, were examined. From them, and especially from birds, many influenza A viruses with new combinations of H and N antigens were isolated and characterized. Among these viruses were strains resembling different variants of the current Hong Kong subtype (H3N2) from pigs and birds, showing that human influenza viruses continue to circulate in nature. Influenza viruses were isolated from the water in lakes inhabited by wild ducks, from which the same viruses were also isolated. Data from China and from Hong Kong show that chickens possessed antibodies against H1N1 influenza virus even before the epidemic caused by this virus began in 1977. H1N1 virus may thus circulate among poultry in China in the interval before human epidemics.

9.171 Past and future developments of the programme were discussed and the data updated by WHO workshops (Bethesda, United States of America, 1978).\(^1\)

Vector biology and control

9.172 A complete reorientation of WHO's approach to vector biology and control is taking place, with emphasis on the problems of tropical rural areas and on the need to involve communities in their own protection. The objective is to develop regional and national self-reliance by strengthening training facilities, improving information, and cooperating with national administrations in the planning of sound vector control programmes within the basic health services.

Ecology and chemical control

9.173 Vector resistance. The situation has deteriorated further with the development of resistance to malathion by Anopheles stephensi in Iran and A. arabiensis in Sudan and to DDT by A. minimus in northern Thailand. Resistance mechanisms that reduce the effectiveness of fenitrothion usually do the same with malathion. However, a population of A. sacharovi in Turkey is resistant to fenitrothion and some other organophosphorus compounds but not to malathion. In this irrigated area the pressure of agricultural insecticides has given rise to fenitrothion resistance without so far materially reducing susceptibility to malathion; this indicates the need for close surveillance of the use of agricultural pesticides in areas of endemic vectorborne disease. Malathion and fenitrothion are among the few compounds that have been recommended for malaria control, and resistance to them can only

\(^1\) Journal of Infectious Diseases, 138: 110-113 (1978).
result in deterioration in the chemical control of important anopheline vectors.

9.174 Testing and evaluation of new insecticides. The number of new insecticides submitted for testing and evaluation by industry and other sources remains small, most being pyrethroids. However, there was increased activity during the biennium in the evaluation of new formulations and methods of application of pesticides already in use, in cooperation with industry and collaborating centres, in the Ivory Coast, the United Kingdom, the United States of America, and Upper Volta, and in WHO field research units in Indonesia and Nigeria.

9.175 Testing and evaluation of equipment for pesticides. The WHO equipment development and testing programme was expanded to include laboratory testing in four international collaborating centres and field testing in a number of national programmes. Some 55 laboratory and field tests were carried out in 1978 and 1979, many indicating the need for manufacturers to improve their equipment.

9.176 Vectors of malaria. Studies on the ecology of Anopheles aconitus and its control were continued by WHO in Indonesia. In the Syrian Arab Republic, and Turkey the national authorities, with WHO collaboration, carried out ultra-low-volume applications of insecticides against malaria vectors in important foci and assisted in conducting field trials using newer insecticides. WHO also collaborated with national authorities in vector control planning and evaluation in Algeria, Haiti, Solomon Islands, Sudan, and Turkey.

9.177 Vectors of filariasis. Studies continued on filariasis transmission in Java and the outer islands of Indonesia, particularly on the ecology of the vectors of Brugian filariasis and the dynamics of transmission. Field trials of five new and improved formulations of insect growth regulators for the control of Culex pipiens quinquefasciatus were completed and gave satisfactory control for 8-35 days after treatment.

9.178 Vectors of yellow fever and dengue haemorrhagic fever. In Nigeria studies were completed on the ecology and control of the sylvatic vectors of yellow fever and the urban vector Aedes aegypti. Methods for both the ground and the aerial application of insecticides for control during epidemics are now available. In Indonesia large-scale studies were started on the control of the larvae of A. aegypti using methoprene briquettes in drinking-water.

9.179 Vectors of Japanese encephalitis. In view of the recent outbreak of Japanese encephalitis in India, assistance was provided for an interregional meeting held in New Delhi.

9.180 Vectors of onchocerciasis. WHO cooperated with Guinea, Guinea-Bissau, Mali, Nigeria, and Senegal and, in cooperation with DANIDA, with the United Republic of Tanzania in the planning of onchocerciasis control campaigns. It participated in an evaluation mission in Guatemala and Mexico. Priority was given to the development of new larvicides for controlling onchocerciasis vectors in the onchocerciasis control programme areas.

9.181 Vectors of trypanosomiasis. Assistance was given to the Special Programme for Research and Training in Tropical Diseases in the planning of the aerial application of insecticides to a sleeping sickness focus in the Ivory Coast.

9.182 New methods of ultra-low-volume application of insecticides against riverine tsetse flies were developed in the
Ivory Coast and Upper Volta. Close cooperation was maintained with outside groups carrying out feasibility studies on the genetic control of Glossina. Special emphasis was also placed on the development of simple control methods against the tsetse fly that could be used by rural communities for their own protection in sleeping sickness endemic areas.

9.183 WHO participated in the evaluation of a research project on the release of sterilized males of Glossina palpalis gambiensis in the Upper Volta.

9.184 Rodent and plague control. The Rodent Control Demonstration Unit in Rangoon continued its studies on the control of rodents in Burma. Two new anticoagulant rodenticides were found to be effective at such low dosages that their use is likely to be economical and highly effective. Plans were begun for a large-scale field trial to determine the most effective methods of rodent control in various areas of Rangoon.

9.185 At the request of Indonesia, studies were carried out on potential rodent reservoirs of plague, the control of rodent fleas, and rodent reservoirs of scrub typhus on the outer islands.

9.186 Schistosomiasis. WHO collaborated in the planning of studies of the distribution and control of the snail intermediate hosts of schistosomiasis in several countries or areas, including Congo, Morocco, and the United Republic of Tanzania (Zanzibar). Training brochures for the identification of the snail host in West Africa were prepared. Research was also supported on the screening of new potential molluscicides, including those of natural origin.

9.187 Pesticide production, formulation, and safe use. A meeting of the directors of collaborating centres endorsed the re-orientation of the scheme for testing and evaluating new pesticides to bring it into line with industrial developments and to adapt it to the needs of Member States. The same theme was developed more specifically at a meeting of experts with representatives of industry to stimulate research on formulations for blackfly control in the onchocerciasis control programme. At its third meeting in 1978 the WHO Expert Committee on Vector Biology and Control advised on the safe use of pesticides newly developed for public health use.¹

9.188 The problem of hazardous concentrations of toxic impurities in malathion water-dispersible powder formulations is being faced by vector control authorities in many tropical countries. WHO collaborated with countries in arranging the testing of field samples and in providing guidance on the safe use or disposal of affected formulations.

9.189 To assist Member States in ordering pesticides for public health use, a new edition of the specifications manual ² was published in 1979. A new mechanism for the distribution of interim specifications was devised to ensure that all those needing them, particularly in developing countries, will receive them.

9.190 A feasibility study on the provision of a central consultative service on pesticides (and later on toxic substances) for countries and territories in the South Pacific area showed that this may be a pattern of organization that could encourage harmonization of pesticide control.

9.191 A training course on the safe use of pesticides was developed that is

adaptable to varying levels of health workers, including basic health workers, and to national requirements. Full versions of the course were prepared for Egypt and Nigeria.

Biological control

9.192 Some entomopathogenic strains of bacteria, fungi, and microsporidia have shown promise in laboratory trials of being useful for the control of vectors. Data sheets were prepared on them for wide distribution. Collaborative laboratory studies on the efficacy of these agents and on their safety for mammals and non-target organisms were intensified in both developed and developing countries and in WHO research units. Small circumscribed field trials started. Large-scale trials await the completion of safety tests.

9.193 The use of larvivorous fish in the control of malaria was investigated in Somalia. Two local species, Tilapia zilli and Nothobranchius palmquisti, were identified and a small-scale trial on Tilapia zilli was started in a man-made reservoir in a semi-desert area of Somalia.

9.194 A travelling seminar on the use of larvivorous fish for mosquito control in antimalaria campaigns was held in Bulgaria and the USSR. Recent developments in biological control and the taxonomy, ecology, biology, and use on a global basis of larvivorous fish were reviewed. Field visits enabled the participants to see for themselves the effectiveness of this method of malaria control in certain situations.

Vector genetics and genetic control

9.195 One of the major difficulties in research on the genetic control of mosquitoes has been the sexing of mosquitoes at an early stage to avoid the liberation of females. A genetic sexing technique using a sex-linked propoxur resistance gene was successfully developed. When the larvae are dipped into a solution of this insecticide, susceptible females are killed but resistant males survive.

Environmental control

9.196 The frequent increase in vector-borne diseases in irrigated areas needs to be borne in mind in water resources projects and measures for their prevention and control need to be envisaged. A memorandum of understanding was signed between WHO and FAO on collaboration in the prevention and control of water-borne and associated diseases in agricultural water development activities in December 1977/January 1978. A seminar held in Alexandria and Sudan in 1978 reviewed these problems in irrigated areas.

9.197 The first meeting of the Expert Committee on Environmental Management for Vector Control was held in November 1979. As a result, a manual on environmental management for vector control with special emphasis on malaria vectors is being prepared.

Vector control in international health

9.198 The use of the propellant chlorofluoroalkanes in aerosols for the disinsecting of aircraft has been criticized because of the possible depletion of ozone at high altitudes. A WHO collaborating centre carried out tests on aerosols based on propellants other than chlorofluoroalkanes and on waterbased formulations. These techniques are being further perfected.

Training and dissemination of information

9.199 In collaboration with national authorities and the Special Programme for Research and Training in Tropical
Diseases, a special effort was made to organize and support a series of MSc courses in medical entomology and vector control in three WHO Regions (Africa, the Americas, and South-East Asia), and steps are being taken to do the same in a fourth, the Eastern Mediterranean Region. Training courses supported by grants from the Governments of Denmark and the Federal Republic of Germany were organized in Iraq, Ivory Coast, and Liberia on rodent biology and control, urban mosquito control, and the aerial application of insecticides against tsetse flies. Training brochures on vector biology and control were produced and the preparation of slide sets for use in regional and national training courses began.

9.200 The Regional Office for the Eastern Mediterranean established a regional training centre for malaria and vector biology and control, in collaboration with the Government of Iraq.

9.201 The Western Pacific Regional Office provided training in control for health inspectors and related staff from American Samoa, the Cook Islands, French Polynesia, Malaysia, Niue, the Philippines, the Republic of Korea, and Samoa. National training courses were held in the Republic of Korea and in-service training during field activities was provided for Malaysia, the Philippines, and a number of South Pacific countries or areas.

Expanded Programme on Immunization

9.202 In 1978 the Thirty-first World Health Assembly emphasized the importance of immunization as a component of health programmes such as maternal and child health and primary health care (resolution WHA31.53). In the same year the Declaration of Alma-Ata named immunization against the major infectious diseases as one of the eight elements necessary to provide health care to the world’s population by the end of the century.

9.203 The number of countries and territories that have indicated their commitment to the Expanded Programme on Immunization rose from 35 in 1977 to 99 in 1979, representing more than 95% of the neonates in the developing world. These 99 countries are collaborating with WHO in reviewing their immunization coverage and formulating plans that will provide for the rational expansion of existing services or the development of new services. Problems common to most countries include lack of planning and management skills and absence of data on which to base programme strategies and evaluate progress.

Planning, training, and information systems


9.205 Planning and management training was given in 1979 to 872 national and international staff from more than 100 countries. Stress was placed on such health management concepts as the setting of priorities and objectives, performance supervision, evaluation, and community participation. In the critical area of cold-chain management a series of visual aids were provided, including slide sets, posters, and simple publicity material.

9.206 Between 50% and 70% of countries report the number of cases of one or more of the Expanded Programme’s target diseases, and reports on immunizations are received from less than 30%.
Initiatives were therefore undertaken to improve reporting systems.

9.207 Progress was recorded in the establishment of a system, developed jointly with UNICEF, for projecting future vaccine requirements and in the distribution through UNICEF of product information sheets which supply performance and cost data on commonly used equipment. Newsletters on the programme were begun. Abstracts of scientific articles relevant to immunization are being prepared in English by the Center for Disease Control, Atlanta, USA, and in French and English by the International Children's Centre, Paris; they are mailed to 500 persons involved in the programme.

Research and development

9.208 Improving the cold chain. All the WHO regions are now involved in improving cold-chain management and equipment. The approaches being employed are (1) to test the available equipment in independent laboratories and publish the results, (2) to encourage manufacturers to improve current equipment to meet the needs of developing countries, and (3) to stimulate the production of equipment in developing countries themselves. The results of a major testing of all the items of cold-chain equipment were circulated to those responsible for their purchase. A special vaccine refrigerator designed to operate reliably with intermittent electricity supplies was produced commercially. In six developing countries items of cold-chain equipment are being manufactured that were previously produced in the industrialized countries only.

9.209 Vaccines. WHO-sponsored research supported by UNDP has led to the commercial production of a more stable measles vaccine. Work was carried out to improve the stability of both live poliomyelitis vaccine and the pertussis component of diphtheria/pertussis/tetanus vaccine. Increase of potency is of special importance for vaccines requiring more than one dose, and one of the major research efforts during the period was directed towards increasing the potency of pertussis vaccine and reducing the incidence of adverse reactions.

9.210 Regional meetings in Africa and South-East Asia were held to discuss the quality control of vaccines, their production, and their distribution on an inter-country basis. With UNDP support, 66 national laboratory staff were trained in various aspects of vaccine quality control. The rationalization of future production and distribution has been a joint concern of WHO and UNICEF and resulted in a projection of the vaccine requirements for developing countries for the coming five-year period and the development of a system to monitor the quality of the vaccines provided from all sources. The establishment of a PAHO revolving fund for the purchase of vaccines assured countries in the Americas of supplies of approved vaccines.

Outside support

9.211 The emphasis during the period was on cooperation in the planning and development of national programmes, and the question of direct country programme support was therefore of lesser priority. UNICEF continued to be the major contributor to the programme's activities and extension.

9.212 Training activities during the period would not have been possible without the continuous support received from DANIDA and the Center for Disease Control, Atlanta (United States of America). Work on vaccines was sup-
ported by UNDP, which also provided support for development of the programme in Africa. In addition to donations of vaccines from Finland, the Netherlands, the USSR, and the United Kingdom, major support in programme development was received from Canada, the Netherlands, Sweden, and the United Kingdom, and from the Japan Shipbuilding Industry Foundation.

**Special Programme for Research and Training in Tropical Diseases**

9.213 Substantial progress was made in the development of new and improved methods for the better control of selected tropical diseases; and significant steps were taken to strengthen the research capability of the countries affected. From the inception of the programme to 31 December 1979, 602 grants were awarded for research projects (see Figure 9.2) and 202 grants for training and the strengthening of institutions, in a total of 66 countries. Out of this total, 532 new projects were funded during the biennium. In addition, many earlier projects are continuing. These figures indicate the rapid rate of development of the programme; more significant than a numerical analysis, however, is the steady progress in technical activities over a broad front.

**Figure 9.2 Research and development projects, 1975-1979**

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9.215 *Malaria.* In cooperation with the Walter Reed Army Institute of Research (Washington, DC), mefloquine is now undergoing clinical trials in Brazil, similar trials are starting in Thailand and Zambia, and further experimental studies are being undertaken by the Institute and collaborators in the pharmaceutical industry. Progress is being made

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1 See also paragraphs 9.21–9.72 and 9.87–9.97 above.
in the complex task of developing a vaccine or vaccines against malaria. Research ranges from identification of the antigens on parasites and cell membranes to trials of potential vaccines in animal models. Advances have been made in test systems for the detection of circulating antigens, and the remarkable new technique for the production of monoclonal antibodies is being exploited in an effort to isolate particular antigens and assess their role in the induction of immunity.

9.216 In the field of basic biology, continuous in vitro cultivation of erythrocytic forms of Plasmodium falciparum is increasingly being used as a system for drug susceptibility testing and the screening of potential antimalarial drugs, as a source of antigen for immunological studies, and as an essential complement of in vivo studies in animal models. In vitro culture systems of both erythrocytic and exoerythrocytic forms of malaria parasites have been improved. Good progress was made in the isolation of different stages of the parasite from infected erythrocytes and of free parasites, an essential prerequisite for immunological studies. Studies on membrane structure and function, carbohydrate metabolism, and protein synthesis have produced valuable leads for further immunological and chemotherapeutic research.

9.217 A major project on the epidemiology and control of malaria in various ecological strata in West Africa continued to provide data that can be directly translated into malaria control strategies in corresponding ecological strata in tropical Africa.

9.218 The resistance of P. falciparum to the 4-aminopyrimidines presents a serious and urgent problem in malaria control. A global programme for the assessment and monitoring of drug susceptibility is now being implemented. The Special Programme organized training courses on the in vitro technique for detecting drug resistance and a contract was awarded for the production of test kits. A new micro-technique, recently developed outside the Special Programme, has now been shown to offer several advantages.

9.219 Schistosomiasis. The pharmaceutical industry continued to show interest in the development of schistosomicidal drugs and the Special Programme maintained its support for this development effort, especially by clinical evaluation of the new agents. Biochemical studies of the schistosome resulted in a number of interesting findings. The mode of action of various drugs and their metabolic pathways are being elucidated; it now appears that the effectiveness of some, but not all, antischistosomal drugs is dependent upon the immune response of the host.

9.220 A workshop on the population epidemiology of Schistosoma japonicum was held in the Philippines. Studies began on the metabolism of Biomphalaria snails, carriers of S. mansoni, on their chemoreceptive mechanisms, and on differences between strains that are highly susceptible and those refractory to miracidial infection.

9.221 Filariasis. Clinical research included quantitative assessment of the Mazzotti reaction and means to alleviate it, investigation of the adverse effects of diethylcarbamazine treatment on posterior segment eye lesions in onchocerciasis, an assessment of reactions to transepidermal diethylcarbamazine lotions, attempts to reduce the reactions to the death of microfilariae in the cornea, and trials of metrifonate, amodiaquine, furazolidone, and nitrofurantoin. The causes of low-grade persistent microfilaraemia after treatment of Wuchereria bancrofti infection with diethylcarbamazine are being investigated.
9.222 In the search for new filaricides more than 970 compounds were screened at primary level, and a secondary *Onchocerca* screen in cattle was developed. Mebendazole and flubendazole appear to be promising leads; these compounds may be macrofilaridical and embryostatic, especially if preceded by levamisole.

9.223 Investigations started into the causes and prevention of inflammatory reactions to the death of microfilariae in animal models and in man. Efforts are being made to develop *in vitro* and *in vivo* culture systems, especially as a source of parasite antigens.

9.224 *African trypanosomiasis.* Drug screening facilities are being developed in Kenya. Work continued at other centres on small rodent models. The blocking effect of salicylhydroxamic acid and glycerol is being further investigated.

9.225 A standard protocol is being developed for autopsies, with particular reference to neuropathological examinations, for use in the clinical network that is being established in the endemic areas. More intensive studies on the antigenic repertoire were carried out on isolates obtained from various sites.

9.226 A major field research project in West Africa, initiated by WHO before the Special Programme was established, was later transferred to it. Among the important advances are confirmation of an animal reservoir of *Trypanosoma brucei gambiense*, field trials of a new and promising card flocculation test, a new technique for detecting low levels of parasitaemia, and practical information about the effects of aerial spraying of insecticides in control of the tsetse fly.

9.227 *American trypanosomiasis.* Preliminary results have been obtained on some biochemical features of *Trypanosoma cruzi* which may yield useful leads for the development of new drugs. Work is in progress on the standardization of immunodiagnostic tests, including the establishment of serum reference banks. Other immunological studies concern various aspects of immune protection and immune pathology.

9.228 *Leishmaniasis.* A modest drug development programme has begun and a protocol for the treatment of mucocutaneous leishmaniasis was drawn up at a workshop in 1979. Epidemiological studies were initiated in several countries, and some studies were supported on the phlebotomine sandflies. Studies are in progress on experimental immunization and the mechanisms of host resistance, and on certain leishmanial antigens. These are necessary steps towards the development of vaccines and improved serodiagnostic tests.

9.229 *Leprosy.* The Scientific Working Group on the Immunology of Leprosy has been in operation for over four years. Over 300 armadillos have now been inoculated and will provide large quantities of leprosy bacilli. In the past year a new technique for the purification of leprosy bacilli was developed; it provides a high yield of bacilli of a high degree of purity and the damage during the extraction process is minimal. In animal studies killed *Mycobacterium leprae*, without adjuvant, were found capable of inducing delayed hypersensitivity and of conferring some protection against infection. Serodiagnostic tests, including fluorescent antibody and radioimmunoassay tests, are being developed.

9.230 Clinical trials of combinations of drugs were begun in India and West Africa. The standardized protocol included the detection of residual bacilli using
immunosuppressed rodents. Thirteen drug development projects are currently under way, including the synthesis, screening, and study of modes of action of antileprotic compounds.

9.231 **Other scientific working groups.** Significant results have been noted by the Scientific Working Group on Biological Control of Vectors. Perhaps the most exciting development was the promising results obtained with certain entomopathogenic bacilli, in particular *Bacillus thuringiensis* serotype H-14.

9.232 The Scientific Working Group on Epidemiology attempts to identify and understand the genetic and environmental factors that determine the prevalence and severity of the six diseases mentioned above, with the aim of providing a rational basis for measures to improve control. This approach involves a wide range of disciplines, e.g., clinical medicine, laboratory sciences, pathology, statistics, behavioural sciences, and economics. The major project at present is a long-term epidemiological study based in Zambia.

9.233 The aim of the Biomedical Sciences Scientific Working Group is to promote fundamental research on the diseases of interest to the Special Programme and on their pathogens, and so to develop new approaches to methods of diagnosis, therapy, prevention, and control. Workshops were held on membrane pathobiology and cultivation technology. Courses on hybridoma technology with applicability to parasitic diseases were planned, as well as a course on micromethods applicable to research on tropical diseases.

9.234 The importance of social and economic research in achieving the Special Programme's objectives has repeatedly been emphasized. Priority projects in this area were concerned with malaria control and engineering control in schistosomiasis and malaria transmission. A workshop was held on methodologies for the study of human/water contact. A working group met to identify priorities before a meeting of the Scientific Working Group towards the end of 1979.

**Strengthening of research capability**

9.235 The Research Strengthening Group developed further the area of the Special Programme aimed at strengthening the research capability of the countries concerned. The main features are support to selected institutions in tropical endemic countries and training for scientists from those countries. All the activities are being developed in close collaboration with national authorities and in the context of national needs and resources. During the past year, 59 research fellowships were awarded, 5 re-entry grants were given, and 19 institutions received support ranging from a single capital grant to long-term support for periods up to 3 years.

9.236 A meeting of the representatives of some of the institutions receiving long-term support took place to lay the foundations for institutional self-evaluation. There are already some tangible signs of success. For example, as a result of the courses on continuous *in vitro* culture of *P. falciparum*, a number of scientists in developing countries have now established this technique in their own laboratories and have demonstrated their ability to teach it to others. One of them has made remarkable progress in his attempt to culture other plasmodial species.

9.237 One feature of the Special Programme in 1979 was the fruitful interaction between the Research Strengthening Group and the scientific working groups. There have been many examples of research grants providing useful training oppor-
opportunities for scientists and technicians from developing countries, and group training in a working environment, visiting scientists' grants, and institutional grants enhanced the opportunities for research, particularly for epidemiological analysis, clinical and field trials, and such studies as can best be conducted in the endemic areas (see also Chapter 12, paragraph 12.116).

**Management, administration, and finance**

9.238 The management mechanisms for the Special Programme have been established and implemented. Scientific, technical, and management activities now involve hundreds of scientists and administrators from over 70 countries. The rapid expansion of the Special Programme's scientific and technical operations was accompanied by strengthening of the information system and the associated financial control mechanisms. Communications with the scientific community and the public sector were improved and expanded.

9.239 The increase in programme operations was accompanied by an almost threefold increase in obligations between 1977 and 1978—from US$ 6.6 million to US$ 17.3 million—and exceeded US$ 21 million in 1979. Contributions between 1977 and 1978 increased by only 9%, from US$ 10.3 million to US$ 11.2 million. During 1979, however, they increased substantially to about US$ 23 million. However, the total funds available to the Programme will not reach the budgetary levels approved for 1980 or that proposed for 1981. Such a shortfall, along with the fall in purchasing power, will entail a significant decrease in scientific and technical operations in 1980 and 1981 unless additional funds become available (see Figure 9.3).

**Figure 9.3 Comparison of contributions and financial obligations, 1974-1979**

![Graph showing comparison of contributions and financial obligations from 1974 to 1979.]
Chapter 10

Noncommunicable Disease
Prevention and Control

Cancer

10.1 IN JANUARY 1978 the Executive Board (resolution EB61.R29) endorsed the report of its Ad Hoc Committee on WHO's Activities in the Field of Cancer, which recommended *inter alia* that the cancer programme at WHO headquarters and the programme of the International Agency for Research on Cancer (IARC) should retain their separate identities but should be better coordinated as regards current activities and planning for the future; and that a coordinating committee should be set up to this end, which would deal with high-level policy issues, draw up and evaluate the overall programme, and study problems of overlapping.

10.2 The Director-General's Coordinating Committee on Cancer, bringing together representatives of WHO, IARC, and the International Union against Cancer (UICC), met three times during the biennium and considered *(a)* a situation analysis on cancer, carried out in 1978 by a WHO/IARC team in Sri Lanka and Thailand, in conjunction with the Regional Office for South-East Asia, and in Iraq, Kuwait and Sudan in conjunction with the Regional Office for the Eastern Mediterranean; *(b)* the formulation by an IARC/UICC/WHO group (January 1979) of guidelines for national cancer control activities and research, which could be used by countries in formulating their policies; and *(c)* a simulation exercise in such policy formulation, carried out in Sri Lanka (September 1979) by a team of national, IARC, UICC and WHO representatives. This approach could lead to a common strategy for cancer control that can be adopted by developing countries, and permit effective interaction between WHO headquarters and regional offices, IARC, and UICC.

10.3 At the XII International Cancer Congress of the International Union Against Cancer (Buenos Aires, 1978), WHO and IARC took an active part, presenting their activities and exhibiting their publications.

Histological classification of tumours

10.4 The programme for the International Histological Classification of Tumours (supported by the United States National Cancer Institute) published three numbers of the Classification, dealing with tumours of the upper respiratory tract;¹ liver, biliary tract and pancreas;²


and central nervous system. A compendium linking the histological classification with the coding system of the International Classification of Diseases for Oncology (ICD-O) was also published. A meeting was held in December 1978 to evaluate the utilization of the histological classification of breast tumours, which was published in 1968, and make recommendations for its updating. Work continued on the definition of precancerous lesions at various sites.

Evaluation of methods of diagnosis and treatment

The WHO collaborating centres for the evaluation of methods of diagnosis and treatment of tumours continued their reappraisal of diagnostic and therapeutic measures. Meetings in 1978-1979 were held on prostate cancer (Stockholm), bladder cancer (Cairo), colorectal cancer (Glasgow), and stomach cancer (Tokyo). The centres dealing with ovarian and gastric cancers published several bibliographies.

Standardization of reporting

Evaluation of the effectiveness of therapy is often hampered by the lack of standardization in reporting results of treatment. WHO has promoted a unified approach in this area by bringing together experts to develop an acceptable reporting system. A meeting on the subject was held in Brussels in 1979 (the follow-up to a meeting in 1977); and a handbook for reporting results of cancer treatment was published in the same year.

Also with a view to promoting uniformity in the collection and recording of data, WHO and IARC, in collaboration with the International Association of Cancer Registries, issued a publication on registration techniques that should improve comparability of data at both national and international level.

Traditional medicine

The resources and potential of traditional medicine for cancer control were the object of a WHO consultation (November 1978). Particular attention was given to the possible use as anti-tumour agents of certain plants used by practitioners of traditional medicine, and to the perspective this offers for developing countries increasingly to undertake basic and clinical research on this matter.

Strengthening of national cancer control

In the African Region the strengthening of cancer control activities at country level was facilitated by three sub-regional centres. A preliminary evaluation of hospital-based cancer registries was carried out in Kenya, Uganda, the United Republic of Cameroon, and the United Republic of Tanzania. Research in collaboration with IARC, UNEP and FAO was carried out in Uganda on Burkitt’s lymphoma and on a possible relationship between malaria and the Epstein-Barr virus; and in Swaziland on cancer of the liver and aflatoxin.
Eighteen countries in the Region of the Americas are participating in a system for collecting and disseminating information on cancer research, and during the period under review nine cancer centres in Latin America were paired with centres in North America in studies of common interest. A national course on hospital-based cancer registration was held in Costa Rica.

In the South-East Asia Region, more than thirty pathologists from seven countries took part in a seminar designed to improve the level of histopathological diagnosis of tumours and promote uniformity in reporting data (Bangkok, November 1979). The Regional Office advised on cancer registration in Bangladesh; on the formulation of national cancer control programmes in Indonesia and Sri Lanka; and on cancer control, including prevention, in Thailand.

In the European Region a working group (The Hague, December 1978) examined the present state of postgraduate training in oncology and analysed models for such training. Its report included a summary of training facilities in cancer in Europe. A IARC/WHO study group (Copenhagen, December 1979) discussed the uniform evaluation of a number of long-term screening programmes for cancer of the uterine cervix.

In the Eastern Mediterranean Region, the recognition that cancer must be dealt with in the framework of the national health care system has led to several requests for WHO cooperation in epidemiology, early detection programmes, and cancer registration. The Regional Advisory Panel on Cancer met twice (Teheran, March 1978; and Karachi, March 1979).

A WHO team met with national counterparts in Iraq, Kuwait and Sudan (March 1978) to study measures for strengthening cancer control at country level. WHO also sponsored a seminar on urinary bladder cancer at the National Cancer Institute, Cairo (December 1978) and a seminar on cancer pathology—also in Cairo in the same month—in which pathologists from 10 countries of the Region took part. A similar type of seminar was held in December 1979.

In the Western Pacific Region the cancer registries in Fiji and Papua New Guinea were evaluated as potential focal points for the development of national control programmes. A national workshop on hospital-based cancer registries was held (Seoul, October 1978). Emphasis was also given to the advantages of organizing tumour boards in major hospitals to supervise the management of cancer patients. In 1979 WHO and IARC staff members visited China to discuss technical cooperation, and three institutes in that country were chosen to serve as WHO collaborating centres for cancers of the nasopharynx, the oesophagus and the liver. A study group on chronic liver diseases, including cancer, was established in Singapore, with the cooperation of WHO and IARC. A working group on comprehensive cancer control (Manila, October 1979) discussed strategies for control programmes, including information systems, early detection projects, and health education in cancer.

International Agency for Research on Cancer

IARC carried out its own research programme into many aspects of cancer causation, while at the same time coordinating the work of national institu-

tions under a series of research agreements. The research included studies in descriptive and analytical epidemiology, and the investigation of chemical carcinogenesis and tumour-associated antigens. The training programme (see paragraphs 10.37-10.39 below) is integrated with the research activities. Sweden became a Participating State of IARC in 1979.

10.17 Directories of current research in cancer epidemiology were again published, jointly with the Cancer Research Centre, Heidelberg, Federal Republic of Germany, in 1978 and 1979,1,2 the latter volume containing 1092 entries reported from 67 countries indexed by key-word, tumour site, epidemiological method used, country, and incriminated chemical in the case of exposure studies.

10.18 Work continued on Volume IV of Cancer Incidence in Five Continents, covering the period 1973–1977 and including data from over 80 populations.

Hazards of man-made mineral fibres

10.19 The programme on health hazards associated with the man-made mineral fibres industry continued satisfactorily, despite the absence of cancer registration in many countries and, in some, the difficulty of linking death certificates with factory records of exposure. The study was extended to users of such fibres, particularly in the building industry in Sweden. A related study continued in central Turkey, where a high but extremely localized incidence of mesothelioma appears to be related to the presence of a naturally-occurring mineral. A meeting (organized jointly with the Institut national de la Santé et de la Recherche médicale, France, and the pneumoconiosis unit of the British Medical Research Council) reviewed research on the biological effects of man-made mineral fibres. The physics and chemistry of dust, comparative and human pathology, clinical and radiological diagnostics, and particularly epidemiology, were considered in relation to both man-made mineral fibres and asbestos.

Alcohol consumption and cancer

10.20 The relationship between consumption of various types of alcoholic beverage and a variety of diseases—notably cancer, cirrhosis of the liver, and coronary heart disease—was investigated. In studies in Brittany and Normandy (France), a dose/effect response was clearly shown for oesophageal cancer in relation to various beverages consumed (expressed as grams of ethanol) and to a lesser degree for tobacco consumption, the two agents acting synergistically.

10.21 A cohort study of Danish brewery workers showed excessive mortality from cancers of the oesophagus and pharynx, but also from cirrhosis of the liver, gastroduodenal ulcers, and road traffic accidents.

10.22 The relationship between cancer of the larynx and alcohol consumption, tobacco-smoking, diet, and certain industrial exposures was studied in France, Italy, and Spain—countries where mortality from this type of cancer has been rising over the past 20 years.

10.23 The possible role of alcohol consumption and diet in cancer of the rectum was studied in Belgium, in view of the difference in risk observed between the north and south of the country.

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10.24 The presence of carcinogenic chemicals in alcoholic beverages from several sources continued to be examined by analysis of fractional distillates, combined with mutagenicity testing and animal experiment. Although data from Normandy would seem to indicate that apple cider distillates are more carcinogenic than other beverages, the quantity of ethanol consumed, irrespective of source, is still the best risk indicator.

Cancer of the large bowel

10.25 Cancer of the large bowel is now the second most frequent cancer for both sexes in several industrial countries and is increasing in parts of Asia, where it has hitherto been rare. There is general agreement that diet may be responsible, though probably indirectly. Since the presence of a cancer may influence dietary habits, various aspects of digestive tract physiology were investigated in healthy subjects in rural Finland and urban Denmark, two areas where the risk of cancer of the large bowel has increased four-fold. The results obtained so far tend to favour the hypothesis that the ingestion of dietary fibre protects against this cancer. These findings may reflect other differences in life style specific to the Nordic countries; similar investigations will therefore be carried out in countries with a wide range of incidence of cancer of the large bowel but with contrasting backgrounds, e.g., France and Colombia.

Cancer of the liver

10.26 The association between chronic persistent infection by hepatitis-B virus and primary cancer of the liver has been demonstrated in several serological case-control studies. It is being examined further in a prevalence study of hepatitis-B viral surface antigens in fixed liver tissue from patients with cancer of the liver, cirrhosis, or miscellaneous liver diseases in 16 countries. Preliminary findings confirm the results of the serological studies.

10.27 A cohort study of carriers of these viral surface antigens was initiated in the Chinese population of Singapore, its object being to determine the risk of developing liver cancer among carriers of the antigens and compare it with the risk among non-carriers. A prevalence survey of antigenic serological markers of hepatitis-B virus infection was planned in three regions of Swaziland, where previous IARC studies had demonstrated an increasing risk of liver cancer associated with the degree of aflatoxin exposure. A study was also begun, in collaboration with UNEP and FAO, with a view to developing measures for decreasing aflatoxin contamination in these areas.

Burkitt’s lymphoma

10.28 The study on Burkitt’s lymphoma in children of the West Nile district of Uganda showed that infection with the Epstein-Barr virus played a causal role. But clearly other factors must be involved. In collaboration with the malaria action programme at headquarters, the Agency is therefore studying the effect of elimination of malaria on the incidence of Burkitt’s lymphoma in an area of the United Republic of Tanzania.

Nasopharyngeal carcinoma

10.29 Study of the sera of nasopharyngeal carcinoma patients showed the presence of a specific immunoglobulin, IgA, related antigenically to the Epstein-Barr virus. Elevated IgA levels were also found in patients suffering from bronchial carcinoma.
Tumour-associated antigens

10.30 The Agency continued to distribute the international standard for alpha-fetoprotein. In studies in six laboratories, the activity of the international unit was found to be equivalent to 1.21 ng of alpha-fetoprotein.

10.31 In collaboration with the National Institute for Biological Standards and Control, London, a reference material was prepared for the assay of beta-15-specific-pregnancy-glycoprotein, the level of which is increased in the blood of patients with hydatidiform mole or choriocarcinoma. Three collaborative studies are under way to compare the antigens associated with carcinoma of the lung, the ovary and the breast.

Chemical carcinogens

10.32 Five international working groups met in Lyons during 1978-1979 to evaluate published data covering 103 chemicals. Their proceedings resulted in volumes 19-23 of the IARC Monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Humans, volumes 19 and 20 of which were published,1 while volumes 21, 22 and 23 (dealing respectively with natural and synthetic sex hormones; cyclamates and saccharin; and some metals) were in press at the end of 1979. A working group reviewed the monographs published in volumes 1-20 of this series, and listed 36 chemicals or industrial processes for which there was evidence of an association with cancer in man, and a further 118 chemicals suggested by the data from animal experiments to present carcinogenic risk for man.

10.33 Studies were carried out in collaboration with a number of national laboratories on the in vitro and in vivo interaction between carcinogens and biologically significant molecules, especially DNA, with a view to increasing knowledge on the problems of extrapolating from the results of animal experimentation to man.

10.34 Efforts were continued to improve the efficiency of screening tests for putative carcinogens, such as mutagenicity and other short-term assays using both bacterial and mammalian cells.

10.35 Collaborative analytical studies were established with 22 laboratories in 10 countries, to improve methods for the determination of nitrosamines in foods and beverages. The methods were applied to the analysis of alcoholic beverages in studies on oesophageal cancer in France; and the samples were tested in parallel for their mutagenicity.

10.36 The first three volumes on selected analytical methods for environmental carcinogens were published, covering volatile nitrosamines, vinyl chloride, and the polycyclic aromatic hydrocarbons.2 Volumes have also been prepared on laboratory disposal of carcinogens, and the problems of safety in the handling of carcinogens in the laboratory.

Training

10.37 The demand for training in cancer epidemiology continued to be met by the award of one-year fellowships and

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by short courses for selected specialists. Such courses, lasting 2–4 weeks and attended by an average of 40 participants, were held at the Agency’s headquarters and also in Brussels, Sydney and Beijing (Peking), the latter in collaboration with the Regional Office for the Western Pacific.

10.48 In the fellowships programme, preference was given to applicants working on environmental carcinogenesis. Of the 25 fellowships awarded during the biennium, eight were for training in cancer epidemiology.

10.49 Scientists from 10 countries were trained in the Agency’s laboratory in 1978–1979.

Cardiovascular diseases

10.40 In 1978, a long-term programme in cardiovascular diseases—involving headquarters and all regional offices—was formulated. As a first step in its implementation, work began under the medium-term programme for 1978–1983, whose principal objective is to develop and test methods that will enable public health authorities to establish programmes for the prevention and control of cardiovascular diseases as an integral part of existing health services.

10.41 A plan of action for primary (primordial) prevention of cardiovascular diseases in developing countries with the aim of preventing the development of risk factors was discussed by a meeting of investigators, to which representatives of other organizations in the United Nations system were invited (Geneva, December 1978).

10.42 Regular meetings were also held of the principal investigators in the pilot programmes on comprehensive community control of cardiovascular diseases. These pilot areas cover more than 7 million inhabitants in 23 countries, 11 of them developing countries. A preliminary analysis of the results obtained shows that it is possible by the community approach to decrease the various risk factors and favourably influence the incidence of certain cardiovascular diseases, specifically stroke.

10.43 At the request of the respective governments, visits were made to 10 African countries to identify institutes and persons who could assist in developing national programmes in cardiovascular diseases.

10.44 At the World Congress of Cardiology (Tokyo, September 1978) a special symposium was held on WHO activities in this field. Similar symposia were held during the last two European Congresses of Cardiology, and at the Asian-Pacific Congress of Cardiology (Bangkok, November 1979).

Hypertension

10.45 The Expert Committee on Arterial Hypertension, meeting in Geneva in March 1978, recommended that national public health authorities should give prompt attention to this disease, which affects at least 8% of the adult population in most countries. The Committee’s report 2 outlined the present state of knowledge of hypertension, and the means for assessing its gravity and for treating patients; made suggestions for a community approach to prevention and control in countries with different types of health care systems; and recommended appropriate research.

1 See also Chapter 12, paragraph 12.117.

In collaboration with several members of the Expert Committee, a manual on the control of hypertension was prepared that should help health personnel at the community level to deal with the problems encountered in daily practice.

The WHO project on the control of hypertension in the community, which covers 30,000 patients in 23 population areas (15 of them in developing countries), was evaluated in 1979 in certain of the centres, the final assessment being planned for 1980. In addition a large therapeutic trial on the control of mild hypertension was completed jointly with the International Society of Hypertension; the resulting data were considered at a meeting of the liaison committee (Japan, September 1978).

A meeting of Member States of the European Region (Copenhagen, October 1979) established policies for healthcare-related research on hypertension in that Region (see also Chapter 4, paragraph 4.30).

The theme of the World Health Day in 1978 was “Down with high blood pressure”. In collaboration with the International Society and Federation of Cardiology (ISFC) an extensive information programme was launched, which in many countries was instrumental in promoting long-term programmes for control of hypertension at community level.

The programme for the prevention and control of rheumatic fever and rheumatic heart disease focuses principally on the populations of the developing world. A WHO project in 20 countries of Africa, Latin America, South-East Asia and the Western Pacific has demonstrated over the past few years the importance of the community approach. Strategies for expanding pilot projects to nationwide preventive and control programmes were defined at an interregional meeting (New Delhi, November 1979).

Ischaemic heart disease

In 1978–1979 there was a sudden, but not unexpected, demand for a reliable system to monitor the incidence of ischaemic heart disease, the main reason being a reported steep decline in mortality from this cause in the United States of America and to a lesser extent in Australia, New Zealand, and some other countries. In the absence of relevant data, it is impossible to explain these trends. Registers of acute myocardial infarction were examined, and a new monitoring system is being designed: a group of consultants (Geneva, September 1979) prepared a plan of operations for the study and the draft protocol was discussed at a preliminary meeting of investigators in December 1979.

The trial on primary prevention of ischaemic heart disease by administration of the lipid-lowering drug clofibrate, completed in 1977, established that by lowering the serum cholesterol the incidence of ischaemic heart disease decreases by as much as 20%. In view of certain side effects of clofibrate, its use is not recommended for community-wide primary prevention. The centres conducting the trial are following up all subjects participating in the study in order to monitor the long-term effects of the drug.

Thrombosis

Contacts were established with the ISFC Scientific Council on Thrombosis, the European Thrombosis Research Organization, and the Commission of the Euro-
pean Communities for a collaborative research project to assess the tendency to thrombosis in relation to the complications of ischaemic heart disease.

**Atherosclerosis**

10.54 A working group on atherosclerosis precursors and determinants in children (Geneva, September 1979) reviewed the methods used and the results obtained in two WHO pilot programmes and defined possible action for primary prevention.

**Life style factors**

10.55 The report of a WHO Expert Committee on Controlling the Smoking Epidemic,¹ which met in October 1978, was one of the main documents before the Fourth World Conference on Smoking and Health (Stockholm, June 1979). The Conference was cosponsored by WHO, and an advisory committee was established under its aegis for the follow-up of international action resulting from the Conference.

10.56 Preparations were made for World Health Day 1980, the theme of which is: “Smoking or health, the choice is yours”.

10.57 A monograph on the role of habitual physical activity in relation to health was published by the Regional Office for Europe;² closer collaboration with the International Federation of Sports Medicine was established; and the Institute of Work Physiology, University of Dortmund (Federal Republic of Germany) was designated as a WHO collaborating centre for studies on physical activities in relation to cardiovascular diseases.

**Trace elements**

10.58 The joint IAEA/WHO research project to ascertain whether trace element imbalances play a role in the etiology of myocardial infarction was completed in 1979 and the final statistical evaluation is being undertaken. Some 20 centres—in Bulgaria, Denmark, the Federal Republic of Germany, Hong Kong, Nigeria, Norway, the Philippines, Singapore, Sweden, Switzerland, the United Kingdom, and the United States of America—had collaborated in the project.

**Standardization in nomenclature, diagnostic criteria and methods**

10.59 The task forces on this subject established in collaboration with ISFC continued their work. The reports of the Task Force on Classification of Arrhythmias and of the Task Force on Nomenclature and Criteria for Diagnosis of Ischaemic Heart Disease were issued and were later translated by various national cardiological societies into their own languages. At the end of 1979 the proposals made by the Task Force on Classification of Cardiomyopathies were being reviewed by experts nominated by national cardiological societies.

**Other chronic noncommunicable diseases**

10.60 During the biennium the community approach was the cornerstone of WHO’s programme in many of the chronic noncommunicable diseases. Following the recommendations of the International Conference on Primary Health Care (Alma-Ata, 1978) and evaluation of experience

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with chronic disease control in the community, there was a growing acceptance of the concept of a comprehensive, integrated programme for chronic noncommunicable diseases as opposed to the traditional specialty-oriented approach. One of the points in favour of the integrated approach is the presence of a group of risk factors, common to many chronic diseases, which can be defined as "lifestyle" risks. The mobilization of community action requires a new strategy for combating these diseases, and calls for corresponding organizational changes.

10.61 Consultations organized during the biennium by headquarters and the Regional Office for Europe, and preliminary discussions with national authorities and nongovernmental organizations, strongly supported the integrated approach and led to initiation of the development of a comprehensive medium-term programme for chronic disease control. WHO can utilize the experience accumulated in several of its programmes in designing this programme; and certain projects still in operation have been reoriented in such a way that the results can be incorporated into the future development of that design.

10.62 The WHO Expert Committee on Diabetes, which met in September/October 1979 in Geneva, drew particular attention in its report to the need for involving the community as well as the patient. It repeatedly stressed that the main health services for the diabetic should be at community level, and that preventive, promotive, curative, educational and research activities should all have their basis in primary health care.

10.63 Training of health personnel and dissemination of information to front-line health workers was promoted. WHO and the International Diabetes Federation joint-ly organized a postgraduate course on diabetes (Nairobi, December 1978). WHO-sponsored symposia were conducted on health education in diabetes (Geneva, 1979) and health care delivery for diabetics in developing countries (Dubrovnik, Yugoslavia, 1979). In the South-East Asia Region, a postgraduate workshop course on diabetes was held in Bangladesh, and also a course for paramedical personnel engaged in diabetes care (January 1978).

10.64 The current stage of the WHO multinational study of vascular disease in diabetics, in which 14 research centres from 13 countries are collaborating (three in the Region of the Americas, one in South-East Asia, eight in Europe, and two in the Western Pacific), was completed,1,2,3,4 and the pattern of further collaboration was designed at a meeting in Berne (September 1979).

10.65 WHO collaborating centres continued their activities in the following areas: (a) research in the pathomorphological classification of chronic nonspecific lung disease (Leningrad); (b) reference and research in the study of diffuse connective tissue diseases (Paris); (c) pathomorphological classification of rheumatoid arthritis and related conditions (Mainz, Federal Republic of Germany); (d) histological classification of renal diseases (New York).

10.66 The first part of a study on chronic nonspecific respiratory diseases was

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completed in 1979, as was the comparative study, coordinated by the Regional Office for Europe, on the long-term effects on health of air pollution, mainly in relation to chronic lung diseases.

**Oral health**

10.67 Oral disease problems have intensified in nearly all developing countries over the past two years. In sharp contrast, some industrialized countries are now experiencing a reduction in at least one of the two main oral diseases—dental caries. These trends can be clearly established from the WHO global oral data bank, which now includes data on 112 Member States.

10.68 For a number of these countries, several sets of data are available that have made it possible to define a specific, measurable and practical goal for the year 2000: it relates to dental caries, and is measured as a mean value at 12 years of age of the index labelled DMF, i.e., decayed + missing + filled teeth per person. The strategic point on that index is three DMF teeth per 12-year-old child, because this is not only the present crude average in developing countries where dental caries is increasing, but also the level to which highly industrialized countries that have national prevention programmes have managed to reduce the disease.

10.69 The present situation of Member States in relation to that index point, as indicated by the WHO global data bank, is shown in Table 10.1.

10.70 Dental caries is increasing in virtually all developing countries, despite the efforts WHO has been making for several years to promote national preventive oral health programmes. The increase has been so rapid that in a few developing countries levels are now as high as any in the highly industrialized countries. To reach the goal set by WHO would enable the developing countries to avoid a huge health and economic burden over the next two decades. For highly industrialized countries, it would reduce dramatically the services and manpower that they now devote to the management of dental caries. Moreover, the attainment of this single, universally applicable goal would bring with it numerous subsidiary benefits in all aspects of the prevention and care of oral disease. In particular, the oral hygiene measures that accompany anti-caries methods such as the use of fluorides would be likely to influence the prevalence of periodontal disease.

10.71 Although it may be further refined and modified, the goal is likely to form the basis of oral health programmes throughout the world. It has already been largely accepted by the dental profession, to which it was proposed by WHO in the course of collaboration with the International Dental Federation. Another by-product of the emphasis on prevention in WHO's oral health programme is a proposal emanating from a meeting of national chief dental officers at the Federation's World Dental Congress (Paris, 1979) that the 1980s

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**Table 10.1** Situation in relation to DMF index point

<table>
<thead>
<tr>
<th>Level of dental caries (at 12 years)</th>
<th>Developing</th>
<th>Economically developed</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 DMF teeth or less</td>
<td>49</td>
<td>4</td>
<td>53</td>
</tr>
<tr>
<td>More than 3 DMF teeth</td>
<td>26</td>
<td>23</td>
<td>49</td>
</tr>
<tr>
<td>No data</td>
<td>53</td>
<td>5</td>
<td>58</td>
</tr>
</tbody>
</table>

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should be designated as the decade of prevention for oral diseases.

10.72 Collaboration with the International Dental Federation was significantly intensified during the biennium. Four joint working groups were established, with specific, measurable goals. Three of the groups are directed towards improving methodology in public health spheres; the fourth deals with educational objectives and curriculum guides for all levels of dental manpower.

10.73 Within this major reorientation of the oral health programme, the basic activities reported in 1977 were continued in all regions. In particular, the integrated planning of oral health services was the basis of technical cooperation in 16 countries, prevention being the top priority in every case. Field demonstration of preventive programmes continued and will be evaluated at the end of a three-year period. In 1978–1979, WHO collaborated with 25 countries on the epidemiological aspects of oral diseases.

10.74 Practical manuals were completed on integrated planning of oral health services; and in the epidemiology programme a Guide to the Epidemiology and Diagnosis of Oral Mucosal Diseases and Conditions and a Guide to Oral Health Epidemiological Investigations were prepared.

10.75 Annual coordination meetings were held, financed by extrabudgetary funds, to identify overlapping and gaps in research needs. Such meetings resulted in a comprehensive approach to further research into the metabolism and use of fluorides, and an intensification of work on the monitoring and management of periodontal diseases.

10.76 The concept of developing, in several regions, demonstration centres (with a strong extramural component) for methods of delivery of services, prevention, manpower and epidemiology, was translated into specific plans. At the end of 1979 the first such centre, in Thailand, was near completion. Useful material for these centres should emerge from the international collaborative study of dental manpower systems, in which 11 countries have by now participated.

Radiation medicine

10.77 During 1978–1979, the work of this programme was oriented towards better population coverage by radiodiagnostic, radiotherapy, nuclear medicine and radiation protection services; and towards the improvement of methods for quality control and for investigating the efficacy of widely used procedures.

Radiodiagnosis

10.78 World population coverage by radiodiagnostic services presents great discrepancies: a few fortunate countries have one X-ray machine per 2000–5000 population, but the great majority of developing countries have one machine per 100000—even 300000—population. The ratios for radiodiagnosticians are even worse. As a result, the number of X-ray examinations per 1000 population varies from more than 1000 to less than 10 a year.

10.79 At least three levels of radiodiagnostic services are required: (1) basic services at first referral level; (2) general-purpose services at second referral level; and (3) specialized services at the level of the specialized hospital, clinical research institute, university or teaching hospital, etc.

10.80 Of these, the first are completely lacking or very scarce in most of the
developing countries. The concept of basic radiological services now being promoted by WHO aims at strengthening diagnostic ability at first referral level (thus reinforcing the primary health care services) and includes a specially designed X-ray machine, along with a training “package” for machine operators and for those interpreting the films. The machine is designed for use in places without electrical power supply, is easy to maintain, and produces consistently good radiographs in the hands of a locally recruited operator after a short period of training. During the biennium technical specifications for such an X-ray machine were prepared and discussed with manufacturers; the training package for machine operators was ready for testing; and arrangements were made for field trials in Colombia and Yemen. An outline for a teaching file on radiographic diagnosis for general practitioners is being prepared.

10.81 The field trials of this concept of basic radiological services will be followed up by evaluation by national health authorities of the suitability of such services. The concept has already been tried out, with local adaptations, in Finland, Greenland and Scotland.

10.82 With a view to limiting the excessive use of diagnostic radiology and the risks and cost it entails, a meeting on the efficacy and efficiency of diagnostic application of radiation and radionuclides was held in Munich–Neuherberg, Federal Republic of Germany (December 1979), with the financial support of the Federal Republic; it recommended methods for efficacy/efficiency studies that can be used by either developing or economically developed countries.

Radiation Therapy

10.83 There are also great discrepancies in the number of high-energy radiotherapy machines available to different populations: 30% of the world’s population has one machine for more than 20 million people, and only 17% has one machine for less than a million people. Approximately 50% of cancer patients need radiotherapy at some stage of their disease, so the extent to which such patients are diagnosed and treated in a given community has a direct effect on the availability of radiotherapy machines in that community. Moreover, utilization of radiotherapy machines is far from optimal. The subject was discussed by a meeting of investigators (Cambridge, United Kingdom, 1978), which recommended ways of improving the situation, particularly in developing countries.¹

10.84 To improve clinical dosimetry, the IAEA/WHO postal intercomparison service, based on the use of thermoluminescent dosimeters, was continued and its results followed up. The Regional Office for the Americas reviewed the results obtained in Latin American countries; and the Regional Office for the Eastern Mediterranean organized a mission to all radiotherapy departments where significant deviations had been recorded and as a result a number of clinical dosimeters were replaced.

10.85 Two of the IAEA/WHO secondary standard dosimetry laboratories (Bombay and Buenos Aires) took part in this intercomparison, and the network of these laboratories as a whole is increasing its work to improve clinical dosimetry. Exchange of information between participants was ensured by a series of circular letters to collaborating centres and other institutes.

Nuclear Medicine

10.86 Less than 60% of Member States have nuclear medicine services at the

central level of the health care system, and only a few countries, e.g., Japan, the United States of America and certain countries in Europe, can provide adequate population coverage. If simplified equipment and procedures were introduced and radioimmunoassay techniques were developed more rapidly, nuclear medicine could play an important part in such programmes as the Expanded Programme on Immunization and the Special Programme for Research and Training in Tropical Diseases.

10.87. Activities in this field were developed in close collaboration with IAEA. They included the preparation of a manual on the organization of basic nuclear medicine services and routine clinical radioisotope procedures, based on material from the Nuclear Medicine Department, Bombay, India; collaboration in a training course and study tour on nuclear medicine, organized in September/December 1979 by IAEA and the Government of the USSR and attended by 33 participants from developing countries; and preparations for a consultation early in 1980 to consider the possibility of using radioimmunoassay techniques in the Expanded Programme on Immunization.

10.88. Two workshops on quality control of nuclear medicine procedures were held, one in Montevideo (November 1979) and the other in Bombay (December 1979). They were organized in conjunction with the Regional Offices for the Americas and for South-East Asia respectively, and with the Bureau of Radiological Health, Rockville, MD, United States of America, a WHO collaborating centre.

10.89. The meeting at Munich-Neuherberg, referred to in paragraph 10.82 above, also outlined practical procedures for nuclear medicine and reviewed current studies.

Radiation protection

10.90. Less than half of WHO's Member States have radiation protection services that adequately cover the medical use of ionizing radiation. To improve this situation, WHO continued to provide some 1300 film badges a month to a number of countries. These badges are offered free of charge by the Service central de Protection contre les Rayonnements ionisants, France, and the Institute for Radiation Protection and Environmental Research, Federal Republic of Germany.

10.91. Two short courses, intended to increase the self-reliance of countries as regards radiation protection, were organized in the Western Pacific Region (November 1978 and 1979) with the financial support of DANIDA.

10.92. A meeting reviewed biological indicators of radiation effects in man (Munich-Neuherberg, Federal Republic of Germany, December 1979), in view of the growing number of areas where there is exposure to ionizing radiation, particularly in medicine and in nuclear power production.

Human genetics

10.93. Medical genetics should not confine itself to the study of diseases whose mode of inheritance is relatively simple: many more diseases, of considerable public health significance, need to be analysed from the genetic point of view. The following are some of the projects in communicable and noncommunicable diseases carried out with WHO support in 1978–1979.

Genetic markers

10.94. In five regions of Bulgaria more than 3000 persons were tested for human
leukocyte antigens, red cell antigens, glucose-6-phosphate dehydrogenase (G6PD) deficiency, and haemoglobinopathies. The data on human leukocyte antigens suggested that the increased frequency of B5 and Bw35 was the result of past resistance to malaria in the carriers of those antigens. The incidence of G6PD deficiency was found to be lower in populations living at heights of 1000 metres or more; the proportion of G6PD-deficient individuals in the two lowland areas surveyed was 3.57% and 3.45% respectively, whereas in the higher areas it was 1.08%.

10.95 In India, 124 persons, in a population from three villages, were tested for ABO, MNSs, Rhesus, Kell and Lutheran factors. Most of the affected subjects showed Plasmodium vivax infection; only a few were P. falciparum positive.

10.96 Studies were carried out to establish the frequency of certain genetic markers, especially human leukocyte antigens, both in a normal population and in a series of individuals with different diseases. In a study carried out by the Haematology Centre, Bucharest, 534 healthy blood donors were selected for investigation, together with a group of patients with various conditions, including 25 with ankylosing spondylitis, 6 with Behçet’s syndrome, 6 with Dühring-Brocq disease, and 10 with disseminated lupus erythematosus. The highest frequency found was for the HLA-A2 antigen (44%). The most frequent combinations of haplotypes were found for antigens 1–8, 2–13, and 3–7.

10.97 In a study on silicosis made by the Institute of Medical Genetics, Moscow, the HLA-B12 antigen was the most frequent among persons with this disease.

10.98 Work continued at the Pasteur Institute, Dakar, on the screening of individuals with different haemoglobinopathies, especially β-thalassaemia.

Management of genetic disorders

10.99 Management of genetic disorders includes treatment of patients with hereditary diseases (including establishment of special diets), genetic counselling combined with detection of heterozygote carriers, and screening for certain genetic disorders.

10.100 In a study at the Institute of Zoology, University of Ferrara (Italy) a group of 613 heterozygotes for β-thalassaemia—267 married and 346 unmarried—who had been screened at school age, were interviewed at the average age of 23 to assess their knowledge of the heterozygous state and its implications. Of those interviewed, 83% recalled some information about their heterozygous state; 60% had some knowledge of what it meant to be heterozygous, and only 26% were aware of any relation between Cooley’s anaemia and the heterozygous state for β-thalassaemia. It was also observed that the proportion of those who had married another carrier was in line with random mating expectations. The conclusion was that considerable improvement is required in prospective genetic counselling of the population in this area.

Registry of chromosomal diseases

10.101 The International Registry for Abnormal Karyotypes, established with WHO assistance in the Johns Hopkins University, Baltimore, MD (United States of America) continued its typological work. Two more listings in the Repository of Chromosomal Variants and Anomalies in Man were published, bringing the number of listings to six.
WHO collaborating centres

10.102 Support to the following WHO collaborating centres was continued: University College Hospital, Ibadan, Nigeria (glucose-6-phosphate dehydrogenase); Population Genetics Laboratory, University of Hawaii, Honolulu, United States of America (processing of human genetics data); and the Institute of Genetics and Biophysics, Naples, Italy (glucose-6-phosphate dehydrogenase).

Immunology

10.103 During the biennium WHO immunology research and training centres were in operation in all regions. However, at the end of 1978 the centre in Nairobi was transferred to the University, its training and research work continuing under the direction of national staff. A request was received from the Brazilian Government for a collaborating centre in the immunology of parasitic and mycotic diseases to be established at the Oswaldo Cruz Foundation, Rio de Janeiro.

10.104 Training was carried out in the research and training centres in Amsterdam, Rehovot (Israel), and São Paulo (Brazil). The Rehovot centre organized a two-week course on molecular and cellular aspects of antigenicity that was attended by 20 participants from all regions; while the Amsterdam centre was instrumental in establishing laboratories for clinical immunology in Cuba, Jamaica and Suriname, with financial support from the Government of the Netherlands.

10.105 Regular courses on the immunology of infectious diseases were held at the centre in Lausanne/Geneva (Switzerland) in both French and English, supported financially by the Swiss Government and with the assistance of Belgium and the United States of America. The centre also accepts students from developing countries for long-term training, helping them to prepare their own research programmes and assisting them in the initial phases after they return to their home institution. In 1979 such assistance was given to the Oswaldo Cruz Foundation, Rio de Janeiro, and the University Centre for Health Sciences, Yaoundé. WHO cooperated for the second time in a course in basic immunology at the Girls’ College, Al Azhar University, Cairo.

10.106 The collaborating centre for research on the immunopathology of dengue haemorrhagic fever, Bangkok, coordinated research on dengue vaccine for use in the South-East Asia and Western Pacific Regions.

10.107 Allergies are of public health concern in many countries. A meeting was held in July 1978 to assess the extent and gravity of allergic disorders in both developed and developing countries; its report contained recommendations on the part WHO should play.

10.108 A meeting on immunological recognition and effector mechanisms in infectious diseases was organized in 1979. It reviewed the present state of knowledge on the subject and made recommendations for research to improve the immunogenicity of substances produced from infectious organisms and used in vaccine production.

10.109 In collaboration with the International Union of Immunological Societies, international standards were prepared and accepted for fluorescein-labelled anti-human IgM, and for serum proteins. The first of these standards is held at WHO headquarters for distribution to research workers.
10.110 A loose-leaf booklet of laboratory techniques in clinical immunology (replacing an earlier booklet) was prepared and widely distributed. It will be brought up to date periodically.

10.111 A programme for the production of immunological reagents used in the diagnosis of diseases of public health importance has been started. A course on the subject for participants from the Eastern Mediterranean was organized in Islamabad.

10.112 Staff of the immunology programme took part in the task force on immunological methods of fertility regulation (Special Programme of Research, Development and Research Training in Human Reproduction), in the work of its steering committee, and in the scientific working groups and steering committees of the Special Programme for Research and Training in Tropical Diseases. They worked in conjunction with the latter programme in running courses in Lausanne (Switzerland) and Belo Horizonte (Brazil) on the \textit{in vitro} production of monoclonal antibodies by the new technique of cell hybridization; in organizing a meeting on the role of the spleen in the immunology of parasitic diseases; and in evaluating the institutions considered in connexion with the institution-strengthening programme.
Chapter II

Promotion of Environmental Health

Programme development

In 1979 a medium-term programme for the promotion of environmental health covering the six-year period 1978-1983 was endorsed by the Thirty-second World Health Assembly (resolution WHA32.31). It took into account the new concept of primary health care, stressing multidisciplinary and intersectoral action, the priority given to planning and programming, and the role of WHO as regards resources outside the country concerned that could contribute to the improvement of health. Particular attention was given to the expressed priorities and needs of Member States.

Two of the major aims of the programme are: (1) technical cooperation in planning and programming for basic sanitary measures (particularly water supply and sanitation), with the emphasis on rural and underserved populations, along with cooperation in strengthening institutional and managerial capacity and the transfer of information and experience; and (2) worldwide assessment of the new environmental hazards arising from socioeconomic development programmes and projects now under way in all countries—hazards that must be prevented if the benefits of development are to be safeguarded—, along with technical cooperation in the planning and implementation of national programmes. The emphasis on these aims has led to the elaboration of programmes concerned with the International Drinking-Water Supply and Sanitation Decade, 1981-1990 (resolution WHA30.33) and with chemical safety (resolutions WHA30.47 and WHA31.28).

The Organization cooperated with Member States in the planning and reinforcement of programmes and services for environmental health within various national administrations. Some of the activities involved were supported with a view to encouraging the initiative of health agencies and strengthening their participation in the planning of environmental health programmes. The resources needed to cope with environmental health problems usually being limited, they must be used economically and effectively; a systematic planning effort is needed. In collaboration with Member States and the regional offices, a guide for national environmental health planning was prepared.

The establishment of environmental protection agencies in an increasing number of countries has created a new need for technical cooperation in formulating policies to meet new types of environmental objective. A survey carried out in 1978 in seven countries (in three regions)
showed the importance of establishing adequate mechanisms for coordinating environment and health programmes at various administrative levels. In 1979 this study was pursued with the participation of 21 countries in all six WHO regions.

Institutional development

11.5 In the African Region the main attention during the biennium was given to the interrelationship of basic sanitation with community organization and development. In 1978 a regional meeting of experts advised on the role of basic sanitary measures in community organization in rural areas. It highlighted the multidisciplinary nature of environmental health action and the complementary role played by different community development sectors. Regional workshops were convened within the programme of technical cooperation among developing countries to discuss the development of simple techniques for the construction and installation of sanitation equipment and the diffusion of technical information among countries of the Region. A regional network of environmental health centres now being set up will utilize national expertise to the largest possible extent and, it is hoped, reinforce this programme. An intercountry project was established to promote close cooperation at both regional and subregional level and the possible integration of sanitation and primary health care activities, and to reinforce intersectoral coordination. With the technical collaboration and financial assistance of DANIDA, an interregional workshop on environment and development was held in the French language at Libreville in 1979. This workshop, like its English language counterpart held a year earlier in New Delhi, reviewed environmental health factors in national health planning and in development projects; the use of epidemiology in environmental protection; administration; and coordination mechanisms. It is worth noting that, with WHO cooperation, sanitation services are being developed by the ministries of health of 21 African countries, and that seven countries have set up ministries for the environment as part of national policies that aim at preserving the quality of life while safeguarding the physical environment in both urban and rural areas.

11.6 In the European Region WHO collaborated with institutes of higher education in the fields of environmental science and human ecology. It compiled a directory of training courses in the environmental field, carried out a survey of environmental services, and conducted studies of manpower development including "profiles" for different professions. As an outgrowth of these studies, a document containing guidelines on manpower planning in environmental health was prepared in 1978 and distributed to all Member States in the Region as a planning aid in establishing the types and number of personnel required by environmental health services, whose needs often differ widely from country to country. With WHO cooperation, the Government of Greece decided to establish an environmental institute that will address itself to the problem of preserving and improving the quality of the environment in parts of Greece other than Athens, where a UNDP-assisted project on environmental pollution control has entered its final stages. The Turkish Government is also making plans, with WHO participation, to set up a central organization for environmental protection.

11.7 In the Eastern Mediterranean Region WHO cooperated with the Government of Iraq, which has undertaken a complete reorganization of the human environment directorate within its Ministry
of Health and considers this action as being crucial to its long-term plans for investment in the health sector. Cooperation along these lines was also provided for solid wastes disposal in Oman and the United Arab Emirates. Air pollution monitoring and control were strengthened in Egypt, Iran, Iraq, Israel, and Pakistan. Health institutes training environmental health workers were supported in Democratic Yemen, Jordan, Libyan Arab Jamahiriya, Pakistan, Qatar, Saudi Arabia, Sudan, Tunisia, and Yemen.

11.8 Some countries in the Western Pacific Region have still not been able to give priority and resources to developing the capacity of their institutions in the environmental health field, while others have created new environmental protection agencies with which WHO has established technical cooperation programmes. Legal and administrative provisions for environmental planning need to be drafted or extended to cope with the growing problems of environmental management. In these matters the Western Pacific Regional Centre for Promotion of Environmental Planning and Applied Studies is assuming an active role. The Centre was established in 1978 by WHO in Kuala Lumpur in collaboration with the Government of Malaysia. Also in Malaysia, WHO cooperative services in the provision of rural water supply facilities were reinforced by the establishment of an environmental health and engineering unit within the Ministry of Health. In Papua New Guinea, the development of an environmental health programme was slow in the initial stages but is progressing now that counterpart staff returned from overseas training have been assigned to it. In the Philippines, consultant services were provided in several areas of environmental health, including air and water pollution control, manpower development, solid wastes management, rural water supply, drinking-water criteria and standards, and assessment of environmental impact. Institutional development in the Philippines progressed with the establishment in 1978 of a Ministry of Human Settlements that supervises various aspects of the environmental health programme, including air and water pollution control, assessment of environmental impact and environmental planning. As part of the reorganization, the national pollution control commission, the national environmental protection council, and the human settlements regulatory commission were brought under the umbrella of the Ministry of Human Settlements. A regional seminar on environmental health manpower development was held in September 1978 at Manila and its report was issued in January 1979.

International programme on chemical safety

11.9 An international programme on chemical safety was initiated in 1979 on the basis of the specific guidance provided by the Thirty-first World Health Assembly (resolution WHA31.28) and the Executive Board at its sixty-third session (resolution EB63.R15). The programme is a stepping up of the Organization’s existing programmes on chemical safety and entails the cooperative efforts of a network of national institutions and a WHO central unit supported by extrabudgetary contributions. The principal objectives of the programme are: (1) to carry out and disseminate evaluations of the effects of chemicals on human health and the environment; (2) to develop guidelines on exposure limits; (3) to develop guidelines on appropriate methods for toxicity testing, epidemiological and clinical studies, and risk and hazard evaluations; (4) to coordinate laboratory testing and epidemiological studies where an international approach is appropriate, and to promote research;
(5) to provide information on coping with chemical accidents and promote effective international cooperation in the control of toxic substances in Member States, and (6) to promote the training and development of manpower.

11.10 In 1979 details were negotiated with 10 Member States for the designation of national institutions and for financial contributions to the programme. A WHO central unit was established, and a programme advisory committee was formed. The International Agency for Research on Cancer agreed to assume the role of leading institution for chemical carcinogenesis. Other international organizations agreed to collaborate and, in some cases, to cosponsor the programme; they include UNEP, ILO, and FAO.

11.11 A consultation on manpower development in toxicology was convened by the Regional Office for Europe (December 1978). A project was started on European cooperation in the environmental health aspects of the control of chemicals, intended for those countries in the Region that are eligible for support from UNDP. It will form a regional component of the international programme on chemical safety in such areas as manpower development, contingency planning, rapid response in emergencies, and technical cooperation on specific matters. The Regional Office for the Americas also initiated a number of activities, particularly in technical cooperation and manpower development. They were carried out through the Pan American Center for Human Ecology and Health in Mexico City and the Pan American Center for Sanitary Engineering and Environmental Services in Lima.

Coordination

11.12 The implementation of the environmental health promotion programme requires coordination, both internal and external, to ensure (a) that it makes a full contribution to health, and (b) that programmes with environmental aspects are compatible with the health policies and objectives of Member States. Besides arrangements with the United Nations itself, UNDP, UNICEF, ILO and FAO, and with the World Bank for cooperative action in water supply and sanitation (see paragraphs 11.25–11.27 below), special coordination mechanisms were developed with UNEP and IAEA.

11.13 Coordination within WHO was strengthened in the regions and at the centre to ensure linkage of this programme with those in other areas, e.g., primary health care, water-related diseases, certain noncommunicable diseases, and health manpower development.

Provision of basic sanitary measures

Preparation for the International Drinking-Water Supply and Sanitation Decade

11.14 During the biennium there was a realignment of the Organization's activities in basic sanitation: the provision of basic sanitary measures is now viewed in the light of the International Drinking-Water Supply and Sanitation Decade, 1981–1990, as designated by the United Nations Water Conference (Mar del Plata, Argentina, 1977). The Thirtieth World Health Assembly (1977) had urged Member States to undertake as a matter of urgency the assessment of their water supply and sanitation sector and to elaborate measures through which national programmes could be adjusted to the goals of the Decade (resolution WHA30.33).
The task of assessment was carried out with the cooperation of WHO and the World Bank. It entailed a country-by-country review to evaluate on the basis of such information as was readily available (a) the preparedness of countries to accelerate the development of basic sanitation; (b) the action required in formulating national plans for the Decade during the preparatory phase (1978–1980); and (c) the need for international cooperation in preparing development plans for the Decade.

Governments responded positively and in 1978 rapid assessments were carried out in 104 countries. Different methods were adopted in the different WHO regions. The African Region used a training approach, with national representatives attending workshops in Ouagadougou and Nairobi. This had the advantage of ensuring the active participation of officials responsible for national programmes and a relative uniformity of approach. In the Region of the Americas, on the other hand, national activities were supported in individual countries. For the assessments in other regions, national experts, field, regional office and headquarters staff (including staff of the World Bank/WHO cooperative programme), and consultants were relied upon. Some governments have already made use of the assessments as a basis for the expansion of their national plans and programmes and for negotiations with potential donors.

The assessment showed that few countries have as yet taken the step of translating the general goals of the Decade into specific national programmes of action. The reordering of priorities and the redeployment of resources must in many cases await a new five-year or similar plan. The assessment also confirmed the existence of constraints on the progress detailed in the United Nations Water Conference, particularly the shortage of manpower for formulating plans and projects.

Commitments by governments to increased allocation of resources to water supply and sanitation are needed to encourage greater international participation. International cooperation during the preparatory phase is required most of all in the elaboration of plans, the formulation of projects, and manpower development. The state of preparedness varies from region to region: the Latin American countries are the best prepared, since at Punta del Este, Uruguay (1960) and Santiago, Chile (1970) specific goals had been set for the 1960s and 1970s. African countries south of the Sahara are those where the need to develop plans and programmes is greatest.

Consultations took place between the organizations most directly concerned within the United Nations system (the United Nations itself, UNDP, UNICEF, ILO, FAO, WHO and the World Bank) with the aim of improving coordination within countries and establishing regular consultations among the governments, intergovernmental organizations, and non-governmental organizations involved. As a result the UNDP resident representatives assumed a key role in the coordination of contributions by agencies in the United Nations system. The mechanisms evolved should also encourage bilateral and other development aid agencies to cooperate with governments in respect of the Decade. The resident representatives are supported technically by WHO and the other collaborating agencies through their regional and country-level staff.

A steering committee was formed, consisting of the agencies of the United Nations system concerned, to review and develop policy, create a coordinated approach to the management of individual
programmes, and prepare for consultative meetings with representatives of governments in a position to offer technical and financial cooperation. WHO provides the secretariat for the steering committee.

11.21 Consultative and other meetings were arranged with representatives of governments and funding institutions. WHO collected information from the developing countries on progress, constraints and needs, and from official development aid agencies and other funding institutions on their criteria, policies, and procedures. At the first consultative meeting of official development aid agencies, funding institutions, and collaborating agencies (Geneva, 1978) WHO was requested to examine the possibility of instituting a system for gathering information on projects in developing countries that could be supported by multilateral or bilateral donors.

**Technical cooperation at national level**

11.22 An effort was made to intensify the involvement of other international agencies at national level. WHO's long-standing collaboration with UNICEF in national water supply and sanitation programmes was maintained and strengthened. In 1978 the UNICEF/WHO Joint Committee on Health Policy reviewed a report on water supply and sanitation components of primary health care — a joint report based on six extensive case studies from Bangladesh, Columbia, Ghana, India Nepal, and the Philippines. The main issues were water supply and sanitation policy, community participation, the institutional infrastructure, education, personnel, technology, and maintenance. The conclusions of this study were presented to the Executive Boards of UNICEF and WHO in 1979.

11.23 In the African Region UNICEF and WHO continued their collaboration within countries in the integration of environmental sanitation and water supply programmes within the framework of primary health care. Preinvestment studies, earlier financed by UNDP, are being progressively taken over by the national authorities, their integration within the national services leading to new forms of technical cooperation. The Regional Office for the Americas placed special emphasis on collaboration with governments in the operation and maintenance of drinking-water systems and the training of waterworks personnel. Attention was also given to the increasing problems countries are facing in the management of solid wastes. The Regional Office for South-East Asia assigned sanitary engineers to almost all the countries in the Region. It cooperated in the establishment of national committees for the Decade, and held a regional consultation of national and international agency staff to discuss strategies and follow-up action. The intercountry programme in Europe was particularly concerned with environmental health problems in tourist areas and the impact of fluctuating populations. Most of the water supply and wastes disposal projects in countries included a strong training component. In the Eastern Mediterranean Region WHO intensified its support for solid wastes management in several countries, notably Afghanistan, Oman, Sudan, and Yemen. A regional seminar emphasized the need for countries to adopt appropriate low-cost technology in sanitation programmes. The Western Pacific Region aimed at developing increased institutional capacity to plan and implement projects, and helping countries to establish a dynamic planning process.

11.24 In late 1978 extrabudgetary funds from the Federal Republic of Germany, SIDA, and UNDP became available for
planning for the International Drinking-Water Supply and Sanitation Decade in 37 countries. Such planning included the identification of projects suitable for external investment and measures to lessen or remove the constraints on development in the sector.

World Bank/WHO cooperative programme

11.25 In 1978 most of the effort went into the assessments in countries referred to in paragraphs 11.14–11.18 above. Other more specific studies, for instance on national water supply tariff structures and on manpower development, were undertaken in 12 countries, mostly in Africa. Ad hoc planning support was given to countries in preparation for the International Drinking-Water Supply and Sanitation Decade, and a national conference was organized in Turkey in 1978 to establish a suitable strategy. Preparatory work along similar lines was supported in Algeria, Portugal, and Somalia.

11.26 In the use of cooperative programme resources, an increasing share went to the least developed countries, mostly situated in the African Region. A regional manpower development and training survey covering most countries in West Africa drew attention to the manpower situation in the water and sanitation sector and led to an exploration of local and regional strategies for meeting manpower needs within the context of the Decade. National seminars on planning and project preparation were held for sector agency managers from the different states in Nigeria and India. A workshop dealing specifically with the economic and financial aspects and with alternative low-cost technologies was organized in the African Region for both WHO staff and national participants.

11.27 The cooperative programme is moving towards greater integration with intersectoral activities, as part either of primary health care or of wider urban and rural development schemes focusing on the reduction of poverty.

Technological development

11.28 Member States were given support in starting information systems on technology. In this connexion, the Netherlands Government provided funds for a programme on the exchange and transfer of information that is being implemented by the international reference centre for community water supply (Voorburg, Netherlands). WHO collaborating centres published regular newsletters documenting technological progress. The newsletter on water supply now reaches about 24 000 subscribers.

11.29 Attention was given to new technological developments in, for example, solar power for water supplies, methods of rainwater collection, and wastewater re-use. Support was provided for studies on, or for the technological development of, handpumps (testing and evaluation), slow sand filtration, disinfection of water, standardization of equipment and materials, simplified methods of water examination, rural excreta disposal facilities, the evaluation of aqua-privy and smallbore sewer systems, and guidelines on the health aspects of water desalination. Other studies that received support concerned water supply through public standposts, the removal of excess fluorides, the health aspects of plumbing, the technology of waste stabilization ponds, and the treatment of small-scale water supplies.

11.30 The promotion of drinking-water quality surveillance as part of community water supply development received further emphasis in global and regional environmental health programmes. Particular stress
was placed on establishing or strengthening the institutional infrastructure in the developing countries and on the role of health agencies in the community water supply and sanitation sector. The Regional Office for the Americas paid increased attention to the special needs of rural and peri-urban areas. The South-East Asia Region included a drinking-water quality surveillance programme in its regional medium-term environmental health programme. The Regional Office for the Eastern Mediterranean provided consultant services on water quality control to certain countries. In the Western Pacific Region arrangements were made to organize regional courses on drinking-water quality surveillance in the South Pacific. The prevention of risks to health through continuous and systematic surveillance of drinking-water quality was selected as an important joint UNEP/WHO activity for the Decade and was included in a number of cooperative projects funded by bilateral agencies and UNDP.

Control of environmental pollution and hazards

In 1979 the WHO environmental health criteria programme was in its sixth year of operation. During the biennium eight criteria documents dealing with different environmental agents were published, bringing the total number already published under the programme to 12. Work is well advanced on another 15 volumes. This programme is carried out in collaboration with some 25 Member States and UNEP; it receives the strong support of several collaborating centres and of the International Radiation Protection Association (ultraviolet, microwave, and other nonionizing radiations).

To assist in the preparation and use of the criteria documents, a volume was prepared for that series that discusses the terminology used in evaluating the effects on health of environmental agents and assessing the risks and hazards.

Further steps were taken to facilitate the use of environmental health criteria in formulating national environmental health standards and other action to improve the human environment. A guide to principles and procedures for establishing environmental health standards is in preparation.

International Standards for Drinking-water and European Standards for Drinking-water were last revised and published in 1971 and 1970 respectively. In 1978 the European Regional Office and headquarters began to revise and merge them into one edition, and a consultation to lay down the framework for the revision was held (Copenhagen, December 1978). During the biennium working groups were convened by the Regional Office for Europe on the significance for health of various aspects of drinking-water. A meeting


on the microbiological quality of drinking-water was held in 1979, and will be followed by a series of other meetings. This project is supported financially by DANIDA and by the WHO collaborating centre on environmental pollution control at the United States Environmental Protection Agency. Among the WHO collaborating centres participating actively in the revision of drinking-water standards are the Water Research Centre, Medmenham, United Kingdom, and the Environmental Health Directorate, Health Protection Branch, Department of National Health and Welfare, Ottawa, Canada.

11.35 The promotion of appropriate methods for evaluating environmental risks remains an important objective. In 1978 the first part of a volume on principles and methods for evaluating the toxicity of chemicals was published.¹ The second part is in preparation. In 1979 a companion work on epidemiological methods for environmental health studies was started in collaboration with the International Epidemiological Association.

11.36 In addition to evaluation of the health risks associated with exposure to individual environmental agents or combinations of environmental agents, the environmental health aspects of entire industrial sectors were examined. In 1978 reviews were carried out of the manufacture and use of synthetic organic chemicals and of the iron and steel industry. In 1979 a similar review was undertaken of the production and use of nonferrous alloys. These reviews provided an environmental health component in UNEP’s industry and environment programme.

11.37 Basic safety standards for radiation protection are being reviewed in the light of the new recommendations of the International Commission on Radiological Protection. A joint IAEA/ILO/WHO seminar on this subject was convened in 1979. WHO continued to cosponsor the publication of selected monographs in the IAEA Safety Series. Arrangements for mutual emergency assistance for radiation accidents were reviewed jointly by UNDRO, ILO, FAO, WHO, and IAEA. The Regional Office for Europe convened a working group in 1979 to consider the health consequences of new developments in nuclear power production and in other peaceful uses of the nuclear industry. Cooperation with UNSCEAR was continued, particularly in relation to the evaluation of the effects of environmental radioactivity.

11.38 Environmental health monitoring is an important part of WHO’s programme in the control of environmental pollution and hazards. Under the air quality monitoring project, which is supported by UNEP, monitoring stations were established in 15 major cities with no previous monitoring capability and were strengthened in others. In all, the air quality monitoring project now includes 170 monitoring stations in 46 countries and incorporates a number of stations from the Pan American air sampling network. Workshops or training courses were held in Bangkok, Lima, Nairobi, and Sofia. As regards water quality monitoring, which is also supported by UNEP, a network of approximately 330 stations in nearly 70 Member States was established and water quality data are beginning to be collected and analysed. An operational guide was issued in 1978. Training courses were held in Alexandria, Lima, Manila, and Nagpur (India) and a pilot course on analytical quality control was held in Mexico. The WHO collaborating centre for surface and ground water quality at the Canada Centre

for Inland Waters, Burlington, Ontario, is serving as the data centre for this project.

11.39 The environmental radiation monitoring programme, implemented by the WHO collaborating centre at the Central Service for Protection against Ionizing Radiation, Le Vésinet (France), together with some 30 national laboratories in 21 Member States and four WHO collaborating centres, has been in progress since 1972. A cooperative research project was begun on chromosome aberrations; it is being carried out with a number of WHO collaborating centres and other national institutions, and aims at developing a method for the biological monitoring of exposure to both ionizing radiations and chemicals.

11.40 Recommended by a joint meeting of UNEP, WHO, and governmental experts, a pilot project was started to improve methods of assessing the amounts of lead, mercury, cadmium, and selected organochlorine compounds in human tissue and fluids. Thirteen Member States, both developed and developing countries, are participating in the project, for which the Department of Environmental Hygiene of the Karolinska Institute, Stockholm, and the Swedish National Food Administration are serving as coordinating institutions.

11.41 Though progress has been noted in some countries, in general environmental pollution control programmes need developing and strengthening because of rapid economic development and urbanization. To help countries in this connexion, the Regional Office for South-East Asia is preparing a regional programme in environmental pollution control, and organized a regional seminar on assessment of the effects of pollution on environmental health. Regional seminars with the same aim were also organized in Czechoslovakia and Greece by the Regional Office for Europe. In the Western Pacific Region, the Laguna de Bay comprehensive water quality project in the Philippines was followed up, and air and water pollution control advisory services were provided to governments. In the Region of the Americas, Member States were assisted by the Pan American Center for Human Ecology and Health and the Pan American Center for Sanitary Engineering and Environmental Sciences in defining environmental degradation problems associated with industrialization and urbanization. A start was made in preparing guidelines for the use of national health officials in making their own assessments of the ecological and health effects. The questions of indoor air quality of concern in the European Region were considered by a working group, which recommended that guidelines should be produced for indoor air quality and also guidelines on air quality for use in building codes.

11.42 The planning of adequate national environmental pollution control programmes must be based inter alia on information as to the location and size of sources of pollution; the limited resources available to control and prevent environmental pollution can then be allocated to solving the most pressing problems. WHO began a field programme to evaluate the methodology for rapid assessment of air and water pollution sources in urban areas in Abidjan, Bangkok, Bombay, and Jakarta. A guide based on the field experience obtained is now being prepared. To assist with the design and planning of adequate national automobile exhaust control programmes, a series of interregional workshops is being planned in cooperation with UNEP.

11.43 WHO has taken a leading part in developing guidelines and criteria for the protection of the coastal waters of the

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world, which is a major part of the UNEP regional seas programme. In the Mediterranean in particular, WHO, through its European and Eastern Mediterranean Regional Offices, coordinates health surveillance (with standard methods and automated data analysis) of selected coastal recreation areas and shellfish-growing waters, in collaboration with ECE, UNEP, FAO and UNESCO. WHO also took part in developing and implementing action plans for other parts of the regional seas programme, with emphasis on the Kuwait area and West Africa. In a related programme, a series of workshops was started in collaboration with the United Nations, UNIDO, FAO, UNESCO, and IMCO on assessment of the environmental effects of coastal area development and incorporation of assessment procedures in national planning.

**Food safety**

11.44 In the African Region cooperation with Member States was directed towards reinforcing national structures for food protection. In the Region of the Americas new national food protection programmes were developed in Ecuador, Guatemala, and Peru. Under the regional education programme for food protection, based in Columbia, 176 professional staff and 45 food inspectors were given a two-year training course. In the South-East Asia Region food safety activities were limited to the collection of information on which to base future action. The European Region began the preparation of a UNDP-financed project on regional cooperation in food safety services, the emphasis being on mass catering and on food safety information and regulations. Work was also undertaken on the establishment of a regional surveillance programme for the control of foodborne infections and intoxications. A meeting of representatives of European Member States (Geneva, 1979) discussed the implementation of the programme, which is to become operational in 1980. In the Eastern Mediterranean Region WHO cooperated with various countries in strengthening food sanitation services and helped to develop programmes to establish effective infrastructures for municipal, provincial, and national action. In the Western Pacific Region, advisory services on food safety were furnished to Malaysia, the Philippines, and the Republic of Korea. In 1979 a working group on food hygiene and food safety met in Kuala Lumpur.

11.45 The coordination of international postgraduate training courses in food microbiology for students from developing countries has resulted in the integration of the activities of the four training centres in Europe participating in this programme. The trend now is to conduct these courses in developing countries, and a WHO intercountry workshop on advanced microbiological methods in food hygiene was held in Izatnagar (India) early in 1979.

11.46 The primary objective of the joint FAO/WHO food standards programme under the aegis of the Codex Alimentarius Commission, which has a membership of 117 countries, is to protect consumers from the health hazards related to food and also from fraudulent practices. It attempts to do so by establishing international or regional food standards and drawing up codes of practice for the safe handling of food. During 1978–1979 two sessions of the Commission and 19 commodity and general subject committee meetings were convened. Meetings were held of the coordinating committees for Africa, Asia, and Europe. A regional conference for Latin America was also convened.

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1 For food safety in relation to veterinary public health, see Chapter 9, paragraphs 9.156–9.159 and 9.162.
11.47 At its twelfth session (Rome, 1978) the Commission reviewed and assessed the results of its work. It agreed that the work of its general subject committees (food hygiene, food additives, pesticide residues, food labelling, methods of analysis and sampling, and general principles) was essential to its future activities and of value to both developed and developing countries. However, it decided that five Codex committees that had completed their assignments should adjourn sine die. This decision should enable the Commission to devote more of its time and activity to the needs of developing countries. The Commission also established new Codex committees for cereals and cereal products and for vegetable proteins. At the same session the Codex Alimentarius Commission gave particular attention to the role and work of its coordinating committees for Africa, Asia, and Latin America and assigned to them new functions to make them more effective in advancing the interests of their respective regions.

11.48 At its thirteenth session (1979) the Commission gave consideration to a code of ethics for international trade in food in addition to examining a large number of international food standards and codes of practice for the safe handling of foods. As part of a long-term programme for the development of internationally acceptable microbiological criteria for foods, an FAO/WHO working group met in 1979 to consider and amend draft texts on general principles for the establishment of microbiological criteria for foods and on criteria for raw meat and poultry. The work carried out jointly with FAO on an international code of principles for antemortem and postmortem judgement of slaughter animals and meat was finalized by a group of experts in 1979.

11.49 The joint meeting of the FAO Panel of Experts on Pesticide Residues and Environment and the WHO Expert Group on Pesticide Residues was convened twice (1978 and 1979) to provide toxicological evaluations and establish maximum residue limits in foods for a large number of pesticides. In addition, two meetings of the Joint FAO/WHO Expert Committee on Food Additives were held (1978 and 1979). At the 1978 session specifications and acceptable daily intakes were established for a number of food additives. Toxicological evaluations or re-evaluations were also carried out on the following food contaminants: asbestos, lead, mercury, methyl-mercury, inorganic tin salts, and organotin compounds. At the 1979 session a number of food colours, solvents, flavouring substances, and other food additives were considered. A WHO expert consultation on paralytic shellfish poisoning (1978) recommended ways of strengthening preventive and control measures at international and national level and the preparation of a guide.

11.50 Under the joint FAO/UNEP/WHO food and animal feed contamination monitoring programme, stage II, guidelines for establishing or strengthening national food contamination monitoring programmes and a summary report of data received from collaborating centres for food contamination monitoring (stage I, 1977) were issued. During 1978 data were received from the collaborating centres on organochlorine pesticides, lead, and cadmium in a variety of foods. In 1979, in addition, information was received on the total dietary intake of organochlorine pesticides, lead, cadmium, and aflatoxins.

12.1 The lack of health manpower is often the principal obstacle to the delivery of health care. The insufficient number of health workers, their uneven distribution, and only too often the irrelevance of their training are perennial problems for many countries.

12.2 The constitutional role of WHO in relation to the training of national health personnel was redefined by the Twenty-ninth World Health Assembly in 1976 (resolution WHA29.72) in order to increase the relevance of the health manpower development programme to the requirements of Member States and to promote manpower systems that will produce, in sufficient numbers, health personnel whose training has been relevant to the health needs of the population they are to serve. The resolution called for cooperation between WHO and Member States in the formulation of national health manpower policies and plans, the development of health teams (especially for the delivery of primary health care), the institution of effective manpower management policies, and the establishment of mechanisms that will ensure the integrated development of health services and manpower.

12.3 The Health Assembly endorsed WHO's long-term programme in health manpower development and requested the Director-General to establish a medium-term programme that would translate its objectives into a set of relevant activities, with definite targets. Such a medium-term programme for the years 1978-1983 was discussed by the regional committees and in 1978 was endorsed by the Thirty-first World Health Assembly (resolution WHA31.36).

12.4 The Declaration of Alma-Ata emphasized that the delivery of primary health care would require health workers suitably trained socially and technically to work in teams in order better to respond to the needs of communities. The International Conference on Primary Health Care at which the Declaration was adopted recommended that governments should give high priority to the full utilization of human resources by defining the technical role, supportive skills, and social attitudes required for each category of worker in the health team; and should undertake the training and reorientation of all categories of health workers to prepare them for their role in the delivery of primary health care.

12.5 WHO's health manpower development programme in 1978 and 1979 was fully geared to the attainment of an acceptable level of health for all by the year 2000, in particular through primary health care programmes in all countries. Its main
objective is to collaborate with Member States in developing manpower systems that will enable them to plan for, produce, manage, and efficiently utilize health personnel that are sufficient in number and have the appropriate skills to meet the health needs of the entire population, particularly the most deprived communities such as those in rural areas. To attain this objective, the tasks of each category of health worker must be defined and the training of each health worker must be appropriate to the job he or she will be expected to carry out.

12.6 This in turn requires a logical sequence of activities: health manpower planning based on the national political framework and national health policies; education and training (i.e., production) of health manpower based on those plans; and management of the health manpower thus trained. These activities should be integrated into a single process. During the biennium WHO sought to promote this concept of integrated health services and manpower development and to collaborate with Member States in setting up mechanisms to translate the concept into reality.

The medium-term programme

12.7 The medium-term programme for health manpower development is an action programme that comprises (1) an analysis of the problems to be resolved, (2) a list of targets and the activities required to attain them, and (3) a breakdown of the specific action to be undertaken in collaboration with Member States during the years 1978-1983.¹

12.8 The medium-term programme, however, must be constantly reviewed, adapted and improved to meet changing health needs and demands. An interregional meeting of nationals and WHO staff (Brazzaville, December 1978) reviewed progress made, assessed the present status of the programme to determine if its objectives were being fulfilled, and formulated strategies for implementation at country level. It concluded that the medium-term programme was valuable in that it provided a definite plan of action to achieve the objectives of the General Programme of Work and that the interlinking of activities over a six-year period would make for continuity of action. Moreover, the medium-term programme would enable provision to be made in the biennial budget in the light of six-year targets, would facilitate evaluation of activities and should prove an effective management tool, especially for intercountry and interregional activities.

12.9 The implementation of the medium-term programme progressed satisfactorily during the biennium in spite of financial constraints. Indeed it served to attract extrabudgetary resources—from UNDP, UNFPA, CIDA, DANIDA, the Inter-American Development Bank, the Netherlands Ministry for Development Cooperation, the United Kingdom Overseas Development Administration, the W. K. Kellogg Foundation, and others. These resources in turn contributed to the realization of the programme in its first two years of existence, as described below.

Revision of the medium-term programme

12.10 To ensure that programmes remain relevant to the changing health priorities of Member States, some of the activities in the medium-term programme were reviewed in 1979. The basis for this

¹FULLÖ, T. Health personnel to meet the people's needs. WHO Chronicle, 33: 80-93 (1979).
review and for the further reorientation were the principles adopted and the strategies proposed at the Alma-Ata Conference, resolution WHA32.30 on formulating strategies for health for all by the year 2000, the conclusions and recommendations of the Brazzaville meeting (see paragraph 12.8 above), and experience over the preceding two years. The revised programme serves as a basis for the dialogue on collaborative activities in health manpower development with Member States, nongovernmental and intergovernmental organizations, and other WHO programmes and for the preparation of the 1982-1983 programme budget.

Programme areas in health manpower development

12.11 Activities fall into four programme areas: (1) programme planning and general activities; (2) health manpower planning and management; (3) promotion of training; and (4) educational development and support.

12.12 The first of these covers the coordination of the other three areas and also certain general activities that affect all programmes, e.g., the information service and research. The information service uses the WHO Chronicle for the publication of a newsletter ("Health manpower news") providing information on health manpower plans, programmes and processes; management techniques; teaching/learning materials; instruments and processes for programme evaluation; and training institutions and other learning facilities. Six such newsletters appeared during the biennium.

12.13 Research in health manpower development is an integral part of the programme, and individual research activities are found in each programme area. In order to guide these activities, an interregional consultation on health manpower development research as one element of health services research (Geneva, February 1978) identified the problems to be investigated and established priorities.

Health manpower planning and management

12.14 Activities during the biennium were oriented towards cooperation with Member States in extending coverage of primary health care through planned change, and management of change, in the planning, utilization and distribution of health personnel. The objectives are:

- effective coordination between educational and service institutions;
- development of national capability for health manpower planning;
- development of national capability for management training;
- promotion of career development and incentive schemes, including systems of continuing education, and
- limitation of undesirable migration of health personnel.

Health services and manpower development

12.15 Coordination between educational and service institutions was the object of a two-fold approach: (1) the promotion of a dialogue among all sectors involved in health services and manpower development, and (2) the establishing of mechanisms to ensure coordination of those sectors. As a result, awareness of the concept increased throughout the world and countries took action to establish or improve their coordination mechanisms. An example of this in the Region of the Americas is the Latin American Program
of Educational Development for Health (funded by various agencies and by governments), which continued to promote intersectoral committees for coordinating health manpower development within the framework of health services. Among the activities carried out were the project of technical cooperation to improve training programmes at the University of Nicaragua, the programme for education and training of allied health personnel in the Caribbean, and the programme for training health personnel in Brazil.

12.16 The European Region continued its efforts to improve communication and collaboration both within the health professions and also between the health and educational systems and the community. A study, completed early in 1978, on communication and collaboration among health professionals in medicine, nursing, and medical social work was the main document for a working group (Florence, Italy, October 1978) that discussed working relationships among those groups of workers. The working group was preceded by a study of teamwork between physicians and nurses, carried out in five countries of the Region (Denmark, Hungary, Netherlands, Sweden, and the United Kingdom).

12.17 The European Region's medium-term programme in nursing and midwifery emphasizes the integration of health manpower development and nursing services. As part of this programme, six national collaborating centres working in close contact with a wide network of participating centres are conducting standardized studies of nursing interventions and the personnel needed to carry out such interventions effectively.1


12.18 In the Eastern Mediterranean Region, a ministerial consultation on health services and manpower development (Teheran, February/March 1978) brought together for the first time ministers of health and ministers of education from the Member States of the Region. A plan of action for the functionally integrated development of health services and health manpower resulted, which outlines general principles, measures to be taken by national authorities, and activities to be undertaken by WHO.2 Egypt, Pakistan, and Saudi Arabia subsequently held national meetings on the subject, and steps in the same direction were taken in Afghanistan, Bahrain, Iraq, Kuwait, Sudan, and Tunisia.

12.19 The dialogue between health services and manpower development sectors was the subject of seminars for the Region of the Americas (Caracas, February 1978) and for the South-East Asia and Western Pacific Regions (Manila, March 1979)—both in collaboration with the World Federation for Medical Education. The Manila seminar was followed in the South-East Asia Region by a consultation (New Delhi, August 1979) to develop country-specific plans of action for coordination of the two sectors, and in the Western Pacific Region by a meeting in late 1979 of deans of medical schools who similarly discussed intersectoral collaboration.

Planning of health manpower

12.20 A series of activities was undertaken to improve health manpower planning capability in Member States. A publication issued in 19783 assembled information on


the various aspects of health manpower planning, set out the principles of health manpower planning as an integral part of overall health planning, and highlighted some of the difficulties commonly encountered. Guidelines for health manpower planning, in the form of a set of procedural steps, were prepared for use in the training of planners. Following a consultation on health manpower planning (October 1978), the Regional Office for the Western Pacific also developed a set of guidelines emphasizing the health manpower planning process, the entry-points for undertaking such planning, and the relationship of the process to country health programming. At the end of 1979 both sets of guidelines were ready for field testing.

12.21 In the African Region, the curricula of health development centres, in particular the centre attached to the Institute of Public Health, Cotonou (Benin), were reoriented to include the methodology of country health programming.

12.22 In the Region of the Americas, the concept of health manpower planning is widely accepted and the majority of ministries of health have set up special units for this purpose. The Andean countries—Bolivia, Columbia, Ecuador, Peru, and Venezuela—decided through the Hipólito Unanue Agreement to pool the results of their experience in health manpower planning in order to establish a master system of information that would serve as an example for other countries. The Organization cooperated with the Ministry of Health of Colombia in conducting the first international course in health manpower planning (Bogotá, 1978).

12.23 In the South-East Asia Region, an intercountry workshop on health manpower studies (Bangkok, 1978) aroused considerable interest, as evidenced by the many subsequent requests to WHO for cooperation in formulating national programmes.

12.24 The Regional Office for Europe began work, initially with the nine countries of the European Economic Community, on methods for the regular collection of information on nursing and midwifery personnel as a basis for estimating manpower needs.

12.25 Two region-wide studies on manpower needs, in oral health and in environmental health, were initiated in the Eastern Mediterranean.

12.26 The failure to relate manpower requirements to prevailing health needs and to the socioeconomic situation of the country is an obstacle to realistic health manpower planning. Baseline information is often weak owing to inadequate national information systems. WHO has therefore tried to find alternative methods of health manpower planning that are suited to the technical and financial capacity of health information systems. A simple approach has been developed for health problems that cannot await the results of large-scale surveys over a long period of time. It consists in eliciting information from selected health workers, administrators and community representatives as to what they consider to be the health needs of the community and its manpower requirements. The methodology for such an approach was field-tested in Colombia during the biennium and the final report is expected early in 1980.

12.27 One of the recommendations of the Alma-Ata Conference was that governments should define the roles and functions of health workers in the delivery of primary health care. A consultation on systematic approaches to task analysis in maternal and
child health care (Geneva, August 1979) considered alternative methods for functional analysis or "work studies", and how such studies could be used in health manpower planning. The emphasis was on simple procedures adapted to the needs of the country concerned.

Management of health manpower

12.28 The Alma-Ata Conference recommended that governments should provide appropriate management training to different categories of health workers. Earlier in 1978 the Health Assembly had advocated the need for a unified managerial process for national health development and urged Member States to provide appropriate training and continuing education in managerial processes for all health workers, particularly health administrators (resolution WHA31.43).

12.29 The subject selected by the Health Assembly in 1978 for the organizational study to be undertaken by the Executive Board was: "The role of WHO in training in public health and health programme management, including the use of country health programming". The study was designed and was under way at the end of 1979.

12.30 WHO is also promoting training in public health management as a cooperative endeavour carried out through a network of national and intercountry institutions. As a first step, a programme of continuing education to meet management difficulties in the delivery of primary health care was initiated in Burma, Costa Rica and Sri Lanka, in which WHO cooperated with the national health authorities in planning training programmes on the basis of management problems specifically identified as hindering such delivery.

12.31 In the African Region high priority was given to integrating management training into the curricula of all health institutions. A network of national centres for training in health management is being established with institutions in Benin, Mozambique, Niger, Nigeria, Senegal, the United Republic of Cameroon, the United Republic of Tanzania, and Zaire.

12.32 In the Americas PAHO/WHO collaborated with the Pan American Federation of Associations of Medical Schools and the Latin American Association of Schools of Public Health in offering training programmes in public health. Six countries—Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras and Nicaragua—undertook a programme to train supervisory personnel and reorient them to the delivery of primary health care. The Latin American Centre for Educational Technology for Health, Rio de Janeiro, actively participated in this type of training; a programme began in Brazil and Colombia to reinforce training in the administration of health care in Latin America.

12.33 The Regional Office for Europe continued to support the nine-month course for public health administrators held annually (in Russian and English) at the Central Institute for Advanced Medical Studies, Moscow, and the two four-week summer courses held respectively at the Nuffield Centre for Health Services Studies, University of Leeds (United Kingdom) and at the International Summer School of the University of Oslo. A working group on the design of training in health planning and management (Berlin (West), July 1979) considered how to develop or intensify such training in the European Region. An inventory of the various institutions throughout the world that can be used for health management training was completed; it includes institutions with train-
ing programmes in general management and public administration, which are often more developed than those in the health sector and are also suitable for training health workers.

Continuing education

12.34 The Alma-Ata Conference recommended that all levels of health personnel be provided with appropriate incentives, including opportunities for further training or continuing education. The development of health services in rural areas and the emphasis on primary health care have created new demands for the continuing education of health personnel, and Member States are coming to recognize the need for comprehensive national programmes for this type of training. An interregional seminar on continuing education of health personnel (Washington, DC, April/May 1979), bringing together officials of ministries of health and educators from countries throughout the world, reviewed national policies, programmes and experience, and proposed activities for cooperation and for the further development of continuing education of health personnel. The first version of an operational guide for a system of continuing education was presented to the seminar and will be field-tested in the near future.

12.35 In the Region of the Americas, an agreement was signed in 1978 with the ministers of health of Bolivia, Colombia, Cuba, Dominican Republic, Guatemala and Honduras for a three-year project in which systems of continuing education would be established for health personnel working in rural areas.

12.36 The growing interest of the Member States in the European Region in continuing education programmes for all health workers found expression in the Technical Discussions at the twenty-ninth session of the Regional Committee (Helsinki, September 1979) the theme of which was, “Continuing education of health personnel and its evaluation”. This interest is also reflected in the large number of courses on the subject organized in the Region. A working group on continuing education of health personnel as a factor in career development (Budapest, 1978) brought together participants with experience in planning, organizing and evaluating courses of continuing education, with a view to determining how programmes of continuing education can support the career development of health workers and how to encourage and expand this aspect.

12.37 In the Eastern Mediterranean Region, WHO participated in the inaugural meeting of the Supreme Council of the Arab Board for Medical Specialization (Kuwait, January 1979), sponsored by the Technical Secretariat of the Council of Arab Ministers of Health in order to promote the development and upgrading of postgraduate and continuing education programmes for physicians in the Region by setting up specialty boards in medicine, surgery, obstetrics, gynaecology and paediatrics.

12.38 For several years in the Western Pacific Region WHO has been providing refresher training to medical officers in the Trust Territory of the Pacific Islands; the health manpower development programme of the Territory includes continuing education for ten categories of health worker.

Migration of health manpower

12.39 The exodus of health manpower continues to be of concern to Member States. The results of a WHO study were published in 1979,1 and an abridged version

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was prepared in French by the Centre de Sociologie et de Démographie médicales, Paris. A special case-study on the United States of America, sponsored by the Sandoz Institute for Health and Socioeconomic Studies, Geneva, and by WHO examined the extent of migration of physicians and nurses from various countries, its causes, and its consequences. One of the conclusions of the study is that undesirable migration cannot be controlled by any of the methods usually employed in the past: it can be reduced only when a country produces the categories and numbers of health personnel that it can effectively absorb and principally when training of all health personnel is reoriented to meet priority needs in health care. This in turn entails a coordinated system for the development of health services and health manpower.

12.40 An examination of the results of the study, which is being prepared for publication, should enable each Member State to pinpoint the factors that influence the migration of health personnel and determine in what ways, if any, WHO can cooperate in designing and implementing a plan of action to curb undesirable migration.

Promotion of training

12.41 The development of personnel for primary health care, and the strengthening of the capabilities of Member States for implementing and evaluating their training programmes for health workers through an exchange of experience, formed the core of this programme area. Activities concentrated in the main on developing and promoting training strategies that are relevant to community health needs—especially for peripheral, auxiliary and intermediate-level health workers, including traditional birth attendants—and on preparing teachers for those categories of health workers. The objectives were:

— to develop educational institutions, with emphasis on the intermediate and auxiliary levels;
— to design and develop task- and community-oriented training programmes for all levels of health personnel that have special relevance to the needs of underserved populations and can be replicated; and
— to provide advanced education for health personnel, including the subject matter component of teacher training.

Training for primary health care

12.42 The Primary Health Care Worker: Working Guide, Guidelines for Training, Guidelines for Adaptation was first published in 1977. During the biennium it was adapted to local conditions in 15 countries in all six regions, and was translated into local languages. This guide has now been reviewed and new chapters have been added, in particular a chapter dealing with community participation. The revised English edition was published.1

12.43 Another guide—On Being in Charge: A Guide for Middle-level Management in Primary Health Care—was developed for health personnel working at the health centre or dispensary as reference material for use in organizing, guiding and supervising the work of health workers at the peripheral level. An experimental version of the guide was being tested at the end of 1979.

12.44 The report was published of an expert committee on the training and

utilization of auxiliary personnel for rural health teams in developing countries with a view to defining strategies for developing the teamwork approach for the various categories of health personnel engaged in primary health care. The committee stressed that it is advisable to recruit trainees from the village or area to which they will eventually return to work; the newly trained health worker will then be familiar with local culture and customs and will be more readily accepted by the local people. Traditional health practitioners in the community should be considered an additional source of potential health manpower. The committee’s report was discussed at an interregional workshop on the development of health teams in rural work (Tacloban, Philippines, October 1979), at which country-specific plans of action for training rural health teams were discussed. As a follow-up to the expert committee, an interregional study on the training and utilization of community health workers began in 13 Member States in all six regions.

12.45 A study tour on the training and utilization of barefoot doctors in community health services (China, August 1978) enabled participants to observe the achievements of this type of personnel in both urban and rural settings. Eighteen participants from developing countries in all regions thus had an opportunity to learn how community health services in China are planned, organized and implemented, and how the barefoot doctor is trained and utilized to extend the coverage of health services to the total population. They were also able to determine which approaches could be adapted to primary health care services, especially in rural areas in their own countries.

12.46 In the African Region, a workshop on primary health care was organized by the University Centre for Health Sciences, Yaoundé (March 1978), and a guide was prepared to facilitate the integration of primary health care development into health manpower development programmes. Another workshop (June 1979) at the Lomé regional training centre examined didactic material produced by the centre for the training of community health workers. In the Region of the Americas, an evaluation was made of the programme for training allied health personnel in the Caribbean; the evaluation mission concluded that the programme was of high priority and should continue to receive the support of WHO. In the Western Pacific Region, the use of medical assistants is being increasingly promoted: there are training programmes in Fiji and Papua New Guinea, and WHO is collaborating in a new training project that has been initiated in Tonga.

12.47 Nursing personnel provide a considerable proportion of the health care in most countries and form the bulwark of primary health care services in rural areas. A workshop cosponsored by WHO and the International Council of Nurses (Nairobi, September 1979) defined the role of nurses in the planning and implementation of primary health care, and drew up the framework for a plan of action through which the member associations of the Council could effectively promote and support primary health care at national and international levels. Since the participants in the workshop were leaders of the nursing profession from 63 countries, they are in a position to influence nursing services, education and research, and to reach about one million nurses throughout the world.

12.48 Facilitating Teaching/Learning with Modules: An Approach for Nurse Midwife

the work of WHO, 1978–1979

Teachers, the publication of a WHO collaborating centre which appeared in 1977,1 has been the main source of guidance on training modules, and a questionnaire designed to evaluate its usefulness was distributed to several hundred users in all regions. The use of the modular approach in the continuing education of all categories of health personnel (physicians, nurses, midwives) working in rural areas was evaluated in the Philippines towards the end of 1979, to determine the effectiveness of the approach as compared with traditional methods in terms of cost and of the time required for learning how to use it.

12.49 In the African Region the international teaching staff at the regional postbasic nursing education centres in Dakar and Yaoundé are gradually being replaced by nationals. An evaluation of the work of both centres showed that a high proportion of their graduates are teaching in national schools for nurses and midwives and that the rest are working as head nurses, senior nurses, or administrators in hospitals.

12.50 In the South-East Asia Region, nursing curricula were adapted to reflect the community health approach, and guidelines were prepared for community-oriented training. An intercountry workshop on planning for continuing education for nursing personnel was held at the Regional Office (September 1978).

12.51 The Regional Office for Europe collaborated with an independent group of nurses from five countries (Canada, Denmark, Sweden, the United Kingdom, and the United States of America) in holding the first international conference on the role of the infection-control nurse in the surveillance, prevention and control of hospital-associated infections (Copenhagen, 1978). Sixty-six participants from 27 countries discussed the problem of nosocomial infections; defined the role of the infection-control nurse as an integral but independent member of the surveillance, prevention, and infection-control team; and provided guidelines for the education and training of such nurses. The Regional Office also participated in developing reoriented nursing education programmes in a number of countries, including Belgium, Iceland and Italy, and also in Berlin (West).

12.52 In the Western Pacific Region, a study was carried out in Papua New Guinea to determine what roles are currently performed by nurses and ascertain existing pathways for their career development. A working group was held on the collaborative role of WHO in nursing and midwifery in the South Pacific (Suva, 1978). In Malaysia, the functions of the rural midwife are being expanded to those of a multipurpose community health worker. The postbasic programmes in nursing education, nursing administration and community health at the Port Moresby College of Allied Health Sciences, Papua New Guinea, are already producing graduates who take up posts in teaching and administration. In addition, as a result of national and interregional workshops in Papua New Guinea and in the Philippines, 62 modules for nursing and midwifery instruction were developed.

12.53 The Alma-Ata Conference recommended the use of traditional birth attendants in primary health care where appropriate, a recommendation that gained national support in many countries and has

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steadily attracted the interest of health authorities. Several activities were undertaken to strengthen and extend training programmes for this category of health worker.

12.54 A field guide to the training of traditional birth attendants was published. It gives guidance on the training of traditional birth attendants, outlines procedures for evaluating their training and utilization, and explains how to link them effectively with the organized health system by means of continuous coordination with training institutions and referral centres and by the formulation of appropriate official policies.

12.55 In order to exchange information on the utilization of traditional birth attendants, national investigators from eight countries (Ecuador, Honduras, Philippines, Senegal, Sierra Leone, Sri Lanka, Sudan and Thailand) began to prepare case studies describing their training and utilization and showing how the constraints on these processes could be resolved. An annotated bibliography on the training, utilization and evaluation of traditional birth attendants was issued in document form in late 1979.

12.56 As a further step, an interregional consultation (Mexico City, December 1979) defined national strategies for the training and utilization of traditional birth attendants, as a way of extending primary health care services to underserved populations, particularly those in rural areas. It highlighted the role of WHO, and of other intergovernmental and nongovernmental organizations in carrying out these strategies, which include research, the development of appropriate teaching/learning materials, and exchange of information.

Community-oriented educational programmes

12.57 Activities were undertaken to increase the relevance of educational programmes to the health needs of communities and to improve the effectiveness of the teaching/learning process. Among them was the publication of the first volume of Personnel for Health Care: Case Studies of Educational Programmes, a series to disseminate information about educational programmes that are breaking with tradition in that they are specifically oriented to community health needs. Such programmes are attempting to make the teaching/learning process more effective by basing it on community problems, introducing the concept of integration of health services and manpower development, emphasizing “active” learning, and using appropriate technology.

12.58 Another activity to support educators attempting to develop community-oriented educational programmes was the formation by WHO of a global network of institutions offering such programmes. At a meeting in Kingston (June 1979), some 20 directors of community-oriented educational programmes agreed to collaborate with and offer support to other institutions with similar objectives. Such support includes the exchange of information, learning material, and personnel; the organization of workshops for the staff of the institutions; the sharing of

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2 Traditional birth attendants. An annotated bibliography on their training, utilization and evaluation. (WHO document HMD/NUR/79.1—English only).

expertise; and participation in research and developmental activities.

12.59 In the African Region, networks of health development or training centres are being gradually established. The Institute of Public Health, Cotonou (Benin) was designated a regional health development and training centre and its training programme was redesigned to give it community orientation and permit active student participation. The fifth meeting of deans and directors of training establishments for health sciences in Africa approved a proposal to set up an African network of national centres for training specialists.

12.60 Representatives from the African, South-East Asia, Eastern Mediterranean, and Western Pacific Regions attended the eighth meeting of directors of schools of public health (Bangkok, 1979). The meeting reiterated its support for integrated development of health services and manpower, and outlined a strategy for related research.

12.61 In the South-East Asia Region, an intercountry consultation (October 1978) considered the development of postgraduate training in the Region and recommended that the role of the specialist at the intermediate level of health care delivery should be strengthened. This would mean producing staff who, although specialized in one discipline, would also have a general knowledge of other disciplines besides being competent in administration and management, educational methodology, and communication skills. An intercountry seminar (Surabaya, Indonesia, June 1979) reviewed the extent to which medical education has been reoriented towards community health needs and proposed country-specific strategies and approaches for developing task- and community-oriented curricula.

12.62 In the Western Pacific Region, two study missions were arranged for teaching staff from China. The first, a group of ten senior faculty members from three medical schools, spent two weeks at the regional training centre, Sydney (January 1979) studying undergraduate medical education. The second group (September 1979) visited the European, American and Western Pacific Regions to observe the organization and management of higher education.

Information on training institutions

12.63 The fifth edition of the World Directory of Medical Schools,1 gives information on 1116 medical schools (using 1975 as the main year of reference)—an increase of 154 over the number reported in the fourth edition, which used 1970 data. The directory describes the pattern and administrative structure of undergraduate medical education in each country and gives selected data on each medical school, including criteria for and the process of student selection, types of curriculum design, instructional methods, and procedures for evaluating student performance.

12.64 The African Region prepared a directory of training institutions for health personnel in the Region which gives details of the types of training programme and the material resources available in each institution. It also includes details on the networks of national centres for (a) production and distribution of teaching material and (b) training of specialists.

Fellowships

12.65 The award of fellowships is an important part of WHO's work. Considerable effort is exerted to ensure that oppor-
opportunities for study meet countries' needs and that fellowships are efficiently and economically administered as part of the general programme of technical cooperation with Member States. During the biennium 1978–1979 WHO awarded 6798 fellowships for study (see Table 12.1) and 7084 fellowships for participation in meetings or for other educational activities (courses, seminars, workshops) organized by WHO.

12.66 Efforts were made to place fellows in an environment that resembled that of their home country. In 1978, for example, 62.4% of fellows were placed in their own region (73.6% in the African Region, 88.9% in the Region of the Americas, 40.6% in the South-East Asia Region, 89.1% in the European Region, 41.4% in the Eastern Mediterranean Region, and 66.6% in the Western Pacific Region). In many cases fellows studying in regions other than their own do so in countries similar to their own; for example, fellows from developing countries of the Eastern Mediterranean Region may study in India.

12.67 A conference on regional cooperation in the WHO fellowships programme was held in the Western Pacific Region (February 1979) at which representatives discussed changing trends in training and emphasized the importance of the fellowships programme as exemplifying the policies that guide WHO's programmes of collaboration with Member States, e.g., technical cooperation among developing countries.

Educational development and support

12.68 Activities under this heading are focused on the stimulation of educational planning and processes in support of primary health care. They have the following objectives:

- development of a systematic approach to educational planning and technology, including teacher training; and
- development and/or provision of relevant health instructional material, including textbooks.

Teacher training

12.69 The Alma-Ata Conference recommended that due attention should be given to the preparation of teachers of health workers. WHO has been engaged in several collaborative activities with Member States to develop teacher-training programmes at regional and national level, mostly by way of workshops or consultations on educational theory and processes.

12.70 One important activity during the biennium was the continuation of the global teacher-training programme, launched in 1969, and a report issued in 1979 reviewed this activity from its beginnings. The original programme had envisaged the establishment, in stages, of interregional, regional, national, and institutional centres that would attempt to increase the relevance of the teaching/learning process for health workers to the real health needs and demands of the population as a whole. In the first stage an interregional teacher training centre was established at the Center for Educational Development, University of Illinois (United States of America) that would train staff for the regional centres, of which eight were set up—in Bangkok, Kampala, Mexico City, Peradeniya (Sri Lanka), Rio de Janeiro (Brazil), Shiraz (Iran), Sydney (Australia), and Yaoundé. Six of the directors of these regional centres and one assistant director completed a one-year
### Table 12.1 Distribution of fellowships, by subject of study and by region, 1978–1979

<table>
<thead>
<tr>
<th>Subject of study</th>
<th>African Region</th>
<th>Region of the Americas</th>
<th>South-East Asia Region</th>
<th>European Region</th>
<th>Eastern Mediterranean Region</th>
<th>Western Pacific Region</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public health administration</td>
<td>391</td>
<td>149</td>
<td>176</td>
<td>47</td>
<td>66</td>
<td>107</td>
<td>936</td>
</tr>
<tr>
<td>Hospital and medical care administration</td>
<td>11</td>
<td>47</td>
<td>36</td>
<td>16</td>
<td>73</td>
<td>20</td>
<td>203</td>
</tr>
<tr>
<td>Construction of health institutions</td>
<td>-</td>
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<td>-</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>19</td>
</tr>
<tr>
<td>Medical librarianship</td>
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<td>-</td>
<td>-</td>
<td>6</td>
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<tr>
<td>Subtotal</td>
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<td>228</td>
<td>212</td>
<td>64</td>
<td>148</td>
<td>133</td>
<td>1189</td>
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<tr>
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<td>167</td>
<td>201</td>
<td>38</td>
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<td>662</td>
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<td>21</td>
<td>11</td>
<td>10</td>
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<tr>
<td>Subtotal</td>
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<td>91</td>
<td>188</td>
<td>212</td>
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<td>2</td>
<td>-</td>
<td>1</td>
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<td>9</td>
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<tr>
<td>Subtotal</td>
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<td>71</td>
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<td>18</td>
<td>60</td>
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<td>Maternal and child health</td>
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<td>117</td>
<td>52</td>
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<td>517</td>
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<td>Paediatrics and obstetrics</td>
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<td>20</td>
<td>13</td>
<td>22</td>
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<td>103</td>
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<tr>
<td>Subtotal</td>
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<td>130</td>
<td>74</td>
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<td>620</td>
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<td>47</td>
<td>21</td>
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<tr>
<td>Control of pharmaceutical and biological preparations</td>
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<td>19</td>
<td>29</td>
<td>13</td>
<td>34</td>
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<td>128</td>
<td>167</td>
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<td>896</td>
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<td><strong>Percentage</strong></td>
<td>72%</td>
<td>60%</td>
<td>56%</td>
<td>80%</td>
<td>48%</td>
<td>59%</td>
<td>61%</td>
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<td>Malaria</td>
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<td>43</td>
<td>7</td>
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<td>92</td>
<td>57</td>
<td>443</td>
</tr>
<tr>
<td>Chemotherapy, antibiotics</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
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<td>6</td>
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<tr>
<td><strong>TOTAL – COMMUNICABLE DISEASES</strong></td>
<td>183</td>
<td>318</td>
<td>310</td>
<td>49</td>
<td>243</td>
<td>137</td>
<td>1240</td>
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<tr>
<td><strong>Percentage</strong></td>
<td>14%</td>
<td>24%</td>
<td>20%</td>
<td>7%</td>
<td>23%</td>
<td>17%</td>
<td>18%</td>
</tr>
<tr>
<td>Surgery and medicine</td>
<td>17</td>
<td>7</td>
<td>41</td>
<td>18</td>
<td>38</td>
<td>15</td>
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<tr>
<td>Anaesthesiology</td>
<td>11</td>
<td>-</td>
<td>6</td>
<td>1</td>
<td>25</td>
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<tr>
<td>Radiology</td>
<td>54</td>
<td>10</td>
<td>20</td>
<td>4</td>
<td>61</td>
<td>35</td>
<td>184</td>
</tr>
<tr>
<td>Haematology</td>
<td>9</td>
<td>5</td>
<td>10</td>
<td>2</td>
<td>20</td>
<td>4</td>
<td>50</td>
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<tr>
<td>Other medical and surgical specialties</td>
<td>33</td>
<td>24</td>
<td>86</td>
<td>36</td>
<td>72</td>
<td>20</td>
<td>271</td>
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<tr>
<td>Subtotal</td>
<td>124</td>
<td>46</td>
<td>163</td>
<td>61</td>
<td>216</td>
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<td>701</td>
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<tr>
<td>Basic medical sciences</td>
<td>24</td>
<td>11</td>
<td>49</td>
<td>13</td>
<td>45</td>
<td>30</td>
<td>172</td>
</tr>
<tr>
<td>Medical and allied education</td>
<td>5</td>
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<td>166</td>
<td>16</td>
<td>59</td>
<td>46</td>
<td>446</td>
</tr>
<tr>
<td>Undergraduate medical studies</td>
<td>36</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>10</td>
<td>17</td>
<td>67</td>
</tr>
<tr>
<td>Subtotal</td>
<td>65</td>
<td>165</td>
<td>219</td>
<td>29</td>
<td>114</td>
<td>93</td>
<td>685</td>
</tr>
<tr>
<td><strong>TOTAL – CLINICAL MEDICINE, BASIC MEDICAL SCIENCES, AND MEDICAL AND ALLIED EDUCATION</strong></td>
<td>189</td>
<td>211</td>
<td>382</td>
<td>90</td>
<td>330</td>
<td>184</td>
<td>1396</td>
</tr>
<tr>
<td><strong>Percentage</strong></td>
<td>14%</td>
<td>16%</td>
<td>24%</td>
<td>13%</td>
<td>31%</td>
<td>24%</td>
<td>21%</td>
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<tr>
<td><strong>GRAND TOTAL</strong></td>
<td>1 333</td>
<td>1 335</td>
<td>1 588</td>
<td>691</td>
<td>1 070</td>
<td>781</td>
<td>6 798*</td>
</tr>
</tbody>
</table>

* 3 267 during 1978 and 3 531 during 1979.
training programme at the interregional centre. Short workshops were also held to train staff from regional centres and other educational leaders. By the end of the first stage most of the regional centres were fully operational and were using trained staff. Under the terms of the original agreement, in 1973 the Center for Educational Development ceased to act as an interregional centre.

12.71 By early 1978 more than 700 workshops, involving more than 15,000 participants, had been held to improve the training of teachers, and a number of graduate programmes were being offered. Six of the eight centres are still operating as regional centres. The centres in Kampala and Yaoundé have been redesignated as national centres, of which there are many others, e.g. in Manila, Pondicherry (India), and Seoul. All the regional teacher-training centres are engaged to some extent in the production and dissemination of teaching/learning material, and some have carried out research in education. Centres have been established in different training institutions throughout the world as an offshoot of this programme and their number is still growing.

12.72 The report reviewed in detail the structure, functions, and teaching activities of the various centres and outlined some of their problems. It attempted to assess the impact of the programme on the health manpower development of Member States and the influence it had had on the hundreds of thousands of teachers around the world. It described the research carried out, and pointed to the constraints which hindered the achievement of some of the programme’s objectives.

12.73 As an aid to the teacher-training workshops, the Educational Handbook for Health Personnel continued to be used extensively. This handbook, designed to help teachers in their training activities, was field-tested and is being revised on the basis of feedback obtained from its users both in their working situation and in workshops or consultations.

12.74 A survey on the use of learning objectives is being carried out in institutions training nurses and physicians, with the collaboration of two nongovernmental organizations, the International Council of Nurses and the World Federation for Medical Education. The purpose is to find out which institutions have established a list of general educational objectives for the type of personnel they are training and, most important, to what extent those objectives are relevant to the assessed health needs of the population to be served.

12.75 In view of the recognized shortage of teaching personnel, particularly in developing countries, the possibility of using students as members of the instructional team was investigated. A consultation was convened (December 1978) to review the potential of peer learning as a way to contribute to the teaching/learning process. Most health workers, especially those at the peripheral level of the health services, spend considerable time instructing others; teaching as a student therefore provides an experience directly related to the future professional life of the student. The report of the consultation is intended for teachers and administrators and provides guidelines on ways and means of facilitating the participation of students in the teaching/learning process.

12.76 The evaluation of programmes, and of the performance of students, teachers,
and supervisors, is an essential step in health manpower development, and a guide for educational programme evaluation was published during the biennium.\(^1\)

12.77 In the African Region, as part of a regional network of national teacher-training centres, two national centres are being set up—at the Faculty of Medicine, Ife (Nigeria), and at the Faculty of Medicine and Pharmacy, Dakar. Twenty-five workshops on teaching methodology, attended by more than 400 teachers, had been organized by September 1979.

12.78 In the Region of the Americas the Latin American Centers for Educational Technology in Health, in Mexico City and Rio de Janeiro, continue to function as the focal point for technical cooperation in that field in the region. The Mexican centre carried out activities not only in Mexico but also in Argentina, Chile, Peru, Uruguay, and Venezuela. The centre in Rio de Janeiro organized 16 courses there, attended by about 300 participants, and also offered courses in Columbia, Ecuador and Peru.

12.79 Among the many teacher-training activities in the European Region were two workshops: one on curriculum development in the education of health professionals, conducted by the Institute for Research in Education and Evaluation, Berne (1978), and the other on modern trends in medical teacher training and their relation to new developments in health services delivery, held in Hindås (Sweden). Two workshops on educational methodology were organized in London by the British Life Assurance Trust Centre (BLAT) and WHO. As a result of a seminar on planning and implementation of teacher-training programmes held at BLAT in London, the participants recommended that a network of WHO collaborating centres for teacher training should be set up. WHO has agreed to collaborate with the Medical Faculty of Semmelweis University, Budapest, in developing teacher training there.

12.80 In the Eastern Mediterranean Region, an assessment was made of the extensive activities carried out at the regional teacher-training centre at Shiraz University (Iran). The meeting to discuss the assessment (Khartoum, February 1979) concluded that, although there is still a considerable need for strengthening the centres responsible for teacher training in the Region, there is now the “critical mass” of competent persons to carry out this institutional developmental work. The journal *The Learner*, published jointly by the regional teacher-training centre, Shiraz (Iran) and WHO, continued to serve as an effective means of communication between those concerned with teaching. In addition to the substantial number of national workshops (conducted by nationals), itinerant workshops on educational planning and evaluation were held in Amman and in Damascus under the auspices of the regional teacher-training centre.

12.81 In the Western Pacific Region, the regional teacher-training centre in Sydney continues to play an active role (see paragraph 12.70 above). Two national teacher-training centres are operating—in the Philippines and the Republic of Korea—and the Government of Malaysia has indicated that it will establish such a centre initially for the training of allied health professionals. Workshops were organized and work on curricula for different categories of health personnel was carried out in many countries of the Region. Plans

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were made for a diploma course in education of health personnel at the Port Moresby College of Allied Health Sciences, which would take in teachers of allied health professionals who do not meet the entrance requirements for the master’s degree course offered at the regional teacher-training centre.

Learning materials

12.82 There is a general shortage of learning materials for the training of health workers, but a number of steps have been taken to remedy this situation. One thousand sets of a source library in English for health teams, each set consisting of 38 books, were assembled and despatched for free distribution to selected training institutions in developing countries. They will not only provide a comprehensive collection of source material for teachers of health auxiliaries, but will serve as a basis for the production of learning materials adapted to their specific local situation. A further 500 sets of the source library in French are being prepared for distribution in French-speaking countries. Each set is for use with a teacher’s guide that has been extensively field tested: Teaching for Better Learning: A Guide for Teachers of Health Staff. This guide should help teachers of health auxiliaries to develop curricula that are relevant to their community’s health needs, to use these curricula so as to facilitate the learning process, and to prepare their own learning materials within the limited resources of teaching institutions in developing countries.

12.83 Nine manuals for the REMAHA collection (Reference materials for health auxiliaries and their teachers) were translated into Portuguese for distribution in Portuguese-speaking Africa, in close cooperation with UNICEF. UNICEF has also included a number of the REMAHA manuals (in English) in its collection of materials and equipment for distribution to developing countries.

12.84 The Manual of Basic Techniques for a Health Laboratory was ready for publication at the end of 1979. It provides a copiously illustrated guide to health laboratory practices, giving particular attention to low-cost, simple methods.

12.85 WHO cooperated with the Royal Tropical Institute, Amsterdam, and the schools of tropical medicine in Liverpool and London in developing a series of audiovisual teaching aids (MEDDIA). This is an international slide and microfiche bank on ten groups of important tropical diseases, including malaria. So far, a set of ten slides and microfiches, with short accompanying texts, dealing with the principal parasitoses has been produced.

12.86 With a view to developing a network of national centres for the production and distribution of learning materials in the African Region, a survey of resources is being made in five countries—Ghana, Mozambique, Nigeria, Senegal and the United Republic of Cameroon. In the Region of the Americas the PAHO/WHO health textbook programme is being expanded to include manuals, teaching modules, and audiovisual materials. This expansion is primarily oriented towards auxiliary and technical health personnel. The European Region prepared two workbooks, one on the organization of nursing and midwifery services, and the other on the nursing process, together with a wide selection of other material on design of the nursing process. Following surveys in Jordan and Sudan, a programme was started in the Eastern Mediterranean Region for the production of learning materials in Arabic for front-line and intermediate-level health workers engaged in primary health care.
The educational technology resources and display centre, Geneva, was expanded to allow the dissemination of information on teaching aids and techniques for all types of training schools and in particular for training programmes carried out at the peripheral level of health care delivery.

The development of flow charts began in 1977 (in the health context, these are diagrams showing the logical steps involved in reaching decisions on patient management). During the biennium, work on these charts was further expanded to ensure that training was more problem-oriented and to help unsupervised health workers at the peripheral level of the health services to improve their skills. One set of charts on diagnosis and management was published, together with a teacher’s manual. Another set of charts demonstrates the management of obstetric emergencies in rural or isolated situations. These two sets, together with sets of flow charts on mental health problems, are now undergoing controlled trials in over 40 countries.

In selected villages in the Sudan, a project in educational communication was under way in 1979 to help village health workers in their essential task of health promotion. The techniques and materials developed will be adapted for use in other developing countries. This project was combined with a number of research activities on nonverbal communication, as being one way by which the health worker can get the health message across to an illiterate population.

The achievements of the first two years of the reoriented programme can only be modest. It may, however, be said that the programme has been firmly directed towards primary health; that it is a balanced programme which deals with all three elements of health manpower development (planning, "production" and management); and that the radical change it aims at should ensure the relevance of the national health manpower development process to the real needs and demands of the population. The activities described above are all elements in a logical chain of action leading to the ultimate attainment of health for all by the year 2000.

Examples of activities to develop health manpower in other programmes

The development of health manpower is an integral part of nearly all WHO’s programmes, and the activities carried out to develop various categories of health manpower and provide training in specific skills within those categories form part of their technical work. Examples are given below.

Health manpower planning and management

The Expanded Programme on Immunization gave training in planning and management during the biennium to 872 national and international staff from more than 100 countries; they included senior- and middle-level programme managers and intermediate-level health workers as well as physicians, nurses, midwives and others. The training was given by means of self-instructional modules based on activities related to immunization services. Certain aspects of management were stressed, e.g., the setting of priorities and objectives, supervision, evaluation, and promotion of community participation. Intensive efforts are now being made to have relevant parts of the training programme on immunization included in the curricula of institutions training health workers.

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12.93 The European Region undertook a series of pilot studies on manpower requirements in environmental health during the biennium. As a result of these studies, and following a consultation on environmental health planning and development, a set of guidelines on manpower planning was issued in 1978; they incorporate the findings of the pilot studies, and include a series of tables illustrating the skills required of each category of personnel in environmental health. They were distributed to all Member States of the Region. A similar set of guidelines for the planning of manpower for environmental health work is being developed for use in developing countries.

Training of manpower for primary health care

12.94 During the biennium, the training of manpower to support primary health care was emphasized throughout the Organization. The UNICEF/WHO Joint Committee on Health Policy (January 1979) reviewed the programme of support to training in maternal and child health care within primary health care. The object of this support is to promote national self-reliance by strengthening national capabilities for training all levels of health workers, workers in other development sectors, and members of the community. The training strategy includes the team approach, extensive field training, and curricula based on the needs and priorities of the community.

12.95 In August 1979, a three-week interregional study tour took place in China, on maternal and child health care and family planning as part of community development, particularly in rural areas. It was followed in October by a study tour in which Chinese health workers visited Japan, Sri Lanka and the Philip-
Other types of training

12.99 To promote health services research in decision-making, a regional orientation course was organized for health administrators and senior health workers (Alexandria, January 1979).

12.100 In occupational health, there was a one-month international course for developing countries (Sofia, 1978); a third international course on environmental and occupational toxicology at the Institute of Occupational and Radiological Health, Belgrade, a WHO collaborating centre (1979); and a six-week course on the principles of industrial toxicology (Lodz, Poland, 1979). WHO also cooperated in various national courses during the biennium, among them a two-week orientation course on toxicity of pesticides (Cairo, 1978), a two-week course on occupational health methodology (Sao Paulo, Brazil, 1979); and a six-week postgraduate course on occupational health for physicians and nurses (Manila, 1978).

12.101 In health education, WHO continued to collaborate with many Member States in training health personnel or workers in other development sectors. For example, in the African Region, 34 health workers from ten African countries received training in Nigeria; in the European Region the first courses in health education in the German language were started at the Academy of Public Health, Düsseldorf, Federal Republic of Germany; in the Western Pacific Region, special training in health education is being given to intermediate-level health workers in Papua New Guinea.

12.102 Training activities in mental health during the biennium included a workshop on psychosocial factors in health, held at the WHO collaborating centre, Brussels (1978) and attended by senior public health administrators and experts from 21 countries. A series of courses on the prevention and control of neurological disorders and on psychosocial factors in public health were held in schools of public health, primarily for students from developing countries.

12.103 In the field of drug dependence there were three workshops for public health administrators and technical personnel (one in Alexandria, 1978; two in Thailand, 1979) and a five-week course on the management of drug abuse problems (Hong Kong, 1979) for participants from the South-East Asia, Eastern Mediterranean and Western Pacific Regions.

12.104 In the South-East Asia Region, several countries (Bangladesh, Burma, India, Indonesia, Mongolia, Sri Lanka, and Thailand) now provide postgraduate training in psychiatry; India, Indonesia, Mongolia and Thailand also have postgraduate training programmes in the neurosciences; and India and Thailand provide specialist training for other health personnel, such as nurses, social workers, and occupational therapists, who are called upon to deal with mental health matters.

12.105 During the biennium, a four-month training programme in epidemiological psychiatry and the social aspects of mental health was carried out consecutively, in six WHO collaborating centres and at headquarters, at which 17 professional mental health workers from developing countries received training in advanced research methods. Courses in biological psychiatry, psychopharmacology, and the management of common neurological disorders continued at the WHO collaborating centres.

12.106 A postgraduate training programme in psychological medicine was
started in Taif, Saudi Arabia, where manpower is also being trained for mental health facilities at the peripheral level of the health services.

12.107 In the Western Pacific Region work continued in Fiji, the Philippines and the Republic of Korea to develop curricula in mental health for undergraduate and postgraduate medical education.

12.108 In the Region of the Americas, more than 50 national or international courses in psychiatric nursing, alcoholism, and drug abuse control were given in 17 countries.

12.109 During the biennium, WHO and the International Council of Nurses reviewed the mental health component of nursing education in 25 countries with a view to the exchange of experience and ideas on learning objectives, curricula, and teaching methods leading to the revision of national programmes.

12.110 WHO participated in many national courses for malaria workers at the peripheral level. Two seminars were held in India, one on applied field research in malaria and the other on the preparation of research proposals.

12.111 Courses on sexually transmitted diseases were held at national and regional level in four Regions: Africa, the Americas, South-East Asia and the Western Pacific; it was emphasized that the control of such diseases should be a part of general health care.

12.112 A network of WHO collaborating centres for the prevention of blindness is being established in all regions to conduct training and research and promote appropriate activities. The centres will offer multidisciplinary training in epidemiology and preventive ophthalmology.

12.113 Various courses in veterinary public health were offered to veterinarians in the Region of the Americas at the Pan American Zoonoses Center, Buenos Aires. They covered the production and control of rabies vaccine, the planning of veterinary health programmes, and brucellosis. In Brazil, the Pan American Foot-and-Mouth Disease Center, Rio de Janeiro, collaborated with the School of Veterinary Medicine of the Federal University of Minas Gerais, Belo Horizonte, in offering postgraduate courses in epidemiology and vital statistics.

12.114 For training in the prevention and control of zoonoses and foodborne diseases at undergraduate and postgraduate level, an interregional seminar on the development of manpower in veterinary public health (New Delhi, 1978) and the fourth FAO/WHO expert consultation on veterinary education (Uppsala, Sweden, 1978) recommended specific measures to strengthen both medical and veterinary curricula. International postgraduate courses on food microbiology for students from developing countries continued in the four training centres in Europe participating in this programme—in France, the Netherlands, the United Kingdom, and Berlin (West). However, the trend is towards holding such courses in the developing countries themselves, and an intercountry workshop on advanced microbiological methods in food hygiene was held in Izatnagar (India) in 1979.

12.115 A particular effort was made to organize a series of master’s degree courses in medical entomology and vector control in the African and South-East Asia Regions. Courses were also organized on rodent biology and control (Iraq), on urban
mosquito control (Libyan Arab Jamahiriya), and on the aerial application of insecticides against tsetse fly (Ivory Coast). A regional training centre for malaria and vector biology control was established in Baghdad for the Eastern Mediterranean Region.

12.116 As part of its institution-strengthening activities, the Special Programme for Research and Training in Tropical Diseases awards research training grants and grants to enable scientists to visit other institutions. During the biennium, more than 100 such grants were approved. Workshop, seminars or courses were organized on such subjects as research methods in tropical health, sensitivity of malarial parasites to drugs, and biological control of vectors of disease.

12.117 In the control of cardiovascular diseases, WHO collaborated with the Scientific Council on Epidemiology and Prevention of the International Society and Federation of Cardiology in the latter's annual international teaching seminars (Innsbruck, Austria, 1978; and Stirling, United Kingdom, 1979). A three-week course on the prevention and control of such diseases, with emphasis on control at the community level, was organized by the Regional Office for the Western Pacific Region (Wellington, October 1978).

12.118 WHO cooperated with the International Society of Radiographers and Radiological Technicians in conducting a survey on the training of radiology technicians throughout the world. The data received from some 50 Member States showed that training still varies greatly from country to country and ranges from formal courses to on-the-job training.

12.119 Training courses in immunology were given at the WHO immunology research and training centres in Brazil, Israel, Kenya, Netherlands, and Switzerland, and also in Egypt and Portugal. Courses on hybridoma technology were given in Brazil and Switzerland.

12.120 In environmental health, the Regional Office for South-East Asia ran a course on monitoring of water quality (1979) for participants from the reporting stations that are part of the UNEP/WHO global environmental monitoring system. A training workshop on monitoring of air quality was held for participants from French-speaking countries of the African and European Regions (Sofia, 1978).

12.121 To meet the need for manpower in water supply, sanitation and environmental protection programmes in the Western Pacific Region, steps were taken in 1978 with a view to organizing a course for sanitary inspectors at the Institute of Hygiene and Public Health, Manila.

12.122 The Institute of Public Health Engineering and Research was established at Lahore, Pakistan, to train professional sanitary engineering personnel. This is an addition to similar training centres already operating in Alexandria (Egypt), Beirut, Khartoum, Shiraz (Iran) and Teheran.

12.123 Personnel who can use and maintain a health records system are often scarce. In the Eastern Mediterranean Region, a working group (Alexandria, 1978) proposed methods for training in the collection, recording, and reporting of information. The group recommended that WHO collaborating centres should give this type of training and that simple self-instructional material should be produced for workers in primary health care. In the Western Pacific Region, national staff are being trained in the Philippines to establish medical records systems.
cooperated in producing manuals on the relevant procedures.

12.124 A training programme was undertaken in 1978-1979 to familiarize statistical coders with the ninth revision of the International Classification of Diseases. Courses were held in many countries in four Regions—the Americas, South-East Asia, the Eastern Mediterranean, and the Western Pacific—and over 300 people so far have been trained. (See also Chapter 13, paragraph 13.22.)

12.125 In order to strengthen national health information systems, seminars were organized for physicians, administrators and other health personnel to emphasize the importance of collecting and analysing basic data and statistics (Pakistan and Indonesia, 1979).

12.126 Statisticians from various English- and French-speaking developing countries attended a course in health statistics at the centre for advanced training in applied statistics for developing countries (Munich, Federal Republic of Germany, 1979).

12.127 To meet the demand for personnel to produce and maintain orthotic and prosthetic appliances, workshops were held in four countries of the African Region: Benin, Guinea-Bissau, Ivory Coast and Upper Volta. WHO also collaborated with the World Rehabilitation Fund in organizing a three-week training course for orthotic and prosthetic technicians (Nairobi, 1978).

12.128 The regional centre for maintenance and repair of medical equipment, Cyprus, is now in operation and has trained 13 students from eight countries in the Eastern Mediterranean Region.

12.129 Details of training under the family health programme, including the Special Programme for Research, Development and Research Training in Human Reproduction, will be found in Chapter 6, paragraphs 6.25, 6.37, 6.50, and 6.63-6.70.

Teacher training

12.130 In an attempt to alleviate the shortage of well-trained teachers for health workers in primary health care WHO collaborated during the biennium with Papua New Guinea, Sudan, Turkey, and the United Republic of Cameroon in establishing national centres that would provide training in maternity and child health care and family planning for teachers and supervisors of community health workers in rural areas. The six-week interregional courses in fertility management and maternal and child health care, held twice a year for senior teachers from developing countries, were continued.

12.131 An interregional conference on the teaching of statistics to medical undergraduates, organized in conjunction with the International Epidemiological Association and the Government of Pakistan (Karachi, March 1978), recommended that workshops should be conducted for staff carrying out such teaching, and that more self-instructional material should be prepared for undergraduates, and for medical and other health personnel. Workshops were subsequently held in Athens and Karachi to permit the exchange of teachers’ experience, the discussion of programmes, and the study of how modern educational principles and techniques can be applied to the teaching/learning of statistics.

12.132 An interregional workshop cosponsored by the International Federation of Health Record Organizations was held for teachers of medical records sciences (New Delhi, 1979).
A joint WHO/International Dental Federation working group was established to define educational objectives and develop curricula for all levels of dental personnel. A manual, *Common Oral Diseases, Prevention and Emergency Care: A Manual for Teachers*, was prepared for the teachers of health personnel working in oral primary health care and is being field-tested in Bangladesh, Malawi and Mozambique.

**Teaching/learning materials**

Many WHO programmes are now preparing training material to facilitate the teaching/learning process. In *radiation medicine*, manuals prepared for operators of basic radiological machines were ready for field trials in Colombia and Yemen in 1980; a manual on nuclear medicine, published in Trombay (India) is being used to develop a WHO manual on basic nuclear medicine.

WHO collaborated with Egypt and Nigeria in producing training brochures and slides in English and French on *vector biology and control*. The brochure *Multilevel Course on the Safe Use of Pesticides and on the Diagnosis and Treatment of Pesticide Poisoning* will be used in regional and national training courses.

The Expanded Programme on Immunization supported training in *cold-chain management* by means of a series of visual aids, including slides, posters and simple publicity materials.
Chapter 13

Health Information

13.1 The key organizational development at headquarters in 1979 was the linking of the programmes of health statistics, health and biomedical information, health information of the public, and information systems by an interdivisional coordinating committee under the leadership of the Deputy Director-General. This helped to clarify the problems of information transfer confronting the Organization and enabled responsibility to be more precisely allocated among the four programmes concerned.1

13.2 A parallel reorganization took place in the Regional Offices for the Americas and for Europe; other regional offices were also studying suitable ways of responding to the demands of information transfer. Particular emphasis is being given to strengthening the organizational and administrative links between headquarters and the regional offices and in this way determining as accurately as possible the information needs of Member States and how best to meet them.

Health statistics

13.3 The objectives of the health statistics programme during the biennium were to cooperate with Member countries in developing the managerial and technical information support required for planning, executing and evaluating national health programmes, and more particularly:

(a) developing or strengthening health information systems and services, including health statistics, as an integral component of health services;
(b) applying statistical and research methodology to specific health studies;
(c) promoting the development and training of all categories of health personnel in epidemiology, health statistics, and operational research;
(d) developing or improving statistical standards, definitions, nomenclature, classification and procedures, including an appropriate methodology for the lay reporting of morbidity and mortality; and
(e) collating, analysing and disseminating information on the health situation of Member States.

13.4 The approach was based on:

(1) formulation of socially relevant and operationally realistic health information policies;
(2) promotion of national capacity to collect relevant data and convert them into timely information for health management at all levels;
(3) use of the systems analysis approach and promotion of a user/producer dia-

1 The first three programmes are dealt with in the present chapter, the information systems programme in Chapter 2 (paragraphs 2.22-2.27 and 2.46-2.61).
logue to develop purpose-oriented health statistics services as part of national health information systems and services; 
(4) development of simplified methodology for the collection and use of statistics at the primary health care level;
(5) training for teachers of health statistics;
(6) basic research in health statistics carried out through collaborating centres, research institutions, and other competent national and international bodies;
(7) collaboration with other organizations of the United Nations system with a view to a coherent approach to statistical concepts, principles and standards, and joint action in support of socioeconomic development.

Development of health statistical services

13.5 The challenge to countries to mobilize all their health manpower resources for an attack on major health problems—implicit in resolution WHA29.72 of the Twenty-ninth World Health Assembly (1976)—brought education and training to the forefront of the programme for development of health statistical services. A comprehensive campaign was launched to equip both health statistics workers and health staff in general with the statistical competence they need when recording, analysing, reporting and interpreting health data. The strengthening of health statistics manpower at all levels is a prerequisite for strengthening the whole health information system, and thus raising the quality of health care delivery.

13.6 To make health statistics teaching as cost-effective as possible, optimum teaching methods are required. The teacher must be thoroughly acquainted with the students' actual needs in statistical knowledge and skills, both during their studies and in their future professions. Hence, the training of teachers became a pressing concern and a start was made in the school of medicine, which, traditionally, has shown the greatest reluctance to teach statistics.

13.7 An interregional conference on teaching statistics to medical undergraduates1,2 was organized in 1978, jointly with the Government of Pakistan and the International Epidemiological Association (see also Chapter 12, paragraph 12.131), to discuss and answer five important questions: why, what, how, when, and by whom should statistics be taught to medical students? The answers given were intended to encourage teachers to demonstrate to students the relevance of statistical knowledge to all branches of medicine, thus bringing about a decisive change in the students' attitude to the subject. It is hoped that the conference's recommendations will also motivate faculty members other than teachers of statistics (e.g., teachers of clinical subjects) to introduce statistical principles as applied to medicine into their own lectures.

13.8 Guidelines for the practical organization of national or regional workshops for teachers of statistics, and for other members of the medical faculty, were established by a working group on the subject. A first national workshop of this kind was organized in 1979 to work out a systematic approach to the teaching and learning of health statistics in the medical undergraduate course.

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13.9 An extensive training programme was also started in medical and health records. In previous years the emphasis had been on improvement of hospital medical records. During the period under review, work was mainly directed towards primary health care records. For help to be given to the underserved populations of the world, as required by the Declaration of Alma-Ata, information must be available on their health and environmental conditions; and to create a reliable information base, primary health care personnel must receive adequate statistical training. These matters were discussed by another working group (see also Chapter 12, paragraph 12.123).

13.10 Training of medical records personnel was also promoted in the various WHO regions. For example, in one country of the Western Pacific Region, work was undertaken to link the medical records system with the hospital management information system. Contractual agreements for collaborative projects in health and medical records were concluded or renewed with public health institutes in the European and Eastern Mediterranean Regions, with a view to designing and testing health records systems for use at community level.

13.11 The need for national health information systems as a basis for national health planning, management and evaluation is urgent, and was emphasized by the Health Assembly in resolution WHA31.20. Health statistics play a vital role in such systems since they provide the primary information for each part of the health sector. Yet much of the statistical data at present collected is not fully utilized by the decision-makers. A dialogue between providers and users of health statistical information is therefore needed so that the provider of data can help the user to formulate clearly his information needs. WHO has repeatedly recommended that the forum for such a dialogue should be an adequate body at national level, such as the national committee on vital and health statistics or an equivalent national coordinating body. This recommendation takes on a new significance in the reorientation of national health information systems, since close collaboration with and coordination of the various levels generating health information are among the major terms of reference of such committees.

13.12 A consultative meeting on national health information systems was convened in December 1978 by the Regional Office for South-East Asia to discuss the purpose and ways of developing national health information systems in Member countries and stimulate their interest.

13.13 A seminar on the same subject was organized by the Regional Office for the Americas early in 1979, followed in November of the same year by an inter-regional consultation in Costa Rica, in both of which producers and users of health information participated. The purpose of the meetings was to define in detail the principles and structure of a national health information system and its components, and to define its strategy.

13.14 Seminars for physicians, administrators and other health personnel were organized in countries of the Eastern Mediterranean Region, to identify health information needs and promote better collection of basic data, proper use of statistics, and integration of the health statistical system into the health services administration. These seminars can be considered as pilot programmes for training users of health data in the analysis of health statistical systems and the assessment of information needs.
Health statistical methodology

13.15 As in the past, the support services in health statistical methodology for WHO-assisted programmes provided (1) the statistical and mathematical basis for planning and executing projects and for analysing and evaluating field data; (2) the methodological basis for operational research, systems analysis, and mathematical modelling as applied to epidemiological investigations and the improvement of health delivery systems; and (3) the methodological basis for the use of computer facilities in the Organization’s medical, epidemiological and health service work.

13.16 The transfer to developing countries, in an appropriate form, of technological advances in applied statistics, operational research, systems analysis and medical computing, received particular emphasis. To this end, the volume of basic statistical processing by WHO itself is being scaled down, such processing being gradually transferred to country level. WHO increasingly assumed a coordinating and interpretative role, the effectiveness of its action being increased by a “multiplier effect”, i.e., by developing programmes to coordinate the methodological work that will be carried out at country level by qualified professionals, at the same time promoting national capabilities for providing this support.

13.17 The Organization’s methodological resources could thus be concentrated in depth on a small number of high-priority programmes—but even here with the object of transferring much of the work to country level as soon as suitable methods have been established. Attention focused on the operational problems of health delivery systems, allocation of resources, selection of intervention strategies, evaluation of results, and methodology of public health forecasting. An extensive review was made of the potentialities for improving the application of statistical techniques to primary health care, including family health, in developing countries.

13.18 Collaboration continued with the International Institute of Applied Systems Analysis, Vienna, and the close contact established with several intergovernmental and nongovernmental organizations working in the field of informatics and medical computing was maintained. In particular, an updated review of computer applications in medicine was prepared.

13.19 National capacity for providing methodological support of this type, especially in developing countries, was promoted in several regions. Cooperation included the award of fellowships and special training courses for epidemiologists and public health workers.

International classification of diseases

13.20 The 1978–1979 biennium was somewhat of a watershed in the programme for classification and nomenclature of diseases. Not only did it mark the beginning of a new decennial cycle for the revision of the International Classification of Diseases, it was also the period of the first tangible results of the programme’s reorientation.

13.21 The publications programme related to the Ninth Revision of the International Classification of Diseases (ICD-9) was completed. In addition to the two volumes of the Classification proper,1 two supplementary classifications

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were published by WHO for the first time: the International Classification of Procedures in Medicine,1 and the International Classification of Impairments, Disabilities and Handicaps.2

13.22 In conjunction with the regional offices, a large training programme was undertaken to familiarize coders with the provisions of the Ninth Revision. Courses were held in the Regions of the Americas (Bahamas, Barbados, Brazil, Canada, Colombia, Cuba, Jamaica, Mexico, Peru, and the United States of America), South-East Asia (Burma, India, Indonesia, and Thailand), Europe (Union of Soviet Socialist Republics), the Eastern Mediterranean (Bahrain), and the Western Pacific (Fiji, Hong Kong, Japan, New Zealand, Philippines, and Republic of Korea). Many of these courses were also attended by participants from neighbouring countries. In all, over 300 persons were trained, for the most part coding supervisors or heads of coding units who will in turn run similar courses for individual coders in their own countries.

13.23 The increase in technical cooperation with developing countries was represented by two other publications. The first was an alphabetical index to the Basic Tabulation List of ICD-9,3 which is intended to help countries that lack the resources to code in accordance with the long and complex Detailed List but are able to use this shorter and simpler list. The second was a booklet on lay reporting of health information,4 produced in response to resolution WHA29.35 and field-tested in the South-East Asia Region. Its purpose is to assist countries where there are few physicians to obtain useful morbidity and mortality statistics from reports made by auxiliary or lay personnel. Since local circumstances differ greatly, the booklet was written as a “do-it-yourself” guide to the setting-up of a system for such reporting. Training material in the form of slides was also prepared. The introduction of lay reporting was studied in countries of the Region of the Americas and the South-East Asia and Western Pacific Regions.

13.24 The heads of WHO centres for classification of diseases met twice, mainly to evaluate alternative models for the form and structure of the Tenth Revision of the International Classification. Their views were transmitted to a meeting on classification of diseases (Taormina, Italy, November 1979), the first of the new revision cycle, which recommended that the overall structure of the International Classification should not be radically changed in the Tenth Revision. The basic classification, however, should be greatly simplified so as to be usable in many more countries than at present; more complex modules could be built in to the basic core, for use where greater detail or sophistication was required. The meeting also recommended that lay-reporting methods should continue to be developed.

**Dissemination of statistical information**

13.25 The Sixth Report on the World Health Situation,5 covering the years

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1973-1977, was prepared in 1979 in accordance with the decision by the Health Assembly (resolution WHA29.22). The difficulties encountered point to the need for further effort both to improve the report and to adapt it to the new international socioeconomic order by reflecting trends in health policy and health action, and the results obtained. The first volume of the report describes global health problems and the measures taken to solve them and indicates the success or failure of such measures at national, regional and international level; the second volume reviews the situation country by country. The preparation of the report entailed not only the international collection of health statistics but also the calculation of health indicators, and the report itself should thus provide feedback for use by Member countries.

13.26 Health statistical information continued to be disseminated through a number of other publications, chief among them being the World Health Statistics Annual.¹ ² In 1979, the number of pages of the Annual was reduced for reasons of economy, so that whereas Volume I (dealing with vital statistics and causes of death) continues to appear annually, Volumes II and III (dealing respectively with infectious diseases and with health personnel and hospital establishments) are now published in alternate years. In the World Health Statistics Quarterly,³ the tables on current data were discontinued in order to give more place to analytical studies on special subjects of public health interest; these included mental health, cancer, and family health.

13.27 A report on social and biological effects on perinatal mortality⁴ was published in 1979 in collaboration with the Government of Hungary; Volume I gives the results of an international collaborative study, Volume II contains statistical tables of data collected during the study, and Volume III (in preparation) will comprise an in-depth analysis of the data. Other publications in 1978 included Health and the Family,⁵ and a Life Table and Mortality Analysis.⁶ The report of an ad hoc survey of infant and early childhood mortality in relation to fertility patterns, carried out in Greater Kabul in 1972-1975, was also published.⁷

13.28 The WHO/IARC Expert Committee on Cancer Statistics (Madrid, 1978) recommended inter alia that studies should be made of the problems encountered in setting up data bases for the planning and management of cancer control programmes in developing countries. It also recommended the standardization of methodology, and of reporting the results of studies on survival experience of cancer patients and their quality of life after treatment.

13.29 The project for monitoring the requirements of countries as regards mental health statistics continued, and by the end of 1979 all the participating countries had submitted their reports.

³ Formerly the World Health Statistics Report.
Health and biomedical information

Health literature services

13.30 A major new initiative is the work being done to develop a health-related information systems (HERIS), particularly for developing countries, to fill an identified gap in the coverage of existing information systems such as MEDLARS/MEDLINE, Excerpta Medica, and other bibliographical retrieval systems that place primary emphasis on clinical and experimental medicine. This international data bank will be focused on public health problems, particularly on the planning, management and evaluation of health services. It will monitor journals from developing countries that are not at present indexed and will draw on the large mass of highly relevant but difficult-to-retrieve information in the “fugitive literature”, e.g., government reports, institutional studies, etc. In addition it will seek to tap sources of information in developing countries, with a view to making such information available—within the context of technical assistance among developing countries—to other countries facing similar problems.

13.31 The plans for HERIS received the preliminary endorsement of all regional offices and of the Subcommittee on Information of the global Advisory Committee on Medical Research. The concept was also endorsed by the International Development Research Centre in Canada and the National Health Planning Information Centre in the United States of America. Consideration is being given to the possibility of integrating some of the data bases of these two centres with that of the Regional Library of Medicine (BIREME) in Brazil and incorporating them, under WHO sponsorship, into the HERIS system.

13.32 Another matter studied during the biennium was how to ensure easy and economical retrieval of the information contained in the approximately 8000 publications and documents issued annually by headquarters and the regional offices. Plans for a WHO Document Information System (WHODIS) were prepared by headquarters and the regional offices in close collaboration and were submitted to potential users in various forums for comment; a feasibility study is also in progress.

13.33 Considerable work was done to strengthen regional and national health literature services. Because of the diversity of conditions in the different regions, the approach taken has been equally varied. In the Region of the Americas, for example, the well-established facilities of BIREME, the regional medical library mentioned above, serve as a focal point for the development of national and regional networks of health information centres and libraries; in the South-East Asia Region, priority was given to strengthening national networks; while in the Western Pacific Region, considerable headway was made in developing regional networks.

WHO publications

13.34 Just as HERIS and WHODIS are intended to complement existing information services, the developmental work that has gone into World Health Forum: An international journal of health development represents an attempt to fill a gap not only in the range of WHO publications and periodicals but also in the coverage of national and international medical and public health journals. Most existing journals are specialized in character and national in outlook. Thus there is at present no single journal or group of journals to which the health planner and
policy maker, the health administrator and educator, or public health workers in general can turn for reliable, up-to-date and practical information on the range of problems confronting them and their counterparts in other Member States, particularly in developing countries. A feasibility study was carried out to determine whether WHO could meet this need and, even more important, in so doing stimulate new thinking by providing a platform for the exchange of ideas.

13.35 To provide an actual example of what this new journal might contain, a trial issue was prepared and given wide circulation within the Secretariat, both at headquarters and in the regions. The response was very favourable and many useful comments and suggestions were received. As a result an improved trial issue was prepared for circulation to several thousand selected recipients, along with a questionnaire the results of which will form part of the Director-General’s report on the proposed Forum to the Executive Board.

13.36 In an intensified effort to determine the information needs of Member States and how best and most economically to respond to them, a comprehensive Secretariat-wide survey was conducted on the reorientation of WHO’s programme of publications and documentation. Its aim was to elicit specific suggestions for improvements. The results have been analysed and will be submitted to Member States in each region in order to obtain a representative view of what changes are desirable in the type and scope of existing publications and also to establish a channel for a continuing dialogue on these matters. This was the first time in the life of the Organization that such a thorough study of the total publications programme, both at headquarters and in the regions, was undertaken.

13.37 For the Bulletin of the World Health Organization, the biennium was a period of important reorientation in content, to enable it to contribute more directly to the transfer of the kind of information needed for the attainment of health for all by the year 2000. Beginning with the January 1978 issue, a series of “Update” articles was introduced that provide concise and authoritative accounts on the current state of the art in a wide range of medical and public health matters. Particular emphasis is given to information of immediate utility in health development, thus providing busy research workers and health managers with a summary of what they need to know on a particular subject, together with selected references to a few key works they should consult for additional information. This innovation was introduced without appreciably diluting the scientific quality of the journal and was well received.

13.38 To make sure that the WHO Chronicle was doing its job of keeping readers informed of WHO activities and publications, a questionnaire was circulated to the more than 20,000 recipients of the four language editions. On the basis of comments and suggestions received, the content of the Chronicle was adapted to conform more closely to the expressed wishes of its readers. An air-mail edition was introduced to accelerate delivery to readers outside Europe.

13.39 For the non-periodical technical publications, such as the Public Health Papers, WHO Offset Publications and the nonserial publications, the selection of titles was measured against increasingly strict criteria, namely the relevance of the material to the needs of Member States, in particular the developing countries, and the contribution that it was likely to make to the attainment of health for
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all by the year 2000. Among the more important books published during the biennium are *Alma-Ata 1978: Primary Health Care; Publications of the World Health Organization: Bibliography, 1973-1977; Field guide to the detection and control of xerophthalmia; Formulating strategies for health for all by the year 2000; A growth chart for international use in maternal and child health; The management of nutritional emergencies in large populations; Tuberculosis - Case finding and chemotherapy: questions and answers; World directory of medical schools, fifth edition; International Pharmacopoeia, third edition, Volume I; and Physician and nurse migration. Poverty, development, and health policy was published in the Public Health Papers, and Risk approach for maternal and child health care in the WHO Offset Publications.

13.40 In collaboration with UNEP, a further eight volumes of the *Environmental Health Criteria* were issued, dealing *inter alia* with DDT, mycotoxins and ultraviolet radiation (see Chapter 11, paragraphs 11.31, 11.32, and 11.33).

13.41 During the biennium 26 numbers were published in the *Technical Report Series*, covering such subjects as gonorrhoea, periodontal diseases, traditional medicine, induced abortion, antibiotic-resistant enterobacteria, parasitic zoonoses, arterial hypertension, essential drugs, financing of health services, training and utilization of auxiliary health personnel, and control of the smoking epidemic.

13.42 Another major development in the Organization's publishing programme was the marked trend towards regionalization. The strong programme of the Regional Office for Europe, with its two

series, *Public Health in Europe and Regional Publications, European Series*, was expanded to include a new series entitled *EURO Reports and Studies*, in which will be published the final reports of meetings (hitherto issued only as documents) and other material of lasting value. (See also Chapter 15, paragraphs 15.128-15.134).

13.43 In the Region of the Americas, PAHO’s large and long-established publications programme benefited from new institutional arrangements that will permit it to respond more effectively to priority requirements and facilitate close coordination between PAHO and WHO publications. The most important of these arrangements was the establishment of the PAHO/WHO Publications and Documentation Service in Mexico; this service has already taken over the production of the *Boletin de la Oficina Sanitaria Panamericana* and the translation into Spanish of WHO technical publications.

13.44 Elsewhere, in the African, South-East Asia and Eastern Mediterranean Regions, regional publications programmes were being developed or expanded. To ensure that all regional publications reach the broadest possible audience, headquarters both publicizes them and handles their distribution outside the originating region.

13.45 Information on publications of the International Agency for Research on Cancer will be found in Chapter 10 (paragraphs 10.17, 10.18, 10.32, and 10.36).

13.46 In a period of inflation, as was the 1978-1979 biennium, an attempt was made to contain printing costs by using modern technology and by printing in countries where prices are rising less rapidly. In addition, academic and other publishers were encouraged to take over works arising out of WHO programmes.
which, though useful, do not meet the strict criteria referred to above or cannot be fitted into the limited budget for editing, translation and printing.

13.47 There was a marked increase in the number of titles translated into languages other than WHO’s six working languages and published by governments, institutes, and commercial firms.

Health legislation

13.48 Both at headquarters and in the regional offices WHO made a determined effort during the biennium to compile essential information on health legislation policies and needs at national level so as to create the necessary framework for the full implementation of resolution WHA 30.44 (1977)—a resolution that had stimulated a complete rethinking of the approach hitherto taken in the health legislation programme and led to intensive consultations with many Member States (a questionnaire was despatched to all Member States to ascertain their real needs and expectations in this sector). The timing of this process coincided with the recognition by the Alma-Ata Conference that reforms in health legislation may well be needed in some countries if the primary health care approach is to be effectively implemented. Indeed, there is increasing evidence that obsolete health legislation constitutes a veritable obstacle to the full realization of the new health doctrines that have been collectively endorsed by WHO’s Member States. In other contexts, the absence of appropriate legislation has been shown to constitute a menace, not only to public health but also to the quality of life, whether in the home, the place of work, or the public thoroughfare.

13.49 The technical cooperation programmes in health legislation now being devised will of course depend on rapid and effective access to all necessary information. WHO is endeavouring to mobilize the experience and information available in the industrialized countries in such a way as to benefit the developing countries that seek to cooperate with each other and with WHO in this vital sector of health policy. Efforts are under way to identify institutional and individual expertise in two of WHO’s regions, and to determine needs in at least two other regions.

13.50 The current primary mechanism for disseminating such information, the International Digest of Health Legislation (of which eight issues were published during the biennium), is being revitalized by the inclusion of a much higher proportion of analytical articles and surveys elucidating the background to new and revised legislation, the framework within which such legislation operates, and any obstacles encountered in its implementation.

13.51 The Digest forms only one link in a worldwide information network whose effective functioning largely depends on the willingness of Member States to share information and experience with one another, not merely at meetings—such as the WHO-supported meeting on technical cooperation among the ASEAN countries on drug legislation, evaluation and quality assurance (Jakarta, November 1979), and the meeting in the European Region of the working group on legislation concerning nursing/midwifery services and education (Hamburg, Federal Republic of Germany, December 1979)—but also through direct bilateral and multilateral links.

Technical terminology

13.52 The need for standardized terminology to permit clear and unambiguous health and biomedical communication has
continued to increase. Accordingly, a study was undertaken of ways in which the standardization of terminology could be rationalized, speeded up, and better coordinated. The possibility of establishing a central terminology bank that would serve the needs of Member States, regional offices, and technical and language staff at headquarters by providing an instantly accessible source of multilingual information, constantly updated, was being investigated at the end of 1979.

WHO played a major role in the joint CIOMS/WHO project on an international nomenclature of diseases that is being carried out in accordance with resolution WHA29.35. The basic purpose of this project is to develop a single standardized name for every disease, together with an extensive cross-reference list of synonyms. It will be an invaluable aid to communication between health workers throughout the world and to information retrieval. One volume (diseases of the lower respiratory system) was completed and published during the biennium. The preparation of several others (communicable diseases, cardiovascular and cerebrovascular diseases, gastrointestinal diseases, diseases of the blood and haemopoietic organs, and neurological disorders) was under way, with a view to publication during 1980-1981.

Health information of the public

The 1978-1979 biennium was a period of reappraisal and redirection of the programmes of public information. The importance of "informed opinion and active cooperation on the part of the public" in improving health, as recognized in the preamble of WHO's Constitution, was again emphasized in the Declaration of Alma-Ata, which stressed that primary health care required maximum community and individual participation, sustained by an informed public opinion.

The recognition that much of the burden of ill health can be lifted by changing individual and collective attitudes and behaviour patterns challenged the traditional approach to public information work. A better coordinated, more dynamic approach was adopted to mobilize public opinion in support of the objectives of WHO and Member States; promote greater consciousness of the individual's role in maintaining his own health; and cooperate with Member States and intergovernmental and nongovernmental organizations in introducing health information and education programmes for the public.

Distribution and sales

The last biennial report mentioned the new sales promotion measures for bringing WHO publications to the attention of widely varied groups of potential readers throughout the world. These have proved successful and have been continued. More publicity leaflets on individual subjects were produced and distributed, and the results have justified this approach. Every opportunity was taken during the biennium to exhibit WHO publications at international or national conferences and at book fairs.

Sales revenue increased substantially: it amounted to US$ 2 342 278 in 1978 and US$ 2 728 884 in 1979, as against US$ 1 856 912 in 1977. The increase over a longer term can be judged by the sales in 1972, which realized a total of only US$ 559 705.

Starting in 1978, a major public information programme was organized with UNICEF to create greater public awareness of the primary health care process and support governments in promoting it. Journalists and broadcasters were recognized as strong allies in this work, and seminars on their role as agents of social change were organized in Alexandria, Brazzaville, London, Manila, New Delhi, and several other centres. The urgent need for information material that could be used by governments and non-governmental organizations in support of the new approach to health care inspired the production of four documentary films in a series entitled "Health for all—Aspects of primary health care". The series depicts the primary health care approach in Finland, Mexico, Mozambique, and Viet Nam. Financial assistance for the series was provided by DANIDA and the World Council of Churches.

Two essential elements of primary health care were illustrated in the global and regional information campaigns of World Health Day (7 April of each year). The 1978 campaign, with the theme "Down with high blood pressure", stressed each person's capacity to avoid or control hypertension. In 1979, the theme "A healthy child, a sure future" emphasized that a greater investment in the health of mother and child is a vital component of primary health care.

Through the work of public information services in Geneva, and those in regional offices and at the United Nations in New York, attempts were made to foster more objective and knowledgeable reporting of health development issues by journalists and broadcasters. A network of development-oriented journalists was established. As evidence of their interest, in 1978 French-language radio and television stations in Africa, Canada, and European countries produced some 20 radio and television programmes on primary health care themes. WHO's own monthly 15-minute radio broadcast in English, French and Spanish covered topical and newsworthy items, with emphasis on the primary health care approach.

World Health magazine, appearing in nine languages, increasingly stressed the role of health as a lever for social and economic development. Special issues were devoted to the subjects: technical cooperation among developing countries; primary health care; justice in health; and the attainment of health for all by the year 2000.

At its thirty-third session, the United Nations General Assembly emphasized the need for greater coordination within the United Nations system in public information activities and the requirement that assistance should be given to Member States in developing their mass communication systems. During the biennium WHO took an active part in a number of United Nations information projects, including work on a supplement in major world newspapers on points at issue between developed and developing countries, and support to Development Forum, the tabloid newspaper of the United Nations system. United Nations information centres provided valuable assistance in disseminating WHO films and publications.
Chapter 14

Constitutional, Legal and Administrative Developments

Constitutional and legal matters

14.1 **During the biennium 1978–1979** two new Members, Djibouti and Seychelles, joined the Organization by depositing formal instruments of acceptance of the WHO Constitution following their admission to the United Nations, as provided for in Articles 4 and 79 of that Constitution. It may be expected that, as in the past, other newly independent States will rapidly join the Organization, thus maintaining the universality that is vital to the fulfilment of its objectives. A list of Members (at present 152) and Associate Members (at present two) is given in Annex 1.

14.2 The amendments to Articles 24 and 25 of the Constitution, which had been adopted in 1976 by the Twenty-ninth World Health Assembly and which provide for an increase of the membership of the Executive Board from 30 to 31, were accepted by 22 Member States during the biennium 1978–1979, bringing the total number of instruments of acceptance so far deposited to 40; a further 62 acceptances were still required for the entry-into-force of the amendments, which under Article 73 of the Constitution must be accepted by two-thirds of the Members.

14.3 At the sixty-fourth session of the Executive Board (May 1979) a member raised the question of whether the membership of the Executive Board could not, by a further amendment to Articles 24 and 25, be increased to 32, each member serving for four instead of three years. The Director-General has prepared a report on this question, for submission to the Executive Board at its sixty-fifth session (January 1980). Other constitutional questions may also result from the study on WHO’s structures in the light of its functions.

14.4 No instrument of acceptance was deposited during the biennium for the amendment to Article 7 of the Constitution, adopted by the Eighteenth World Health Assembly on 20 May 1965; the number of acceptances received thus remains at 52.

14.5 An amendment to Article 74, including an Arabic version of the Constitution among the authentic texts, was adopted on 18 May 1978 by the Thirty-first World Health Assembly. By the end of 1979 it had received seven acceptances.

14.6 On 11 September 1979 China acceded to the Convention on the Privileges and Immunities of the Specialized

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1 The associate membership of one of these, Southern Rhodesia, was regarded as being in suspense.

2 See Chapter 1, paragraph 1.10.
 Agencies and Annex VII thereof, which relates specifically to the World Health Organization. The total number of Members bound by the Convention has thus risen to 85.

14.7 Basic agreements on technical advisory cooperation were concluded during the biennium with Cuba, Portugal, the Solomon Islands, and Tuvalu; other bilateral agreements were concluded during the same period with China, Malaysia and the Philippines.

14.8 The Regional Committee for Europe at its twenty-ninth session (September 1979) discussed the role of the Regional Committee in the selection of Members entitled to designate a person to serve on the Executive Board. Representatives of European Member States were not in favour of the proposal for a system of rotation according to a geographical grouping or by alphabetical order, and preferred to leave the possibility of selection open as hitherto. However, the Regional Director was requested to make the necessary arrangements to allow Member States of the Region to reach a consensus at a session of the Regional Committee before or during each World Health Assembly.

14.9 The Regional Committee for the Western Pacific at its thirtieth session (October 1979) reviewed the procedures for the nomination of candidates for the post of Regional Director and amended Rule 51 of its Rules of Procedure.

14.10 Under the auspices of UNEP, an intergovernmental meeting of legal and technical experts from most of the Mediterranean governments was held in June 1979 at WHO headquarters to consider further the draft Protocol for the Protection of the Mediterranean Sea against Pollution from Land-based Sources. The meeting took as its starting-point the studies and first drafts prepared in 1976 and 1977 by WHO at the request on UNEP. It reached agreement on all the substantive issues in the draft, which aims at the control of pollution from industrial waste, municipal sewage, or agricultural pesticides and fertilizers. The final adoption and signature of the Protocol is scheduled to take place in 1980 in Athens.

14.11 Problems relating to patent rights and the protection of the public sector with regard to inventions resulting from cooperation between WHO and research institutions or industry have become increasingly acute in several major programmes, in particular the Special Programme of Research, Development and Research Training in Human Reproduction and the Special Programme for Research and Training in Tropical Diseases. It was therefore decided that a study outlining the issues involved (including a comparative survey of the practices of other international organizations and major national institutions) and the policy options open to the Organization should be submitted to the Thirty-fourth World Health Assembly. The capacity of the Legal Division to service technical programmes on an Organization-wide basis in this field will be strengthened.

Administration

Establishment

14.12 On 30 November 1979, the total staff (excluding staff of the Pan American Health Organization) was 4378 as compared with 4226 on 30 November 1977 and 4275 on 30 November 1978—an increase of approximately 1.15% between

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1 Budgetary and financial data are presented separately in the annual financial reports.
1977 and 1978 and of 2.4% between 1978 and 1979. The posts accounting for the increase are to be found in the general service category, particularly among project staff: the number of professional and higher graded staff decreased from 1707 in November 1977 to 1630 in October 1979.

**Staff development and training**

14.13 Staff development and training activities in the regional offices continued to expand. In four regional offices medium-term programming was introduced and in two of them the process was completed. Ten training programmes in management were conducted—five of them for both national and WHO staff, and five for nationals alone at the request of individual Member States. A total of 480 people participated.

14.14 Training to prepare staff in the regions, both WHO and national, for primary health care and for the United Nations International Drinking-Water Supply and Sanitation Decade was developed in collaboration with the relevant programmes.

14.15 The Regional Office for the Americas/Pan American Sanitary Bureau carried out an extensive training programme, emphasis being placed on communication skills, teamwork, and supervisory management. Advanced management seminars were arranged for senior staff.

14.16 At headquarters, two courses of refresher training were organized for the administrative assistants and secretaries of four divisions. On the basis of the experience gained, a new programme was designed which takes the form of a series of talks, workshops, and demonstration of administrative procedures. It is open to all staff, both professional and general service, and covers such subjects as budget procedures, recruitment and personnel administration, supply services, travel, conference services and organization of meetings.

14.17 Courses in the recognized official languages were organized at headquarters and in the regional offices.

**Office accommodation**

14.18 The construction of an annex to the main building of the Regional Office for the Western Pacific was completed in 1978.

14.19 The acquisition of a computer by the Regional Office for Europe in 1979 made it necessary to rent office accommodation, pending the consideration of a proposal for the construction of a permanent extension to the Regional Office building.

**Spanish-language documentation**

14.20 A service for translating, editing and publishing, in the Spanish language, the publications and documentation of the Organization, along with arrangements for distribution, was established in Mexico City. The centre will handle the Spanish publications of both WHO and PAHO, the programme being financed jointly.

**Supply services**

14.21 The steady growth of programme activities was reflected in the work of the supply services, both in the centralized procurement at headquarters and in procurement at regional level. During the biennium 1978–1979, the value of supplies and equipment purchased by the Organization reached an all-time record of US$74,072,859 for the two years, representing 115,302 line items. To this must be

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1 See Chapter 13, paragraph 13.43.
added an approximate US$8,900,000 for freight and insurance.

14.22 The main trends that characterized the biennium were: (a) a marked increase in local purchases by regional offices in the context of technical cooperation among developing countries (of the figures quoted above, 7345 line items, in the amount of US$8,696,733, were purchased locally); (b) inflation running into two digits in many industrialized countries, and a falling exchange rate for the dollar, resulting in higher commodity prices and shipping costs; and (c) an increase in the supplies and equipment component of projects.

14.23 As part of the WHO emergency relief operations, extensive purchases were, as in the past, largely financed from extrabudgetary funds. The European Economic Community in particular was active in assisting several African countries with their health programmes, through WHO's procurement services (US$849,700). These services were also called upon in connexion with emergency assistance to the malaria eradication programme in Turkey (US$2,072,270); assistance to the most seriously affected countries through the United Nations Emergency Operation (US$1,653,466); and supplies and equipment to the Lao People's Democratic Republic and Viet Nam, financed from various extrabudgetary sources and from WHO's regular budget. Purchases were made on behalf of UNHCR for the long-term programme of humanitarian aid to Cyprus (US$1,232,678) and for several small projects to alleviate the situation of refugees in Bangladesh, Gabon, Mozambique, Sudan and Zaire (US$543,372).
Chapter 15

Regional Trends¹

African Region

15.1 The AFRICAN Region has resolutely set out to achieve health for all by the year 2000, notwithstanding—and perhaps largely because of—the many constraints on such action. It is the WHO region that has the greatest number of Member States, of newly independent countries, of national liberation movements recognized by the international community, and of countries figuring on the United Nations lists of least developed countries and those most seriously affected by the economic crisis—with all that that implies in terms of limited resources, inadequate infrastructures, professional staff to be trained, and distress to be relieved.

15.2 The report presented in 1979 to the twenty-ninth session of the Regional Committee not only provides food for serious thought about the future of health in Africa at a time of world crisis, but also arouses feelings of alarm and despondency. The world political, social and economic situation is far from conducive to progress in health in the Region. Faith in an international community characterized by cooperation and mutual dependence is crumbling fast. To maintain their privileges, powerful groups prefer confrontation rather than the negotiations that make for greater social justice. Distressing political events in Africa are having disastrous effects on the promotion of health for the underprivileged masses. There have been a number of attempts to upset the political balance in various countries. Fratricidal warfare between neighbouring States is incompatible with regional cooperation through agreements made in a spirit of solidarity. In southern Africa the escalation of violence in the name of the racist ideology of apartheid has led to the few and dearly acquired health facilities, hardly sufficient to meet essential needs, being destroyed in a matter of days. Moreover, slow economic growth is coupled with increasing social inequalities that leave two-thirds of the population untouched by the development process. In the social field selfishness and resistance to change severely hamper the implementation of development strategies intended to meet the essential needs of the greatest number. Africa—and consequently health development in Africa—has reached a deadlock, and the years 1978–1979 presage an increasingly doubtful future unless radical action is taken to turn Africa’s political, economic and social development in a new direction.

15.3 To translate this increased awareness of African realities into specific devel-

¹ Figure 15.1 on page 206 shows the location of WHO’s regional offices and the areas they serve.
Development activities by mobilizing the entire potential of society is the very foundation of the social revolution in public health. The conclusions of the Technical Discussions at the twenty-eighth session of the Regional Committee in 1978, on the subject of “Social policy and health development in Africa”, were the outcome of 15 years of struggle and study. They clearly demonstrate that a realistic health policy requires a revolutionary approach. Radical changes in outlook and in mechanisms for providing health and social services are inseparable from the political struggle for health, the essential aim of which is development and peace through justice. In order to become what the Director-General has called “health politicians [who will] ensure that the voice of health is heard in what has been all too often a wilderness of apathy”, the health leaders from the various countries reaffirmed in Kigali in September 1978 the need to strengthen the role of the Regional Committee. Member States were urged to establish multisectoral coordinating mechanisms such as national health councils or committees; to ensure continuity in the work of policy organs; to apply the decisions intended to promote health at every social level; and to facilitate each country’s participation in carrying out WHO’s programmes—all measures that are prerequisites for African autonomy in social and health matters.

Technical cooperation among developing countries

Technical cooperation in the African Region stems from the search for self-reliance as a basis for self-development, and WHO’s new programme policies emphasize the importance of health among the different forms of international cooperation. These are no longer “aid” or “technical assistance” but—rethought according to the principles of solidarity—have become “cooperation”, i.e., genuine dialogue and concerted action. For example, if nutritional assistance is to turn into cooperation, a policy for nutritional self-sufficiency must be developed. Technical cooperation among developing countries in the field of health, properly conceived, can become an important element in the establishment of the New International Economic Order.

In 1978 the Regional Committee set up a Standing Committee on Technical Cooperation among Developing Countries and three subregional working groups, the latter meeting for the first time in 1979. One of the main concerns of Member States, and of these working groups and the Standing Committee, was to study specific forms of unconditional support for the national liberation movements recognized by OAU as a way of promoting health development throughout Africa. The countries of the Region have always cooperated with each other in political, economic, cultural and health matters, within the framework of regional or subregional organizations or under bilateral agreements. Their cooperation in health matters chiefly concerns communicable disease control, training of health personnel, and exchange of teachers, students and health workers. Collective purchasing and packaging or manufacture of essential drugs, medical supplies and equipment, and the exchange of appropriate technologies, are some of the issues currently being studied within the framework of technical cooperation among developing countries.

Managerial processes for health development

During 1978 and 1979 considerable efforts were made to organize educational meetings and to take an active part in

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practical exercises to improve the understanding of managerial processes for health development and their application. Country health programming, national programme budgeting, national health programme evaluation, and national health information systems were closely linked with a view to integrating them—no easy task—with WHO's own managerial processes. These complex exercises led by stages to a better understanding of the conceptual approach to health development.

15.7 In 1979 the Institute of Public Health, Cotonou (Benin) became a regional centre for health development, the first component of a network of such centres, most of which will be national but a few of which will be regional or subregional. The Cotonou centre began its work by providing training for a multidisciplinary group of development workers from French-speaking countries of the African, Eastern Mediterranean and Western Pacific Regions. The trainees learn to work as a team and the course is divided into four main parts: (1) general information on health, socioeconomic development, communication sciences, and audiovisual methods; (2) management, especially the management processes referred to above but also staff management, including continuing education; (3) the eight components of primary health care considered within the framework of national health delivery systems; and (4) research applied to the solution of health development problems. This new form of training for public health was approved by the Regional Committee. Teaching materials consist mainly of WHO publications and material from the many workshops organized in the past.

**Primary Health Care**

15.8 Through their leaders, most countries of the Region have expressed their political commitment to the concept of health for all by the year 2000. Primary health care is the approach adopted and the basis of the regional development strategy. It forms part of the health delivery system but reaches beyond the confines of health to involve all sectors that directly or indirectly contribute to health development. Thus the expanded programme on immunization, the war on hunger, the International Drinking-Water Supply and Sanitation Decade, the campaign against apartheid, and the International Decade for Women are all steps towards the attainment of health for all by way of primary health care. In addition to the first regional centre for health development (preceding paragraph), an African Advisory Committee on Health Development has been set up, and the regional Advisory Committee on Medical Research meets regularly.

15.9 From 1977 onwards, but particularly in 1978 and 1979, the promotion of primary health care was the core of the development strategy. Nearly all the African countries took an active part in both the preparations for and the proceedings of the International Conference on Primary Health Care. The Member States of the Region endorsed the 22 recommendations of the Conference and supported the Declaration of Alma-Ata. The main concern now is to mobilize all available resources for the implementation of the strategies and plans of action.

15.10 The concept of primary health care has been clarified and popularized through the *AFRO Newsletter* (whose distribution increased from 1000 to 4500 copies in each working language) and through workshops and seminars. Instruction in country health programming includes a section on primary health care. With the help of USAID, courses were organized at the WHO training centres in

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1 Resolution AFR/RC29/117.
Lagos and Lomé to train instructors in primary health care; workshops were organized in Ibadan (Nigeria) and Zinder (Niger) in 1979 to develop their knowledge of nutrition. A UNDP-financed project was prepared, with technical cooperation from the German Democratic Republic, for an international course on public health in the United Republic of Tanzania, to begin in 1980, in which emphasis will be laid on primary health care.

Family health

15.11 Health education is one of the components of primary health care, which presupposes a change in behaviour and new attitudes towards community health. The programme was redesigned during the biennium with the help of a multidisciplinary group of regional experts that included mass-media specialists. Health education is a slow process, and efforts are being made to speed it up by mobilizing all available resources—the mass media, institutions for the development of human resources, and programmes for health promotion and protection. Courses on health education are given in Ibadan, Nigeria, at diploma level (40 students) and for a master’s degree (15 students); in Lomé (35 students); and at the regional centre for health development in Cotonou, Benin.

15.12 Within the framework of primary health care, special emphasis is given to food and nutritional surveillance. Health promotion requires the support of all the related sectors of community development, such as crop-growing, animal husbandry, and food production. Since 1978 a regional network of national centres has been in existence which emphasizes research and training (Congo, Ethiopia, Nigeria, Rwanda, Senegal, United Republic of Tanzania, Upper Volta, and Zambia). The revision was prepared of a manual on public health nutrition that is out of print.

15.13 Maternal and child health, as part of activities to enhance the quality of family life, received fresh impetus from the preparations for the International Year of the Child. Maternal health includes family planning from the point of view of community and individual wellbeing. The “risk approach” is helping to define target groups and establish integrated maternal and child health care units better adapted to local needs.

Promotion of environmental health

15.14 Basic sanitation remains essential for the promotion of primary health care. In preparation for the International Drinking-Water Supply and Sanitation Decade, the Regional Office cooperated with most Member States of the Region in undertaking a rapid assessment that would enable them to draw up programmes and mobilize the necessary resources. Many countries have established structures for formulating policies and preparing development plans. Training in resource management is provided for the staff concerned. There are sanitation units in the public health ministries of 24 countries, and seven other countries have set up ministries of the environment.

Disease prevention and control

15.15 Most of the Region’s resources are still spent on the surveillance and control of the main communicable diseases. In 1978 and 1979 localized cholera epidemics broke out in six countries and yellow fever in one country—incidents that show how much epidemiological surveillance still requires strengthening. The implementation of the new malaria control strategy offers an excellent opportunity for promoting technical cooperation among neighbouring countries with similar epidemiological situations; it is essential that they adopt
common objectives and coordinate their malaria control activities at the various stages of planning and implementation. Now that smallpox has been totally eradicated from the Region, further development of the expanded programme on immunization will be possible.

15.16 The onchocerciasis control programme in the Volta River Basin area is progressing satisfactorily. Studies with a view to extension were undertaken in western Mali and the Senegal river basin. In cooperation with WHO, Nigeria is preparing to carry out its own programme in which priority will be given to protecting the district around the new federal capital. Strategy and tactics similar to those used in the Volta River Basin area will be applied in these various campaigns. At the same time efforts are being made to find methods of control that are less complex, reasonable in cost, and equally effective. (See also Chapter 9, paragraphs 9.54-9.61).

15.17 The control of noncommunicable diseases such as cardiovascular disorders and cancer requires new approaches that take greater account of the promotion of primary health care and of the epidemiological fact that many forms of these diseases are the result of untreated or inadequately treated communicable diseases or nutritional deficiencies.

Mental health

15.18 The special programme on mental health in southern Africa is another example not only of technical cooperation among developing countries but also of combined efforts by national and WHO staff to implement joint mechanisms such as national coordinating groups, the regional action group, the exchange of teachers and consultants, and the coordination of training programmes.

Prophylactic, diagnostic and therapeutic substances

15.19 The action programme on essential drugs implies the development of drug policies and management systems that correspond to people's needs. In order to make essential drugs available to the entire population at a cost that the various countries can afford, WHO joined with those countries in studying how to organize collective bulk purchasing, planned well in advance, which would considerably reduce costs and would not necessarily be to the manufacturers' disadvantage. This is a specific case where the mechanisms of technical cooperation among developing countries can demonstrate their efficacy and where concerted action is vital, particularly since distribution circuits need reorganizing so that the entire community can benefit from them.

Health manpower development

15.20 The integrated development of health services and training of personnel calls for renewed effort to combat resistance to change. To continue imposing on African countries educational systems that have not proved their worth even in the highly industrialized countries is merely obsolete paternalism and contrary to the spirit of solidarity. The research and the attempts at innovation of several countries of the Region in training their health professionals are highly encouraging.

Research promotion and development

15.21 Another promising area of activity is the organizing and strengthening of biomedical and health services research, or, more simply, health research; and here in particular the African Region must redouble its effort. What is needed is not so much the simple transfer of technology
as the acquisition of an organized body of knowledge and techniques adapted to local needs. In this area too, cooperation among countries with similar problems will be decisive evidence of regional and international solidarity.

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15.22 The main features of health work in the African Region in 1978-1979 were the consolidation of previous achievements and the institution of structures to ensure more rationalized planning, programming, management and evaluation of health delivery systems. Among the measures required are the establishment of multidisciplinary and intersectoral structures, the reorganization of training for public health, and the reorientation of research towards community problems; these are also components of primary health care, which is recognized throughout the Region as the main strategy for health development. Such a holistic approach is essential for the countries of the African Region, since no health budget can keep pace with inflation and the ever-rising costs of essential products.

15.23 Technical cooperation among developing countries may prove an important tool for health development. The Region’s health strategy from now until the year 2000 will be directed towards gaining a thorough understanding of socioeconomic development and of its links with health policy. The driving force and prime mover in this strategy is the national ministry of health, through its activities in mobilizing political forces and the strength of the community so as to bring about a genuine revolution in health. It can reach its full operational effectiveness only when the entire potential of the community has been harnessed to action that the community itself esteems essential.

Region of the Americas

15.24 The extension of health services coverage by way of primary health care is the outstanding trend in the Region, and the spearhead in the regional effort to attain health for all by the year 2000.

15.25 In order to determine their future action, the governments of the Americas decided to evaluate their efforts, strategies and policies in the health field over the past ten years. In defining their priorities and strategies, they are taking into consideration the serious demographic situation, the urbanization phenomenon, the availability of foodstuffs and nutrients and their accessibility to the population, and the complex relationships between the factors affecting the human environment. They are also studying the availability of resources and problems of health system organization and operation.

15.26 All are in agreement that the attainment of health for all by the year 2000 demands new social and economic approaches, and that primary health care is the key strategy. They recognize that the primary health care concept goes far beyond a simple extension of health services coverage and implies a need for intersectoral policies whereby the health sector benefits from the other sectors of socioeconomic development, and that the achievement of a higher level of health requires the participation not only of those sectors but also of the community itself.

15.27 In several countries that are at the first stage of formulating national strategies and reorienting national health processes the trend is towards strengthening the relationship of the health sector with other sectors, seeking new approaches and new technologies, integrating into one system the various components of the health
sector, coordinating the development of human resources to meet the new requirements of that system, and defining national policies for its financing. There is also a marked trend towards strengthening links between countries and towards cooperation at the subregional level, in the spirit of technical cooperation among developing countries.

15.28 Refinements of the internal structures of the Pan American Sanitary Bureau were implemented to improve the effectiveness of the Region’s capacity for meeting the goal of health for all by the year 2000.

15.29 The technical divisions at the central office were realigned and will be responsible for regional programming and evaluation, for preparation of technical norms and criteria, and for implementation of regional programmes. The Pan American centres for research and training will undergo extensive review and evaluation to improve the Organization’s capacity for technical cooperation. An Operations Manager was appointed in 1979 to coordinate the supervision and monitor the implementation of activities at the country level.

Comprehensive health services

15.30 It is estimated that the total population of twenty of the developing countries of the Region will reach 600 million by the year 2000, with 75% of that population concentrated in urban areas. This represents a doubling of the population in 30 years. A proportionate increase in the demand for health services coverage can be expected. Moreover the quantitative growth in basic needs will be compounded by the expectations created by socio-economic awareness on the part of the population.

15.31 Countries are increasingly conscious of the need for a change in development style and as a result are trying out innovative approaches to produce the necessary impact instead of relying on linear growth or the sporadic application of resources to isolated projects.

15.32 There is increasing evidence of sociopolitical awareness in health action, witness the definition of an all-inclusive “profile of wellbeing”, in which health is the central component; the adoption of strategies explicitly intended to fight extreme poverty, recognized as the principal obstacle to meeting basic social needs; the new intersectoral articulation and integrated development programmes; and the adoption of inter-institutional patterns of collaboration. In short, health is seen less as an isolated activity and more as a component of comprehensive socio-economic development.

15.33 An increase in national resources is accompanied by an increase in financial and technical cooperation on the part of the international agencies. A take-off in health coverage extension programmes is perceptible, in which physical and technological development takes place in a context of integrated development.

15.34 The principal innovations correspond to the operational concepts of primary health care—community organization and participation; articulation of formal and traditional health systems; promotion of appropriate technology; and technical cooperation among developing countries in technological development. These concepts are being promoted and their realization emphasized by policy measures and high-level planning. Their
application represents a breakthrough in extension of coverage. Health services will no longer be services extended to a passive recipient; and community involvement in health work—especially in primary care—will have a multiplier effect and a corresponding impact on the development of health services.

15.35 Thus, the implementation of plans and programmes will depend on the success of three basic strategies: (1) strengthening of the planning function and its role in health development; (2) development of human resources to bridge the quantitative and qualitative gap in health manpower; and (3) institutional development of the health services as a means of improving operational capacity, optimizing the utilization of resources, and increasing responsiveness to change.

Disease prevention and control

15.36 Technical cooperation activities in disease prevention and control are being progressively integrated into comprehensive policies for extending health services coverage, using the strategy of primary health care. Such activities as the expanded programme of immunization, diarrhoeal disease control based on oral rehydration, BCG vaccination under the tuberculosis programme, measures for the prevention of blindness, and extension of malaria control can be effective only if they are carried out with the full participation of the community and of front-line health care personnel.

15.37 The integration of specialized disease control activities into the general health services has been gradually promoted—the expanded programme of immunization and the programmes for tuberculosis control or prevention of blindness are examples of such integration. In several countries of Latin America and the Caribbean, integrated leprosy and tuberculosis programmes have been started.

15.38 A growing number of activities are being carried out in the context of technical cooperation among developing countries. There is a trend toward closer cooperation among experts and institutions of several countries of the Region in relation to noncommunicable diseases. In laboratory services, PAHO/WHO has promoted the idea of control centres for biological products in the various subregions that would provide services for several adjacent countries. Under the expanded programme of immunization a research project to determine needs in measles vaccine in five countries has proved a mechanism for information-sharing on coldchain developments. Leprosy activities were based in Venezuela, where a regional centre cooperates with Latin American countries; a Caribbean Steering Committee has been established for guiding activities in the English-speaking Caribbean. A centre in Argentina, under the auspices of UNDP and PAHO/WHO, is concerned with a haemorrhagic fever vaccine that can be used in both Argentina and Bolivia and possibly in other parts of the world. An extensive laboratory network has been developed in the Caribbean for the rapid detection and diagnosis of yellow fever and dengue.

15.39 The Organization is also emphasizing the use of extrabudgetary resources to promote new fields of activity and to expand old ones. Extrabudgetary resources have made possible an extension of the leprosy programme, the expansion of the diarrhoeal disease control programme, and a programme of disaster relief including preparedness for emergencies.
Promotion of environmental health

15.40 A priority of PAHO/WHO for the next decade is the extension of water supply and sanitation services, particularly in urban fringe and rural areas. Countries will be helped to prepare national plans for extending such services during the International Drinking-Water and Sanitation Decade; to provide technical guidance on the operation and maintenance of water systems; and to prepare project proposals for submission to national, regional, international and bilateral funding and lending institutions.

15.41 Existing institutions in selected countries of the Region will be strengthened. A network of specialized collaborating institutions is expected to work closely with PAHO/WHO research and training centres—the Pan American Center for Human Ecology and Health, and the Pan American Center for Sanitary Engineering and Environmental Sciences—in carrying out investigations and training programmes.

15.42 Countries will be encouraged to formulate solid waste management programmes and to set up national planning and technical support agencies.

15.43 The expected increase in air, water and soil pollution will require an acceleration of the collaborative programme with Member governments to evolve realistic environmental health criteria and standards and to assess the adverse effects on human health of industrialization and urbanization.

15.44 Work on the hazards of radiation will be directed to ensuring the optimum utilization of radiation medicine and limiting the radiation exposure of patients, health workers, and the public to reasonable and achievable levels.

Human resources and research

15.45 During the biennium the main emphasis was on introducing and expanding the medium-term programme approved by the Regional Committee in 1977. A new strategy is now being shaped that is based on the establishment of comprehensive manpower development programmes at subregional and country levels, in a concerted action to cover all dimensions of manpower needs in the health field. It includes planning, training, and use of personnel and is closely coordinated with plans for extending health services coverage to underserved populations.

15.46 Priorities in education will be oriented to the training of intermediate and auxiliary level personnel. In research, emphasis will be given to communicable disease control, nutrition, maternal and child health, and health services research.

15.47 Among PAHO/WHO’s comprehensive manpower development programmes, those for the education and training of allied health personnel in the Caribbean, strategic training of health personnel in Brazil, and training in community health for Central America and Panama are examples of the new strategy. A similar approach is contemplated for countries of the Andean subregion. In all these programmes, the Organization’s strategy emphasizes action adapted to the socio-economic context of the area or subregion. It is based on establishing a central focus at field level to maintain continuous linkages with a network of peripheral activities so as to ensure that the development and expansion of the training programmes are constantly related to the needs and priorities of the country in question.
Technical cooperation among developing countries

15.48 Technical cooperation among developing countries (TCDC) has become an increasingly important policy instrument and the regional programmes embody its principles, which are inherent in the structure of the Organization and also in the Pan American centres and institutes, whose technical resources and skills come mostly from the developing countries of the Region. Within the framework of TCDC, PAHO/WHO acts as a catalyst in the extension of health services coverage and has promoted the transfer of approaches that have emerged from national experience.

15.49 The establishment of coordinating units in Member countries is necessary if information is to be obtained and exchanged on the national technical capacity, the technology being used, the teaching resources available, and the capabilities existing for production of supplies, equipment, etc. Once such information exists, criteria can be established to govern regional mechanisms for TCDC information, its exchange between countries, and the role of the Regional Office in facilitating, strengthening and disseminating such information.

Managerial processes for health development

15.50 The Regional Office will continue to strengthen and streamline the mechanisms of its programming and evaluation system, so as to permit the better structuring and organizing of the various phases in the formulation, execution, and evaluation of technical cooperation programmes. It will, through its advanced word-processing and computer programmes, provide up-to-date information on the 43 regional programmes, 33 country profiles, and some 380 national programmes in which PAHO/WHO collaborates.

15.51 The year 1978 marked a change in the discussions on the regional programme budget, which centred primarily on a detailed analysis of the needs of Member States and of what their governments expected from the Regional Office. This new approach will make for a programme budget with better coordination of resources at country, area and regional level, and with sufficient flexibility to allow for adaptation to the individual requirements of each country or subregion.

Special programme of animal health

15.52 To the more than 300 million people living in Latin America and the Caribbean, the zoonoses and other animal health problems are matters of vital importance. More than half the population is rural and lives in close contact with domestic animals—frequently they are in close proximity to wild animals as well. Countries depend heavily on livestock-raising both to feed themselves and, increasingly, to earn foreign exchange by the export of meat and other animal products.

15.53 Through its special programme on animal health PAHO/WHO will continue to cooperate with Member States of the Region in developing and strengthening programmes for foot-and-mouth disease and zoonosis control. The Pan American Zoonoses Center (Argentina) and the Pan American Foot-and-Mouth Disease Center (Brazil) constitute a specialized resource and give support to the concept of technical cooperation among developing countries.

Extrabudgetary resources for health work

15.54 There have been sizeable increases in the extrabudgetary funds from nearly all sources over the last four years. Nearly
43% of the total PAHO/WHO funds budgeted for 1979 came from extrabudgetary sources. Grants from foundations and similar bodies showed the biggest increase, almost doubling over the four-year period and amounting to 19.4% of the total extrabudgetary funds in 1979.

The indications are that the trend towards further increases in real terms of extrabudgetary funds from regional banks, foundations and bilateral sources will continue. Careful selection and monitoring of projects financed by such funds will be required in the interests of maintaining the standards of performance habitually expected from PAHO/WHO projects.

The three main areas benefiting from extrabudgetary funding are: primary health care and extension of health services coverage; development of human resources; and water supply and environmental health projects.

A significant development at the Regional Office was the reconstitution in 1979 of the Project Review Group, which is under the chairmanship of the Deputy Director and includes the heads of the technical divisions and the legal adviser. All projects financed from extrabudgetary funds are now subject to a formal review by this group, which recommends to the Regional Director what course of action he should consider. This review process should ensure that in the future projects funded from extrabudgetary funds are fully consonant with the overall plans for health development of the country in which they are carried out.

South-East Asia Region

During 1978–1979 a series of activities in the countries of the South-East Asia Region were directed towards formulating national strategies, plans of action, and programmes to achieve the social goal of health for all by the year 2000. All Member States in the Region are fully committed to the principles of primary health care and accept them as the basic approach for reaching that target. This theme has permeated all WHO activities and meetings in the Region, including the thirty-first and thirty-second sessions of the Regional Committee.

An important milestone was the unanimous adoption by the Regional Committee in 1978 of the Charter for Health Development, which will be implemented as soon it has been formally signed by Member States. It will provide a regional mechanism for mobilizing both internal and external resources for health development and a focus for intercountry consultation and collaboration in the spirit of technical cooperation among developing countries.

Health services development

During the last few years, the countries of the Region made considerable progress in evolving health plans more suited to the needs of their people. Country health programming has greatly contributed to this progress in most countries. In all of them, the planning process is being increasingly integrated with planning for overall socioeconomic development.

The upsurge of interest and concern evident at the Alma-Ata Conference was followed up throughout the Region. Out of its ten countries, Bangladesh, Burma, India and Thailand have already formulated and started implementing national programmes of primary health care. Other countries are either at the planning stage or are experimenting with alternative models that fit their political, cultural and socioeconomic situation.
15.62 National preparatory activities in the form of seminars, working groups, etc., took place in India, Indonesia and Thailand in preparation for a meeting at the Regional Office (December 1979) on the formulation of strategies for attaining health for all by the year 2000. In this meeting, sponsored jointly by UNICEF and WHO, national representatives from sectors other than health, e.g., planning, plan implementation, and rural development, took part.

15.63 Governments are conscious of the contribution health can make to the New International Economic Order and are taking action at national level to ensure that the strategies they develop in the health field are adequately reflected in the new international development strategy; that sufficient additional resources are allocated to the health sector; and that they are preferentially utilized for improving the health of the socially underprivileged.

15.64 The increasing emphasis on technical cooperation among developing countries (TCDC) and on the use of appropriate technology for health was apparent when the Regional Committee, at its thirty-second session, discussed these vital topics for the fourth consecutive time. It expressed its appreciation of the TCDC directory of training and research institutions produced by the Regional Office.

15.65 The main thrust in the family health programme during the period was the extension of coverage to underserved populations, with emphasis on the groups at greatest risk, and the development of a programme based on the new and wider concept of family health. In particular, family planning, in keeping with the national policies of several countries, was oriented within the broader scope of family welfare.

15.66 In regard to manpower development in family health, technical support was given to the reorientation of both basic and continuing education programmes to meet the changing health needs of Member countries, the elaboration of training programmes in keeping with the spirit of TCDC, and the promotion of national self-reliance in the training of various categories of maternal and child health personnel.

15.67 Technical support was also given to planning studies on the “risk approach” in the delivery of maternal and child health care in certain countries that had already completed their studies on the outcome of pregnancy (including perinatal mortality and morbidity and low birth weight). WHO cooperated in improving neonatal care through national training programmes, and in building up maternal and child health information systems at national level.

15.68 In an attempt to develop a comprehensive nutrition programme, discussions were held with policy-makers, planners, health administrators, and nutrition scientists in seven countries; they were followed by an intercountry workshop to formulate a comprehensive research-programme for the Region. The highest priority was given to projects conducive to an effective and feasible programme of nutrition within the primary health care system. Detailed methods, protocols, and experimental designs for such projects were developed for adaptation by researchers to specific country situations.

15.69 In those places of the Region where nutrition improved during the biennium, it was due to social development (including general education), improved income distribution, or general health measures rather than to traditional direct action. Intersectoral collaboration and the coordination of planning at every level is
therefore essential if any impact is to be made on malnutrition. This in turn highlights the need for interagency coordination in support of national activities, and also the role of national nutrition units in developmental planning.

15.70 The countries of the Region are giving prominence to the health education component of primary health care, so that people become responsible for prevention of disease and promotion of health through their own voluntary efforts. They are also using health education to involve the community in the planning, implementation and evaluation of primary health care services and to enlist its support in maintaining these services. Governments therefore need training programmes of which an essential part is training in health education, and these require new curricula, methods, material, and field practice.

15.71 The concomitant strengthening of other closely related programmes in support of primary health care continues, e.g., development of a sound referral system, logistic support, maintenance and repair of equipment, and community-based rehabilitation. Stress is laid on the proper development of health laboratory services, both for facilitating the diagnostic process and as an aid to epidemiological surveillance. WHO also continues its support to the strengthening of reference laboratories. In all these activities there has been close collaboration with UNICEF and other organizations of the United Nations system.

15.72 Programmes in traditional medicine have received increasing attention. A research study group on the subject (March 1978) was followed by a regional consultative meeting (April 1979). Constraints on the use of traditional medicine have been identified and recommendations made for improving training programmes with a view to making better use in primary health care of practitioners of traditional medicine.

15.73 A new trend is the attention being given to mental health and to the mental health component of country health programming, national health information systems, primary health care, and traditional medicine. A regional advisory group on mental health was set up with representatives from public health administration, social and behavioural sciences, and psychiatry. Areas of concern include child mental health, dependence on alcohol and other drugs, and the role of psychosocial factors in health.

Disease prevention and control

15.74 In the prevention and control of communicable diseases efforts concentrated mostly on malaria, mycobacterial diseases (leprosy and tuberculosis), diarrhoeal diseases, and the expanded programme on immunization. Epidemiological surveillance systems in countries of the Region gradually improved, the stress in WHO's programmes being on developing epidemiological capabilities through field training in actual work situations.

15.75 Malaria activities continued to be given priority. During the period under review, 885.6 million people were covered by antimalaria programmes out of a total of 942.4 million at risk. The trend of the disease in terms of parasite incidence is encouraging, slide positivity rates showing a decrease of 22% in 1978 as compared with the decrease of a little over 15% in 1977. The decreasing trend of Plasmodium falciparum infection also continued, although to a reduced extent.

15.76 Progress was made in training and in applied field research. A regional malaria training programme was instituted
with a view to strengthening national training and providing staff to implement the revised malaria control strategy. Collaborative studies on resistance of \( P. falciparum \) to 4-aminoquinolines are progressing satisfactorily in seven countries of the Region.

15.77 To overcome the shortage of insecticides, a gradual effort was made to increase production of DDT in Bangladesh and in India, where the output is likely to be doubled with the commissioning of a third factory.

15.78 National coordinating committees were set up in a number of countries and intercountry border meetings continued.

15.79 As regards tuberculosis, routine BCG vaccination and systematic case detection and treatment continued. Valuable progress was recorded by the Tuberculosis Research Centre, Madras (India), in developing a nontoxic, inexpensive, and readily acceptable chemotherapeutic regimen for mass domiciliary treatment in developing countries. A large-scale trial to assess the value of BCG vaccination in preventing tuberculosis was completed in India, with the joint support of the Indian Council of Medical Research and WHO. A preliminary analysis of the results indicates the need for greater attention to the epidemiological significance of the entire range of mycobacteria in general and of low-virulence \( Mycobacterium \) \( tuberculosis \) in particular (see also Chapter 9, paragraph 9.78).

15.80 In leprosy, while the traditional measures for identification, treatment and case-holding continued, there was a noticeable trend towards integrating antileprosy measures into the general health services. Since leprosy was declared a priority area for research by the regional advisory committee on medical research, an intensive research programme on epidemiological, therapeutic and preventive aspects is being developed. The rifampicin trial in Burma made satisfactory progress.

15.81 Diarrhoeal diseases, especially in children, were also recognized as a priority. A comprehensive research-cum-action programme was drawn up with emphasis on rehydration, and its implementation was begun.

15.82 Among the viral diseases, dengue haemorrhagic fever, although generally restricted to Burma, Indonesia and Thailand, showed a tendency to spread to other countries as evidenced by a severe outbreak in Maldives and sporadic cases in Sri Lanka. WHO's work was directed towards strengthening surveillance and developing multicentre and multidisciplinary research on clinical and epidemiological management.

15.83 In the field of veterinary public health, rabies and brucellosis continued to be of priority concern, the main thrust being directed towards manpower development and research on prophylactic vaccines.

15.84 In the expanded programme on immunization attention was directed towards manpower development and suitable logistic systems, including a dependable cold chain. Immunization coverage increased gradually in all countries, and the functioning of existing cold chains improved rapidly. The in-built evaluation systems introduced by some countries led to improvement of the programme.

15.85 With regard to vector biology and control, a new trend towards comprehensive and integrated programmes for the control of the major vectorborne diseases is gaining ground. Such a programme has been developed in Burma for the control of malaria, filariasis, dengue haemorrhagic fever and Japanese encephalitis; it is
supported by CIDA, the Government of the Netherlands, and WHO.

15.86 In the field of noncommunicable diseases priority attention continued to be given to the prevention and control of cancer, cardiovascular diseases, and blindness or visual impairment. Other emerging public health problems included rheumatic conditions, chronic liver diseases (including liver cancer), deafness, chronic obstructive pulmonary disorders, and diseases related to immunological disturbances. Epidemiological studies, research and training were promoted in the early detection, diagnosis and management of diabetes, which is prevalent among the rural poor in Bangladesh and other countries of the Region. Group educational activities were undertaken to stimulate community-oriented measures for prevention, control and rehabilitation as related to cor pulmonale.

Promotion of environmental health

15.87 For at least a decade the provision of safe drinking-water and the sanitary disposal of excreta will remain the main field of work in environmental health. All governments recognize that the ad hoc project approach by a single agency must give way to integrated planning as part of overall socioeconomic development; and that the coordination of external cooperation is vital if assistance is to be channelled to the poorer population as yet unserved. This is evidenced by the resolutions passed at regional intergovernmental meetings and at the United Nations Water Conference.

15.88 Rapid assessments of the situation were undertaken with external resources from the WHO/World Bank cooperative programme, UNDP, and the Federal Republic of Germany. Preliminary appraisal missions to determine the constraints on programme development and formulate projects visited Bangladesh, Burma, India, Indonesia, Nepal, and Thailand. Programmes are now being reoriented and priority projects formulated in detail. A regional consultation on policy planning, coordination, and implementation of the health and engineering programme (November 1979) set regional targets and specified appropriate strategies.

15.89 At the same time the countries of the Region, realizing that the environmental problems arising from industrialization cannot be left for solution at a later date, are increasingly requesting WHO's cooperation in developing criteria, methods, and procedures to minimize the adverse impact of such development on health, and seeking its advice on various aspects of water and air pollution. A regional seminar was held to review methods of assessing such impact. Under the UNDP/UNESCO/WHO/WMO water quality monitoring project—a part of the Global Environmental Monitoring Systems (GEMS) in operation in this Region—a training course was organized for personnel from reporting stations.

15.90 Another recent trend is shown by the number of requests received for technical cooperation with a view to food safety programmes.

Health manpower development

15.91 A number of countries in the Region sought WHO's collaboration in formulating programmes for planning of health manpower, and the importance of such planning was given recognition in country health programming. Various activities to promote coordination between the health services and manpower development agencies were undertaken.

15.92 The need for formulating health manpower development strategies for
primary health care was very apparent, and
the training of health teams and of multi-
purpose health workers is a vital element
in the emerging primary health care pro-
grammes. Assistance is being given to
training programmes for multiprofessional
teams and in setting up institutions for
health services research. Health manpower
development is a priority area for research,
which is being undertaken on as wide a
scale as possible.

15.93 Priority attention was given to
the review and reorientation of training
programmes in maternal and child health,
sanitary engineering, and epidemiology
in order to make them more relevant to
local needs and resources. Curricula for
various categories of health workers were
revised to orient them towards community
health. Work was also undertaken to
enhance the capabilities of nursing per-
sonnel for carrying out operational research
to determine the needs of communities
and the ways in which nurses can best
assist in meeting them.

15.94 The idea of achieving regional
self-sufficiency through technical coopera-
tion among developing countries is gaining
momentum. An intercountry consultation
on the development of postgraduate train-
ing institutions recommended that high
priority should be given to strengthening
specialist services at the intermediate-care
level.

15.95 National group educational meet-
ings for the dissemination of information
and the exchange of ideas received greater
emphasis, and here programmes in educa-
tional methods and teacher training played
an important part.

15.96 There is a great need for cheap
learning materials in the Region, and steps
are being taken to assess the situation with
a view to a programme in this field based
on resource-sharing, the concept of a health
information network, health literature and
library services, and publication of manuals,
guides, etc.

15.97 The trend towards regionaliza-
tion of the WHO fellowships programme
was carried further: in 1979, 43% of the
fellowships were awarded for study within
the Region as compared with 25% in 1976.
A consultative meeting was held to discuss
ways and means of making fellowships
more useful to countries in the light of
their special needs, and to devise mech-
anisms for eliminating various problems
that arose in relation to the planning,
processing, and implementation of the
fellowships programme.

Research promotion and development

15.98 The regional research pro-
gramme, initiated in 1976, expanded as
from mid-1978 and by September 1979
some 70 research projects had received
support. These research studies cover such
priority fields as diarrhoeal diseases, dengue
haemorrhagic fever, malaria, filariasis,
leprosy, liver diseases, traditional medicine,
human reproduction, and appropriate tech-
nology for improvement of environmental
health. Several studies in the field of
nutrition had already been initiated.
National consultative meetings on health
services research are also in progress.

15.99 To develop research manpower
and strengthen research institutions,
support was given to training the relevant
manpower. In 1978, 13 research training
grants or grants to enable scientists to
visit other institutions were awarded in
the Region, and in 1979 (as at the end of
September) 20 such grants had been
awarded. Approximately 50% of those
receiving the grants utilized centres within
the South-East Asia Region, thus pro-
moting technical collaboration and exchange
of technical experience among countries of the Region. In addition, the Regional Office is taking steps to provide courses on research methods for scientists, both at basic level and in specific research areas.

15.100 In response to Health Assembly resolutions calling for coordinated and comprehensive national research programmes involving medical research councils, the Regional Office in December 1979 convened a meeting of heads of medical research councils and responsible officers for research in the relevant ministries; the meeting produced guidelines for coordinated national programmes and defined areas for collaboration with WHO.

5.101 For the 1980-1981 biennium, research projects financed from national budgets have been formulated for seven countries. They are geared to the immediate research needs of the country and will be complemented by an intercountry project on research promotion and development.

Programme planning and direction

15.102 A number of new activities initiated by WHO to improve the planning and direction of its programme came to fruition during the period under review and have contributed to a substantial improvement in programme delivery through a restructuring and strengthening of the management system.

15.103 During 1979 the Regional Office took initial steps in working out regional strategies for attaining health for all by the year 2000. The work of the Regional Programme Committee was reviewed, reorganized, and streamlined to enable it to concentrate on overall policy and programme development. The functions of the programme support and coordination unit of the Regional Office were also reviewed to make it an effective secretariat to the Regional Programme Committee. That Committee carries out a continuous review of existing management systems with a view to making them more efficient and effective.

European Region

15.104 Even in 1978-1979 the reorientation of WHO’s future programme towards the attainment of health for all by the year 2000 began to influence the substance of the current programme. That programme continued to serve the needs of the developing countries of the Region by drawing on extrabudgetary resources, e.g., for work on leprosy or diarrhoeal diseases, while at the same time orienting the intercountry activities towards the problems of the industrialized world.

5.105 This latter process is made inevitable by the extent of industrialization in the Region but it also has potential value for the developing countries. The results, for instance, of the European cardiovascular disease programme, begun in 1968, are already being universally applied; and the recommendations regarding the alcohol and drug abuse component of the European mental health programme, 1970-1980, should make a significant contribution to the immediate preventive action called for by the Thirty-second World Health Assembly with regard to alcohol-related problems (resolution WHA32.40). Similarly, it is appropriate that the Regional Office for Europe should be coordinating the development of global programmes for the prevention of road traffic accidents and for health care of the elderly.

15.106 In order to achieve a balanced intersectoral approach to health promotion, WHO’s country health programming guidelines are being adapted to the needs of the
Region. The biennium was a period of streamlining the system for collecting, screening, storing and disseminating information on the health activities carried out by other intergovernmental organizations in Europe.

The new regional research programme made steady progress, producing recommendations in five priority areas (evaluation of drugs and other therapeutic or diagnostic substances; early detection and prophylaxis of disease; health care delivery; economic aspects of health care; and standardization of methods, measurements and terminology). It was moreover proposed that the Regional Office should act as a clearing-house for projects in hypertension research as related to health care. Other European bodies concerned with health services research are involved at all stages.

Development of comprehensive health services

Although the primary health care approach in Europe is different from that envisaged for the developing world, the Declaration of Alma-Ata incorporates several principles that apply equally to both developed and developing countries. Moreover front-line care has not always progressed smoothly and evenly in all countries; over-emphasis on sophisticated hospital-based services, for example, has often been detrimental to such care. The new emphasis on primary health care is therefore equally welcome in the European Region. The publication Primary Health Care in Europe describes the main problems in the Region and proposes new strategies for their solution.

Evaluation of health programmes and services is crucial for health administrators. The demand for methods of assessment stimulated the publication Measurement of Levels of Health, which was jointly sponsored by WHO and the International Epidemiological Association and is intended as a guide in allocating resources, planning and monitoring health and health-related services, introducing innovations and reviewing existing services or programmes. Here again, the methods outlined are feasible in most countries, although the book is slanted towards the European Region.

Health care of the elderly

Reorientation of services for the elderly received an impetus from the Declaration of Alma-Ata, which called for soundly based and socially accepted services to the individual and the family at community level. Thus the regional activities were broadly directed at establishing the needs of the elderly, comparing the ways by which these needs are met in different countries, re-examining the technology used, and promoting awareness of the implications that the rise in the number of elderly people will have for the family, the community, and the health services.

Road traffic accidents

The two consultative groups on road traffic accidents in 1977 were followed in 1978-1979 by several scientific groups, by various studies, and by a strengthening of contacts with national transport departments and research institutes for traffic safety. The programme's main objective is to review those problems that are of concern in public health and promote the application of the results not only of research on traffic safety but also of medical research. It seeks on the one hand to give a clear

3 See also Chapter 5, paragraph 5.28.
picture of the medical and social consequences of road accidents so as to facilitate the planning of services for the treatment and rehabilitation of the victims, and on the other hand to define the role of the public health authorities as regards preventive measures and indicate the strategies they should employ.

\textit{Family health}

15.112 Existing services for the age group 5–18 years are inadequate or inappropriate to the situation created by rapid socioeconomic development and industrialization in the Region. Important changes are taking place in the role of women and in behavioural patterns of human reproduction, as evidenced by falling birth rates, the increasing employment of women, and the growing number of adolescent pregnancies. Perinatal and infant mortality rates are falling appreciably, and greater emphasis is being placed on infant morbidity and the quality of care. As regards the nutrition of children and adolescents, the trends in the industrialized countries are towards new forms of malnutrition, often characterized by overnutrition. Furthermore, air pollution, the use of food additives, and overmedication are leading to chronic diseases in children (cancer, allergies, respiratory diseases) and new patterns of morbidity are emerging.

15.113 The Conference on the Child and the Adolescent in Society (Athens, September 1978) recommended \textit{inter alia} guidelines for establishing standards of growth and development, well-defined conditions for the treatment of chronically ill children, increased interaction between families, schools and society, and a new approach to health education for children and adolescents.\textsuperscript{1} These recommendations were followed up in the medium-term programme, formulated in 1979.

15.114 The successful courses in family health/family planning, run jointly with the International Children’s Centre, continued. Until recently, cooperation in family planning was mainly with developing countries but is now being extended to other Member States, with the financial assistance of UNFPA.

\textit{Mental health}

15.115 The consultative committee on the European mental health programme recommended that even greater emphasis be placed on the mental health aspect of community health programmes. This requires a better definition of roles and functions within health service systems and of the various mental health professions. The project to study mental health services in pilot areas now comprises 17 such areas in 13 countries. A number of experimental programmes in different parts of the Region at the end of the biennium provided a convincing practical demonstration that, given the determination, comprehensive community mental health care could be achieved without any large financial expenditure.

15.116 The sharp increase since 1950 in the consumption of alcohol in countries of the Region was accompanied by an increase in the range of related medical and social problems. The participants at a conference on public health aspects of alcohol and drug dependence (Dubrovnik, Yugoslavia, 1978) were unanimous in advocating that all known measures should be taken to limit the consumption of alcohol and illicit drugs.

\textit{Prophylactic, diagnostic and therapeutic substances}

15.117 Emphasis in this programme is shifting away from the organization of

\textsuperscript{1} World Health Organization. \textit{The child and the adolescent in society}, Report on a WHO conference, Copenhagen, 1979 (EURO Reports and Studies, No. 3).
national drug control agencies towards the more general area of drug policies and management, concerned mainly with disseminating information and coordinating the work of producers, prescribers, and consumers of drugs, and of the authorities responsible for legislation, registration and control. The publication *Studies in Drug Utilization* describes how with relatively modest means it is possible to collect and analyse a great deal of data on the prescribing habits of physicians, the side effects of the drugs they prescribe, and the extent to which patients follow their instructions. Its conclusion is that there is a pressing need for a greater number of more extensive studies on drug utilization.

**Disease prevention and control**

15.118 As regards communicable diseases the situation in the Region remains unstable, in large measure because of the ever-increasing volume of international travel and of trade in food and animal feeds. Enterobacterial infections, viral hepatitis, and respiratory virus infections are the major causes for concern, followed by sexually transmitted diseases, tuberculosis, and wildlife rabies.

5.119 There was a significant fall in the total number of malaria cases detected in Turkey: in the first nine months of 1979 there was a decrease of about 70% as compared with the same period in 1978 (24,744 cases as against 82,110). The number of cases in 1977 was 111,512 and in 1978 (whole year), 87,867. In the Çukurova Plain the decrease was 80%, but the situation in the centre (Adana) of the area most at risk is still serious. Aid not only from other countries of the Region but also from international organizations and the Arab countries was invaluable in ensuring the provision of supplies and equipment at the crucial time. UNDP is financing a project to ensure coordination between neighbouring countries to prevent the spread of the disease.

15.120 The new trans-Saharan highway will intensify traffic in that part of the Region and as mobility increases, so will the risk of transfer of communicable disease. The Algerian Government, in cooperation with the Regional Office and UNDP, has therefore launched a project to obtain technical advice and to facilitate the specialized training *inter alia* of microbiologists, parasitologists and epidemiologists. The final objective is a system of epidemiological surveillance.

15.121 The need has been apparent for some years for simple guidelines for the management of sexually transmitted diseases by physicians in general practice, covering the best use of available laboratory facilities and the search for the source of infection and for those to whom it may have been passed. The Regional Office published a comprehensive guide for general practitioners in 1979.

15.122 The cardiovascular disease control programme, which advocates the community approach, was evaluated in 1978. The most promising objective in prevention is now considered to be the linking and coordinating of national efforts in pilot areas without the need for any new WHO studies. Priority tasks will be to train staff in comprehensive community control programmes, establish information systems for services and research in the

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major chronic diseases, and maintain proper channels for the distribution of information supplied by WHO.

15.123 An analysis of mortality from ischaemic heart disease in the European Region shows that in the majority of countries there is no change, or only a very slight one, in age/sex-specific mortality rates. The only three countries showing a small but consistent decrease in mortality in the population under sixty-five years of age are Belgium, Finland, and Norway.

15.124 Rheumatic diseases were the subject of the Technical Discussions at the twenty-eighth session of the Regional Committee (1978). The total economic burden resulting from permanent and transient disability due to rheumatic diseases in the working population is immense and goes well beyond the cost of providing the relevant medical care and social services. One aspect of the regional programme is to promote the training of rheumatologists in the use of epidemiological methods.

15.125 A publication issued in 1979\(^1\) consists of a general review of oral health care in Europe with a country-by-country description of national oral health services, their origins, organization and problems. It also examines the basic features of a practical model for such services, including the use of dental auxiliaries. The main emphasis of the new programme will be on prevention.

*Promotion of environmental health*

15.126 Some four million chemicals have been isolated from natural products or synthesized and about 60 000 are used in daily life—in pesticides, drugs, food additives, industrial chemicals, fuels, and chemical consumer products. Many of these chemicals appear in the working environment, or in water, food and soil, as pollutants resulting from the wastes of production and consumption. Between 200 and 1000 new chemicals are put on the market every year. The considerable public concern at the adverse effects of these chemicals may have on human health and on the environment is offset by the many benefits derived from their use. Moreover the chemical industry is a very significant factor in national economics and international trade, and about half the total world trade is within the European Region.

15.127 Accidental exposures of epidemic proportions have occurred during the last few years in several countries, following industrial accidents or the release of toxic chemicals into the environment, either in products or as wastes. However perhaps the greatest concern relates to the effects of chronic long-term exposure to chemicals, whether at the place of work or in the general environment. In 1978 therefore a programme on environmental toxicology was started in the Region, to complement WHO's long-standing global programme. A consultation on manpower development in toxicology was held and a project to be financed by UNDP was drawn up. It is expected that ten Member States of the Region will participate. The new programme will be developed within the framework of the international programme on chemical safety (see Chapter 11, paragraphs 11.9–11.11).

15.128 WHO assisted ECE in preparing the Convention on Long-Range Transboundary Air Pollution and the Regional Director for Europe represented the Director-General at the signing of the Convention in November 1979.

\(^1\) Kostlan, J. *Oral health services in Europe*. Copenhagen, World Health Organization, 1979 (WHO Regional Publications, European Series, No. 5).
In preparation for the publication of new WHO standards for drinking-water in 1981, which is being undertaken by the Regional Office, a series of working groups was convened during the biennium (see Chapter II, paragraph 11.34).

Foodborne diseases appear to be on the increase in the Region. Only a small proportion of the total number of cases are ever reported, yet such diseases are probably the second largest cause of morbidity in Europe. Mass catering is on the increase, and experience shows that most foodborne disease is caused not by the industrial production of food but by its preparation in institutions, catering establishments, and the home. The main causes are contamination of raw materials or equipment, cross-contamination during preparation, inadequate refrigeration or heating, and poor personal hygiene.

Work continued during the biennium on the establishment of a surveillance programme for the control of foodborne infections and intoxications. A survey describing food legislation and food control administration methods is being prepared. UNDP is financing a project in Turkey and also an intercountry project in food safety services, with emphasis on mass catering, information on food safety, and food regulations.

Health manpower development

The growing interest in continuing education is reflected in the large number of courses organized by national or by private professional initiative throughout Europe, and also in the studies and meetings conducted by the Regional Office. A working group on the continuing education of health personnel as a factor in career development recommended that continuing education should be controlled and organized by appropriate bodies in the same way as undergraduate and postgraduate training are controlled and administered by academic and other bodies. It should be an integral part of employment and not simply a means of professional advancement. It should moreover take place in the widest possible range of hospitals, clinics and practices and should be adequately budgeted for. The Technical Discussions at the twenty-ninth session of the Regional Committee developed this theme, stressing that continuing education must be seen as embracing all the health professions and not only the senior levels. It was pointed out that there were great advantages in bringing together health professionals from different backgrounds. Work in this field benefits greatly from cooperation with the Association of Schools of Public Health in the European Region and the Association for Medical Education in Europe.

Publications

The Regional Office continued its publications programme in order to develop further the exchange and dissemination of information. The reports on meetings and studies were included in a special series—EURO Reports and Studies—which, together with Public Health in Europe, is now on sale and widely distributed. The number of requests for these publications has steadily increased.

The Regional Office entered into a number of agreements with well-known commercial publishers and national institutes wishing to translate such material and issue it in languages other than WHO’s working languages, an extension of the practice by which health authorities produce versions of Regional Office publications in their national languages.

Eastern Mediterranean Region

The years 1978-1979, in the Eastern Mediterranean Region as elsewhere, were the first in which the Organization had a specific social target for its work. All activities in the Region were strongly influenced by the commitment inherent in the decision to adopt the social target of health for all by the year 2000. Since all governments explicitly or implicitly accepted that target, it was necessary for both the Organization and the Member States to do some substantial rethinking during the biennium as to what are its full implications.

Two meetings of major significance, one global and one regional, helped greatly to focus such rethinking. One was the Alma-Ata Conference, at which the countries of the Region were well represented and where the important developments in certain of them—especially the achievements of Iran and Sudan in primary health care—were very much to the fore. The other was the regional Ministerial Consultation on Health Services and Manpower Development (Teheran, 1978), which was dedicated to matching more closely the education and training of personnel to the real needs of the health services. Since that Consultation, a large number of countries have taken very definite steps towards coordinating if not integrating their health services and manpower development programmes.

Utilization of national expertise

A great deal was done during the biennium to increase the effective mobilization of national human resources for work in collaboration with WHO. Nationals of Member States were recruited to perform tasks within WHO's collaborative activities that would formerly have been carried out by international staff.

WHO's own utilization of national expertise from within the Region also expanded considerably. The regional advisory panels were previously few in number; they tended to be relatively inactive in the sense that their members contributed to the work of WHO only through infrequent meetings. They now represent a well-utilized resource of skilled technical advisers and collaborators, in number, an increasing proportion of whom are in regular correspondence or other contact with the Regional Office. Their work ranges from the ad hoc provision of advice—written or otherwise—on a particular problem or project, to continuous active collaboration in a form that makes them almost part-time staff members, even though there is no employer/employee relationship with WHO.

Another important example of increased collaboration with Member States and their nationals has been the setting up by the Regional Committee of two important committees: the Regional Consultative Committee, and the Ad Hoc Committee on the Study of WHO's Structures in the light of its Functions. In addition, the Regional Director appointed a group of high-level experts to constitute the regional Health Development Advisory Committee, which is scheduled to hold its first meeting during the second quarter of 1980. It is expected that the work of the Regional Consultative Committee will expand and will grow in significance. The study of WHO's structures in the light of its functions will continue for at least a further year.

Interagency collaboration and technical cooperation among developing countries

Trends in the United Nations system are towards a more integrated
Regional Trends

approach on the part of agencies, and a further study of the implications this will have for the Region is planned.

It was very gratifying during the biennium to see the increasing number of activities taking place in the spirit of technical cooperation among developing countries. This is an approach that has long been familiar in the Region, and good examples of it continue to multiply. Since the countries making up the Region are so diverse, there are many opportunities for one country to offer some of its surplus of manpower, expertise or financial resources to cover the deficits occurring in another.

International Year of the Child

1979 was the International Year of the Child and a particularly suitable year in which to report the promising start of the expanded programme on immunization. An appreciable number of countries were already beginning to make substantial inroads on the six preventable diseases that the programme was designed to attack. Much remains to be done if the targets set for 1990 are to be met in the Region, but this is a programme in which there is visible progress and in which the countries concerned are showing enthusiasm in their collaboration with WHO.

Another significant feature of the International Year of the Child was a series of visits by consultants, mostly internationally known paediatricians. They reviewed the progress in child health matters in nine countries and made recommendations on future health services for children.

Research promotion and development

Research continued to be focused on applied health services research, which dates from the first session of the regional Advisory Committee on Medical Research in 1976. In this, as in the biomedical research programme as a whole, the emphasis is on developing national capabilities for research, both human and institutional.

The research programme cuts across the boundaries of several other programmes, and useful projects in drug utilization, control of diarrhoeal diseases, and various aspects of health manpower development were continued.

Health manpower development

Three studies in health manpower development were started during 1979—on oral health manpower, environmental health manpower, and quality of nursing services. All three are at an early stage but they may be examples for similar work in the future.

One significant landmark was the first health services orientation course (Alexandria, January 1979), which was an initial step towards building up a cadre of workers in this field.

Primary health care

As was reported to the Alma-Ata Conference, the primary health care concept found ready acceptance in the countries of the Region. It should be noted that in Sudan, where some of the earliest work in primary health care was carried out, considerable thought was given in 1979 to working out appropriate methods for evaluating the effect of the programme to date.

Promotion of environmental health

In the Eastern Mediterranean Region, as elsewhere, environmental health problems, exacerbated by the rapid popu-
lation growth still taking place in almost all countries, become more serious each year. During 1978–1979 special efforts were made to take a more up-to-date and long-term approach to this subject. At the end of the biennium a team of engineers was engaged, along with national personnel of Member States, in working out the framework for an integrated regional environmental health programme. Initial studies were made on the feasibility of a regional centre for environmental health activities.

Programme development

15.150 A good deal of work went into the preparation of further medium-term programmes. The tendency has been to be somewhat critical of the approach so far adopted. In the one area where a medium-term programme had been in operation since its submission to the Regional Committee in 1977, it proved useful for the monitoring and evaluation of the intercountry part of the programme. Nevertheless, the general view in the Region is that future medium-term programmes should go no farther than setting targets in simple terms and listing the types of activity in which WHO can offer cooperation with Member States.

15.151 During the formulation of several of the medium-term programmes particular emphasis was laid on consultation with countries. In the large communicable disease control programme, for example, visits for this purpose to almost all countries of the Region, along with a series of meetings, made possible the most intensive consultations so far achieved. It is hoped that this will be reflected in a more realistic medium-term programme than could otherwise have been developed.

15.152 Information and management matters generally continued to occupy a considerable proportion of staff time. In the latter part of 1979 considerable effort was devoted to evolving an integrated approach to programme development and management which, while providing WHO and its Member States with streamlined programming mechanisms and effective management tools, could still be carried out with the somewhat limited numbers of senior staff at all levels both within WHO and in the ministries of health of Member States.

Western Pacific Region

15.153 The guiding principles endorsed by the Health Assembly for the use of Member States in formulating their strategies for the attainment of health for all by the year 2000 were an invitation to countries to draft long-term plans that would serve as the framework for successive medium-term plans whose cumulative impact would enable them to reach that goal. For that reason, interest in one of these strategies, country health programming, increased considerably during the biennium and can be expected to gain momentum. WHO in the Western Pacific Region must prepare itself for requests for collaboration that require a multi-disciplinary approach. It will also be necessary to develop regional capability at existing institutions by providing training in country health programming and management, and by conducting research in that field. Some of these institutions may be able to meet the needs of other countries, within the framework of technical cooperation among developing countries, and eventually be regarded as part of the regional health development network.

Health information

15.154 The design, development and establishment of efficient and dynamic
health management information systems continue to be a priority. In health statistics, appropriate indicators for planning, programming, monitoring and evaluation are being developed.

Research promotion and development

Research promotion and development are expanding. Two intercountry programmes, at present in the early stages, should be important in establishing priorities: the regional centre for research and training in tropical diseases at the Institute for Medical Research, Kuala Lumpur, and the programme of surveillance for acute respiratory infections at Goroka (Papua New Guinea). These two programmes should moreover strengthen national research capabilities and the concept of technical cooperation among developing countries.

Countries are being encouraged to establish national research councils, and to promote career structures in research. The network of collaborating centres in the Region is being extended, as also the exchange of scientists in several fields. These activities are intended to facilitate the exchange of information and intercountry collaboration; they will also facilitate health services research. Research training grants, contracts for collaborative research, and meetings continue to be important tools in the management of the programme.

Health services development

The trend in the Region is towards expanding research and development activities that will help governments to extend health care coverage. Reorientation of basic health services in support of primary health care started in 1977 and the knowledge acquired from health services research should enable those services to respond more realistically to needs. Research into the allocation of resources to the peripheral health services, including resources for primary health care, is therefore one of the main priorities. The role of technology in the health services, particularly the relevance of high-cost technology, must also be examined.

Another task for WHO in the Region will be to assist in rationalizing primary health care activities and training the necessary manpower. Training processes are required that are suited to adult health workers with little formal schooling, who will in effect be the catalysts of the new type of health system. In this, as in the implementation of primary health care, developments in one country will have an important effect on those in other countries. Training courses, based on experience acquired from research programmes, will be implemented within the context of technical cooperation among developing countries. The exchange of information and the number of study tours, seminars, and workshops should increase, participants coming not only from within the Region but also from other regions.

The improvement of health laboratory services is directed: (1) to developing techniques and training personnel for such services as delivered through primary health care, with emphasis on the technology appropriate to the country; (2) to instituting training and facilities at the intermediate level, particular attention being given to supervision, monitoring, logistics, and middle-level technology; (3) to promoting management and quality control at national level.

As the result of a resolution adopted by the Regional Committee in 1978,1 activities in relation to workers'

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health have increased, and the reactions of a number of countries suggest that more requests may be expected for collaboration in occupational health programmes.

Family health

15.161 Studies on the “risk approach” in maternal and child health care will continue. Data collected in Malaysia are being analysed as the first phase in formulating a strategy based on this concept. It is hoped that the results of experience in Malaysia can be applied elsewhere in the Region.

15.162 Many countries are showing interest in the special problems and health needs of adolescents. A working group will be held in March 1980 to examine the problems related to sexuality, unwanted pregnancies, drug abuse, and delinquency and to discuss the need for counselling. The fact that in most countries adolescents have hitherto been largely ignored will open many areas of collaboration for WHO.

15.163 Considerable advances were made in family planning in the last ten years, and the maternal and child health programmes of most countries or areas in the Region contain a family planning component. Nevertheless, there are still a number of problems connected with the methodology of fertility regulation, delivery of services, and effective use of contraceptives. The regional seminar on new developments in fertility regulation held late in 1977, was followed up by a sub-regional seminar on the same subject (Suva, December 1979). Collaboration with Member States in developing service-oriented research in fertility regulation and in building up national research capabilities will continue.

15.164 In nutrition the emphasis is on development of national food and nutrition policies, and on nutritional work within the health sector, particularly in the context of primary health care. Progress has been made with nutrition surveillance systems in several countries. National training facilities have been reinforced by the institution of two regional training courses. However, difficulties still exist and are primarily due to the conflicting interests of the different sectors and to an inadequate data base. Future emphasis must be on the establishment of at least a minimum nutrition component in primary health care and on operational research to find the most effective and suitable method for delivering such a programme at community level.

Mental health

15.165 The expanding community mental health programme warranted the establishment of a regional coordinating group as an advisory body to the Regional Director. At its first meeting (April 1979), it recommended the formation of national coordination groups; the designation of collaborating centres for research and training in mental health; the strengthening of research; and the training of health personnel in mental health.

Prophylactic, diagnostic and therapeutic substances

15.166 Within the programme on prophylactic, diagnostic and therapeutic substances, intercountry activities on drug policies and management and on pharmaceuticals will be expanded, collaboration continuing in particular with governments in the South Pacific area, where a joint pharmaceutical service is proposed (see Chapter 8, paragraph 8.12). Elsewhere in the Region, WHO will collaborate in studies of pharmaceutical supply systems. Evaluation of the therapeutic properties
and the efficacy of medicinal plants will continue, together with the dissemination and application of existing knowledge.

**Disease prevention and control**

15.167 Activities, most of which include a research component, are being intensified in relation to diarrhoeal diseases, sexually transmitted diseases, acute respiratory and arbovirus infections, schistosomiasis, filariasis, leprosy, tuberculosis and malaria.

15.168 As part of the epidemiological surveillance and information system, efforts are being made to strengthen the reporting system for notifiable diseases and the relaying of information. A study of training in epidemiology in the Region revealed certain deficiencies which it is hoped will be corrected through a general improvement in training. Statistical and laboratory support for epidemiological services are being developed.

15.169 The short-term approach to the control of diarrhoeal diseases resides in the use of oral rehydration salts, combined with education in elementary personal and food hygiene, the promotion of breastfeeding, and good nutrition. Sexually transmitted diseases continue to be a problem, particularly dissemination of β-lactamase-producing strains of Neisseria gonorrhoeae. Potential collaborating centres for research have been identified and national control programmes are being strengthened. Guidelines for the control of dengue and dengue haemorrhagic fever are being revised and a project has been established for the institution of emergency measures should epidemics occur.

15.170 In leprosy, where dapsone resistance has caused concern, a new drug regimen combining dapsone and rifampicin or clofazimine is being introduced. Emphasis will continue to be placed on case-detection, treatment, and the training of health personnel, combined with activities to encourage the community to accept leprosy patients.

15.171 With the promotion of the expanded programme on immunization, BCG vaccination will become more significant in tuberculosis control. Case-detection through sputum examination is being intensified and emphasis continues to be placed on domiciliary care, training of health personnel, and integration of tuberculosis control work into the general health services.

15.172 In the malaria action programme new approaches are being developed and established ones strengthened. They include responsibility by the community for spraying operations, coordination of measures between countries, manpower development, and research on some of the administrative and technical problems encountered, the latter particularly in relation to the emergence of resistant strains of Plasmodium falciparum, and the resistance of certain vectors to insecticides. A notable achievement with regard to drug resistance was the production in the Philippines of in vitro test kits.

15.173 With respect to cancer, the measures being taken include development of cancer registries, epidemiological studies of causative factors, and community-based control programmes. Further studies are being undertaken on metabolic disorders. Community control programmes for cardiovascular diseases, particularly hypertension and rheumatic heart diseases, are being extended.

15.174 Dentists in the Region are ready to delegate repetitive work to auxiliaries, and to utilize the services of health workers and schoolteachers for preventive programmes in oral health. A course in public
health dentistry (1979) enabled participants from 17 countries to acquaint themselves with the activities planned under the regional medium-term programme in oral health. The Dental Research Unit, Medical Research Council, Wellington, was designated a WHO collaborating centre for research in dental caries and periodontal disease. Self-instructional programmes are being developed for dental personnel and national seminars have proved to be effective.

Promotion of environmental health

15.175 In environmental health WHO is collaborating in an ever-broadening range of activities. The regional centre for the promotion of environmental planning and applied studies at the University of Agriculture (University Pertanian Malaysia), Kuala Lumpur, became operational in January 1979. Activities include the provision of specialized consultant services, and manpower development through group educational meetings and training courses. Assessment of environmental impact and environmental planning (including protection programmes for water and air) are receiving greater attention.

15.176 Regional activities have led to an increased capability for planning and influencing rural and urban programmes, with a resultant increase in water supply and sewerage facilities. There is a growing interest in pre-investment studies, some of which have attracted bilateral aid or support from international development banks. Rapid assessment reports on drinking-water supply and sanitation have been completed for nine countries and will provide a basis for the programme in the International Drinking-Water Supply and Sanitation Decade.

15.177 Strong environmental protection programmes require a broad approach at national level and a corresponding commitment in financial support and manpower. Such an approach is being stimulated by individual projects in a number of countries and by the Global Environmental Monitoring System (GEMS), under which collection of data began in 1978 in the air monitoring programme and in 1979 in the water quality monitoring programme.

Health manpower development

15.178 More than any other programme health manpower development is dependent on general socioeconomic development. The wider access to primary and secondary education in all countries should mean that students entering the health professions will be better prepared, and should result in some modification of existing curricula, particularly for middle- and basic-level health workers (at present an inordinate proportion of the syllabus for such workers is devoted to general studies).

15.179 Member States have begun to take a greater interest in the planning of health manpower, either in isolation or as a follow-up to country health programming. This interest has been accelerated by the world economic recession, which has driven countries to improve the cost-effectiveness of their investment in health manpower. Furthermore, changes in United States legislation on immigration of trained health manpower, particularly physicians and nurses, have closed a major outlet for health professionals from developing countries; in the Western Pacific Region the same policy is being followed by Australia and New Zealand. These developments have had their effect on health manpower planning.

15.180 If the present trend continues, most countries or areas should soon have medical assistants or nurse practitioners as intermediaries between the peripheral health
services and tertiary health care. The newly developed training programmes for such workers have, in many instances, utilized systematic educational planning approaches, beginning with task analysis. It should be possible eventually to study the functions of other health workers, thus permitting a more logical distribution of duties between the various categories and avoiding much of the present duplication of skills.

15.181 Continuing education is increasingly seen as an integral part of the career of a health worker. Maintenance of standards of performance—the real justification for continuing education—will not be easy to attain, but several countries of the Region intend to establish systems for monitoring the performance of physicians.

15.182 It is now accepted that teachers of health personnel themselves have to be trained in teaching methods. Educational processes to ensure that suitable students are selected, and evaluation methods to check that students are learning what they are supposed to learn and to assess their ability to apply the knowledge acquired, are being used to an increasing extent. Unfortunately however the place of the medical educator within the academic hierarchy is only slowly being recognized and there is still some hesitancy, on the part of physicians in particular, to take up such a career.

15.183 These developments have been exciting and significant but there is still room for closer collaboration between the various agencies concerned with the production of health manpower and its utilization, and this will be a major issue in developing strategies for achieving the goal of health for all by the year 2000. Wider opportunities for gaining multi-professional educational experience are also needed.

15.184 Although the fellowships programme will continue, as an important way of developing national health manpower, training is expected to take place to an increasing extent within the countries themselves.
Annex 1

Members and Associate Members of the World Health Organization
at 31 December 1979

At 31 December 1979 the World Health Organization had 152 Member States and two Associate Members. They are listed below with the date on which each became a party to the Constitution or the date of admission to associate membership.

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* Member States that have acceded to the Convention on the Privileges and Immunities of the Specialized Agencies and its Annex VII.

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Associate Members

Namibia | 16 May 1974
Southern Rhodesia ¹ | 16 May 1950

* Member States that have acceded to the Convention on the Privileges and Immunities of the Specialized Agencies and its Annex VII.

¹ Southern Rhodesia's associated membership was regarded as being in suspense.
Annex 2

Organizational and Related Meetings

1. Meetings in 1978

Executive Board, sixty-first session
Executive Board : Standing Committee on Nongovernmental Organizations
Executive Board : Working group on the organizational study on the role of WHO expert advisory panels and committees and collaborating centres in meeting the needs of WHO regarding expert advice and in carrying out technical activities of WHO
Executive Board : Ad Hoc Committee on Drug Policies
Executive Board : Ad Hoc Committee on Malaria
World Health Assembly : Special committee of experts to study the health conditions of the inhabitants of the occupied territories in the Middle East
Executive Board : Committee to Consider Certain Financial Matters Prior to the Health Assembly
Thirty-first World Health Assembly
Executive Board, sixty-second session
Executive Board : Programme Committee (preparatory meeting)
Regional Committee for the Western Pacific, twenty-ninth session
Regional Committee for South-East Asia, thirty-first session
Regional Committee for Europe, twenty-eighth session
Regional Committee for Africa, twenty-eighth session
Regional Committee for the Americas, thirtieth session/XX Pan American Sanitary Conference
Regional Committee for the Eastern Mediterranean, twenty-eighth session, Sub-Committee A
Executive Board, Programme Committee

2. Meetings in 1979

Executive Board : Programme Committee
Executive Board, sixty-third session
Executive Board : Working group on the organizational study on the role of WHO expert advisory panels and committees and collaborating centres in meeting and in carrying out technical activities of WHO
Executive Board : Standing Committee on Nongovernmental Organizations
Executive Board : Working group on the organizational study on the role of WHO in training in public health and health programme management, including the use of country health programming
Executive Board : Committee to Consider Certain Financial Matters Prior to the Health Assembly
Thirty-second World Health Assembly
Regional Committee for the Eastern Mediterranean, special session, Sub-Committee A
Executive Board, sixty-fourth session
Executive Board : Programme Committee (preparatory meeting)
Executive Board : Working group to study the question of the transfer of the Regional Office for the Eastern Mediterranean

Geneva, 11–26 January
Geneva, 17 January
Geneva, 20 January, 26–29 June, and 2–3 November
Geneva, 23 January, 3–5 May
Geneva, 25 January and 16 May
Geneva, 26–28 April
Geneva, 8 May
Geneva, 8–24 May
Geneva, 25–26 May
Geneva, 26 May
Manila, 21–25 August
Ulan Bator, 22–28 August
London, 19–23 September
Kigali, 20–27 September
St George’s (Grenada), 25 September–5 October
Manama (Bahrain), 9–12 October
Geneva, 6–10 November
Geneva, 8–9 January
Geneva, 10–26 January
Geneva, 11–15 January
Bangkok, 29–31 March
Geneva, 11–12 May and 24–27 July
Geneva, 16 January
Geneva, 19 January and 16 May
Geneva, 7 May
Geneva, 7–25 May
Geneva, 12 May
Geneva, 28–29 May
Geneva, 29 May
Geneva, 29 May and 24–25 July
Alexandria, 26–27 September

World Health Assembly: Special committee of experts to study the health conditions of the inhabitants of the occupied territories in the Middle East
Regional Committee for Europe, twenty-ninth session
Regional Committee for South-East Asia, thirty-second session
Regional Committee for Africa, twenty-ninth session
Regional Committee for the Americas, thirty-first session/XXVI Meeting of the Directing Council of PAHO
Regional Committee for the Western Pacific, thirtieth session
Regional Committee for the Eastern Mediterranean, twenty-ninth session, Subcommittee A
Executive Board: Programme Committee

Annex 3

Intergovernmental Organizations that have entered into Formal Agreements with WHO approved by the World Health Assembly, and Nongovernmental Organizations in Official Relations with WHO at 31 December 1979

1. Intergovernmental organizations

African Development Bank
International Committee of Military Medicine and Pharmacy
International Office of Epizootics
Islamic Development Bank
League of Arab States
Organization of African Unity

2. Nongovernmental organizations

African Medical and Research Foundation International
Biometric Society
Christian Medical Commission
Commonwealth Medical Association
Council for International Organizations of Medical Sciences
European Society for Clinical Investigation
Inter-American Association of Sanitary and Environmental Engineering
International Academy of Pathology
International Agency for the Prevention of Blindness
International Air Transport Association
International Association for Accident and Traffic Medicine
International Association of Agricultural Medicine and Rural Health
International Association of Cancer Registries
International Association for Child and Adolescent Psychiatry and Allied Professions
International Association for the Study of the Liver
International Association of Environmental Mutagen Societies
International Association of Logopedics and Phoniatrics
International Association of Medical Laboratory Technologists
International Association of Microbiological Societies
International Association for Suicide Prevention
International Association on Water Pollution Research
International Astronautical Federation
International Brain Research Organization
International College of Surgeons
International Commission on Radiation Units and Measurements
International Commission on Radiological Protection
International Committee of Catholic Nurses
International Committee of the Red Cross
International Confederation of Midwives
International Council on Alcohol and Addictions
International Council on Jewish Social and Welfare Services
International Council for Laboratory Animal Science
International Council of Nurses
International Council of Scientific Unions
International Council on Social Welfare
International Council of Societies of Pathology
International Cystic Fibrosis (Mucoviscidosis) Association
International Dental Federation
International Diabetes Federation
International Electrotechnical Commission
International Epidemiological Association
International Ergonomics Association
International Federation of Clinical Chemistry
International Federation of Fertility Societies
International Federation of Gynecology and Obstetrics
International Federation of Health Record Organizations
International Federation for Housing and Planning
International Federation for Information Processing
International Federation for Medical and Biological Engineering
International Federation of Medical Student Associations
International Federation of Multiple Sclerosis Societies
International Federation of Ophthalmological Societies
International Federation of Pharmaceutical Manufacturers Associations
International Federation of Physical Medicine and Rehabilitation
International Federation of Sports Medicine
International Federation of Surgical Colleges
International Hospital Federation
International Hydatidological Association
International League against Epilepsy
International League against Rheumatism
International Leprosy Association
International Organization for Cooperation in Health Care (Medicus Mundi Internationalis)
International Organization for Standardization
International Organization against Trachoma
International Paediatric Association
International Pharmaceutical Federation
International Planned Parenthood Federation
International Radiation Protection Association
International Society of Biometeorology
International Society of Blood Transfusion
International Society for Burn Injuries
International Society of Chemotherapy
International Society of Endocrinology
International Society and Federation of Cardiology
International Society of Hematology
International Society for Human and Animal Mycology
International Society of Orthopaedic Surgery and Traumatology
International Society of Radiographers and Radiological Technicians
International Society of Radiology
International Sociological Association
International Solid Wastes and Public Cleansing Association
International Union of Architects
International Union of Biological Sciences
International Union against Cancer
International Union for Child Welfare
International Union for Conservation of Nature and Natural Resources
International Union for Health Education
International Union of Immunological Societies
International Union of Local Authorities
International Union of Nutritional Sciences
International Union of Pharmacology
International Union of Pure and Applied Chemistry
International Union of School and University Health and Medicine
International Union against Tuberculosis
International Union against the Venereal Diseases and the Treponematoses
International Water Supply Association
Joint Commission on International Aspects of Mental Retardation
League of Red Cross Societies
Medical Women’s International Association
Permanent Commission and International Association on Occupational Health
Rehabilitation International
World Association of Societies of (Anatomic and Clinical) Pathology
World Confederation for Physical Therapy
World Council for the Welfare of the Blind
World Federation of Associations of Clinical Toxicology Centers and Poison Control Centers
World Federation of the Deaf
World Federation of Hemophilia
World Federation for Medical Education
World Federation for Mental Health
World Federation of Neurology
World Federation of Neurosurgical Societies
World Federation of Nuclear Medicine and Biology
World Federation of Occupational Therapists
World Federation of Parasitologists
World Federation of Proprietary Medicine Manufacturers
World Federation of Public Health Associations
World Federation of Societies of Anaesthesiologists
World Federation of United Nations Associations
World Medical Association
World Psychiatric Association
World Veterans Federation
World Veterinary Association
Annex 4

Structure of the World Health Organization
at 31 December 1979

WHO Secretariat as a Whole

As at 31 December 1979

1 The Location Office with the United Nations and the WHO medical advisors to UNICEF (who are also responsible for liaison with UNICEF) report to the Division of Coordination.

2 Regional Office for the Western Pacific Region. WHO 80086
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