

**WORLD HEALTH ORGANIZATION  
TECHNICAL REPORT SERIES**

**No. 350**

# **National Health Planning in Developing Countries**

**Report of a  
WHO Expert Committee**

This report contains the collective views of  
an international group of experts and does not necessarily  
represent the decisions or the stated policy of the  
World Health Organization.



**GENEVA**  
1967

The World Health Organization (WHO) is one of the specialized agencies in relationship with the United Nations. Through this organization, which came into being in 1948, the public health and medical professions of more than 140 countries exchange their knowledge and experience and collaborate in an effort to achieve the highest possible level of health throughout the world. WHO is concerned primarily with problems that individual countries or territories cannot solve with their own resources—for example, the eradication or control of malaria, schistosomiasis, smallpox, and other communicable diseases, as well as some cardiovascular diseases and cancer. Progress towards better health throughout the world also demands international cooperation in many other activities: for example, setting up international standards for biological substances, for pesticides and for pesticide spraying equipment; compiling an international pharmacopoeia; drawing up and administering the International Health Regulations; revising the international lists of diseases and causes of death; assembling and disseminating epidemiological information; recommending nonproprietary names for drugs; and promoting the exchange of scientific knowledge. In many parts of the world there is need for improvement in maternal and child health, nutrition, nursing, mental health, dental health, social and occupational health, environmental health, public health administration, professional education and training, and health education of the public. Thus a large share of the Organization's resources is devoted to giving assistance and advice in these fields and to making available—often through publications—the latest information on these subjects. Since 1958 an extensive international programme of collaborative research and research coordination has added substantially to knowledge in many fields of medicine and public health. This programme is constantly developing and its many facets are reflected in WHO publications.

\* \* \*

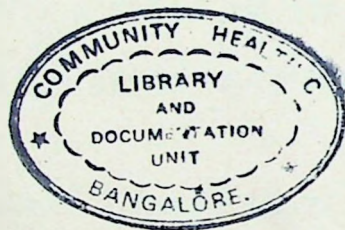
Expert committees and other international groups of experts are convened to give advice on technical and scientific matters. Members of such expert groups serve without remuneration in their personal capacity and not as representatives of governments or other bodies. The selection of members of international groups is based primarily on their ability and technical experience, with due regard to adequate geographical distribution.

The WHO *Technical Report Series* is the vehicle of publication of collective reports of such groups. Although these reports do not necessarily represent the views of the Organization, they are taken into consideration when developing programmes.

Annual Subscription : Sw. fr. 90.—.

Public health workers and institutions that wish to be kept informed of new reports of expert groups in the *Technical Report Series* can do so by regular reference to the summaries of these reports given in the *WHO Chronicle*, which is published monthly in Chinese, English, French, Russian, and Spanish.

Annual Subscription : Sw. fr. 35.—.



© World Health Organization 1967

Publications of the World Health Organization enjoy copyright protection in accordance with the provisions of Protocol 2 of the Universal Copyright Convention. Nevertheless governmental agencies or learned and professional societies may reproduce data or excerpts or illustrations from them without requesting an authorization from the World Health Organization.

For rights of reproduction or translation of WHO publications *in toto*, application should be made to the Division of Editorial and Reference Services, World Health Organization, Geneva, Switzerland. The World Health Organization welcomes such applications.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Director-General of the World Health Organization concerning the legal status of any country or territory or of its authorities, or concerning the delimitation of its frontiers.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature which are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

PRINTED IN SWITZERLAND



## CONTENTS

	Page
1. General background . . . . .	5
1.1 Previous reports on planning . . . . .	6
1.2 Technical discussions at the Eighteenth World Health Assembly . . . . .	8
1.3 Regional seminars and meetings . . . . .	9
1.4 Assistance to countries . . . . .	10
2. Characteristics of developing countries relevant to planning of socio-economic development . . . . .	11
3. The organization of national health planning . . . . .	13
3.1 The preparation of planning . . . . .	13
3.1.1 Indirect preparation . . . . .	13
3.1.2 Direct preparation . . . . .	16
3.2 Elaboration of the plan: planning methods . . . . .	21
3.2.1 The place of health in total development . . . . .	21
3.2.2 The total planning process . . . . .	23
3.2.3 Application of the planning process to health . . . . .	24
3.2.4 Choice of priorities in the health sector . . . . .	26
3.2.5 The evolution of the health plan and medical manpower . . . . .	29
3.2.6 Evaluation in national health planning . . . . .	30
3.2.7 Revision of the plan and the process of continuous planning . . . . .	31
3.3 Training for planning . . . . .	31
3.3.1 The need for training . . . . .	31
3.3.2 Personnel to be trained . . . . .	32
3.3.3 Preparation of teachers . . . . .	33
3.3.4 Training courses . . . . .	33
3.3.5 The training institute . . . . .	36
4. Future studies . . . . .	37
Annex. Short bibliography of national health planning methods . . . . .	39

**WHO EXPERT COMMITTEE  
ON NATIONAL HEALTH PLANNING IN DEVELOPING COUNTRIES**

*Geneva, 27 September - 3 October 1966*

*Members :*

Mr B. Abel-Smith, Professor of Social Administration, London School of Economics and Political Science, London, England

Dr T. Bana, Director General, Public Health Service, Ministry of Health, Niamey, Niger (*Vice-Chairman*)

Dr N. Espinosa, Head, Technical Department, National Health Service, Santiago, Chile

Dr F. Rizk Hassan, Under-Secretary of State, Ministry of Public Health, Cairo, UAR

Dr H. E. Hilleboe, Professor of Public Health Practice, Columbia University, New York, USA (*Rapporteur*)

Dr N. Jungalwalla, Additional Director-General of Health Services, Ministry of Health, New Delhi, India (*Chairman*)

Dr G. A. Popov, Head of Public Health Planning Department, Ministry of Health of the USSR, Moscow, USSR

*Representative of the United Nations :*

Mr H. Gille, Director, Division of Social Affairs, United Nations, Geneva

*Secretariat :*

Dr A. Leslie Banks, Professor of Human Ecology, University of Cambridge, England (*Consultant*)

Dr A. Barkhuus, Chief Medical Officer, National Health Planning, WHO (*Secretary*)

Professor G. Destanne de Bernis, Faculty of Law and Economic Sciences, University of Grenoble, France (*Consultant*)

Dr L. Kaprio, Director, Division of Public Health Services, WHO

## NATIONAL HEALTH PLANNING IN DEVELOPING COUNTRIES

### Report of a WHO Expert Committee

A WHO Expert Committee on National Health Planning in Developing Countries met in Geneva from 27 September to 3 October 1966. Dr P. Do-rolle, Deputy Director-General, opened the meeting on behalf of the Director-General and explained that the Committee's task was to attempt to answer four fundamental questions: *when* is a country ready to plan?, *what* machinery does it need for planning?, *how* is planning carried out? and *who* are to be involved in it and what training do they require?

Dr N. Jungalwalla was elected Chairman, Dr T. Bana Vice-Chairman and Dr H. E. Hilleboe Rapporteur.

### 1. GENERAL BACKGROUND

Since 1951, four WHO Expert Committees on Public Health Administration have been concerned largely with health planning. The technical discussions at the Eighteenth World Health Assembly, held in 1965, also were devoted to this subject.

Several meetings to discuss this subject have taken place under PAHO/WHO sponsorship in the Americas. In addition, a WHO regional seminar on national health planning was held in Manila, Philippines, in June 1964 and a WHO inter-regional seminar in Addis Ababa in October 1965. At the latter, several national health planning projects undertaken by WHO during the previous two years in certain African countries were considered. Various aspects of the subject have also received intensive study in national academic and research institutes and there is now an extensive literature.<sup>1</sup>

Governments in developing countries are becoming increasingly aware of the advantages of health planning at a national level and are therefore anxious to utilize for this purpose techniques that take into account the specific problems of their country. The task of advising on the practical approaches to national health planning, as an integral part of socio-economic development, has therefore become urgent.

---

<sup>1</sup> *Bibliography on health planning* (1965) Geneva, World Health Organization (unpublished document A18/Technical Discussions/5); see also the Annex to this report.



### 1.1 Previous reports on planning

The earlier WHO Expert Committees on Public Health Administration were much preoccupied with the lack of system in the organization of medical and health services. It will be useful first to examine briefly the gist of their reports.

*The first report*<sup>1</sup> dealt "in a general way with some of the many important problems which are met with in health administration in different countries". The committee agreed that the trend in the development of health care made it necessary for doctors to assume more general administrative responsibility, and drew attention to the need for more detailed study of the organization and of the mode of financing of health programmes in different countries.

The committee stressed the importance of establishing a decentralized administration effectively geared to the policy of the central authority and considered that national health administrations should provide, for local health departments, comprehensive planning, including medical legislation, leadership and technical assistance in specialized fields.

The committee drew up a "list of health provisions" under two main headings: one covering those services provided directly by health authorities or jointly with other authorities and a second enumerating other services that contribute to health. This list was revised and expanded to form Annex 1 of the fourth report (see below).

*The second*<sup>2</sup> *and third*<sup>3</sup> *reports* went in greater detail into the organization of health services at the local level. The second report concentrated on the methodology of planning an integrated health programme for rural areas and the third report dealt especially with urban areas.

The second report emphasized the important role that local planning committees can play in stimulating local interest in planning. It was considered that, although national health authorities are in general responsible for both health planning and co-ordination for the entire country, the participation of intermediate and local authorities would be an asset.

*The fourth report*,<sup>4</sup> like the first, dealt with general principles. It was concerned with long-term planning at the national or federal level to ensure that health services are developed "in an orderly and efficient manner".

Faced with the difficulty of defining "public health", the committee adopted from the first report an amended form of Winslow's definition.<sup>5</sup>

<sup>1</sup> *Wld Hlth Org. techn. Rep. Ser.*, 1952, 55.

<sup>2</sup> *Wld Hlth Org. techn. Rep. Ser.*, 1954, 83.

<sup>3</sup> *Wld Hlth Org. techn. Rep. Ser.*, 1960, 194.

<sup>4</sup> *Wld Hlth Org. techn. Rep. Ser.*, 1961, 215.

<sup>5</sup> Winslow, C.-E. A. (1923) *The evolution and significance of the modern public health campaign*, New Haven, p. 1.

It then defined "public health services" as all those personal and community services, including medical care, directed towards the protection and promotion of the health of the community. It agreed that, whatever the social and economic system of the country, national health planning is an essential part of national development and policy, and that it is the responsibility of public health administrators to convince governments of the need to provide adequate funds for health services.

The committee felt that, in the establishment of priorities in health work, emphasis should be placed on prevention; on the provision of services for people engaged in productive work and for mothers and children; and on work that affects the health of the largest number of people and contributes most to the improvement of the nutritional standard of the population.

The committee recommended enlisting the full support of professional organizations, especially those of doctors and nurses, and of the services concerned with medical research, medical education and public health. Attention was drawn to the need for the even distribution of health services throughout urban and rural areas and for the discussion of plans with other governmental and non-governmental organizations.

After the final decision has been reached on targets and objectives, the central health authority should broadly allocate the services to be planned to the different regional, local or individual health organizations or institutions in the country, each of which should then prepare more detailed programmes for each specific function needed to fulfil the objectives of the plan. This would involve:

- (a) establishment of the administrative organization needed to implement the plan (including the different specific programmes);
- (b) recruitment, education and training of personnel;
- (c) estimation of requirements of medical supplies and equipment;
- (d) estimation of number and type of buildings needed;
- (e) estimation of the cost of financing the plan in terms of both capital and recurrent expenditure (ensuring, as far as possible, that funds are available to meet recurring expenses);
- (f) provision of a time-table for implementation of the plan by phases, over a period of years.

These individual programmes would then be assembled and examined by the central health authority and modified as necessary to harmonize with the over-all health targets and objectives and to ensure a balanced distribution of personnel and material resources, especially the financial allocations approved by the relevant central authority.

The integrated over-all long-term national health plan could then be circulated to the different health organizations to permit them to check



the part that they are to play. This would afford another opportunity for readjustment before the plan was presented to the legislative body for discussion and approval.

The committee recommended that operational research in public health be carried out in the quest for a more objective basis for planning, which in most countries is still empirical. The research topics outlined by the committee included health indicators, the methodology of anticipating the impact of epidemic waves, time and motion studies, motivation in the use or non-use of health services, standards for health laboratories and services, the cost to the economy of disease and disability and the outlay needed to reduce this cost. Pilot studies of these factors in the planning of public health services at different levels of government administration were recommended.

## 1.2 Technical discussions at the Eighteenth World Health Assembly

The increasing importance being attached to health planning may be gauged from the fact that this formed the subject for the technical discussions at the Eighteenth World Health Assembly, held in May 1965. The topic chosen reflected the growing interest in rational organization and deployment of national resources for over-all economic and social development.

The report of these discussions<sup>1</sup> emphasized that the provision, training and equitable distribution of personnel presented the greatest difficulties, and that constant review was essential.

The following preconditions and prerequisite data for health planning were generally accepted.

### *Preconditions*

(1) An understanding of the government's interest, aims and assessment of objectives in national socio-economic development and of its policy in respect of health planning as one of its integral parts. Strategical decisions should be taken by the government, especially where a new system is being introduced.

(2) Enabling legislation for planning and subsequent implementation of the plan.

(3) A planning organization for over-all socio-economic planning at policy- and decision-making level, and a health planning organization that is part of the former or exists at the same level.

(4) Arrangements for co-ordination between all planning organizations and between these organizations and the relevant government departments.

### *Prerequisite data*

(1) Demographic data—national, regional or provincial, and local.

---

<sup>1</sup> *Report of the technical discussions at the Eighteenth World Health Assembly: Health planning* (1965) Geneva, World Health Organization (unpublished document A18/Technical Discussions/6 Rev. 1).

(2) Vital and health statistics (crude and infant mortality rates, deaths by causes, morbidity data, hospital admissions, etc.).

(3) An inventory of public and private health service institutions, including training institutions, and a complete analysis by categories of health service manpower, whether employed by the government or practising independently.

(4) Information on the current national economic background and general manpower position.

(5) A statement of the financial allocations to the health services.

Some authorities would regard these as too restricted in scope and would request the addition of the following :

(a) hospital morbidity and mortality data,

(b) the results of mass screening investigations into the prevalence of certain specified or asymptomatic diseases and the physical fitness of certain vulnerable groups, data on the growth of urbanization, and information on the extent of nomadism.

It was accepted as axiomatic that the national ministry of health (subject only to cabinet approval) should be finally responsible for the health plan and its implementation, but that there should be a continuous dialogue between the politicians and health experts at the centre and the health workers in the field.

The following specific recommendations for action by the World Health Organization were made :

(i) *Research*

WHO should institute or support research into the establishment of " norms " of provision for use in the planning of health services. Despite the great need for quantifiable objectives the quality of the services should be safeguarded.

(ii) *Training*

WHO should institute or support courses of training in health planning.

(iii) *Planning procedures*

WHO should provide guidelines in health planning with a view to facilitating planning operations in developing countries.

### 1.3 Regional seminars and meetings

#### *Inter-Regional Seminar on National Health Planning, Addis Ababa, October 1965*

The principal aim of this seminar was to utilize the experience gained in integrated planning projects undertaken during the previous two years by WHO in association with several African governments. Detailed health plans for several countries in the WHO African Region, together with

the comments of the officers chiefly concerned in their preparation, were discussed.

*Pan American Health Organization (PAHO)*

PAHO participated in April 1959 in the second meeting of the Special Committee of the Organization of American States (Committee of 21), at which it was decided that health problems should be considered fundamental in the planning of economic and social development. The third meeting of the Committee of 21, in September 1960, from which sprang the Act of Bogota, delineated the various components of well-being and enumerated those aspects of individual and collective health that all the countries of the American continent considered of great importance.

In February 1965, a working group met in Puerto Azul, Venezuela, to analyse the work carried out in Latin America and, especially, the application of the methodology developed by PAHO<sup>1</sup> in co-operation with the Centre for Development Studies (CENDES) of the Central University of Venezuela. The group recognized the important progress that had been made and the usefulness of the methodology. It was noted that lack of information and administrative deficiencies were limitations in its adequate application but that the situation generally improved once planning was initiated.

*Regional Seminar on National Health Planning, Manila, June 1964*

At this seminar,<sup>2</sup> current practices and experiences in national health planning in countries of the WHO Western Pacific Region were reviewed, modern guidelines for national health planning were discussed and the resources of countries and the means required by them to implement their national health plans were assessed.

#### 1.4 Assistance to countries

WHO has been assisting five African countries in national health planning; four of the plans are now in print<sup>3</sup> and the fifth (for Liberia) will

---

<sup>1</sup> Pan American Health Organization, Study Group on Health Planning (1965) *Final report*, Washington, D.C. (document PS/18).

<sup>2</sup> WHO Regional Office for the Western Pacific (1964) *Report on the First Regional Seminar on National Health Planning, Manila, Philippines, 3-17 June 1964*, Manila (document WPRO/380/64).

<sup>3</sup> République du Gabon, Ministère de la Santé publique et de la Population (1965) *Plan quinquennal 1966-80 de Développement des Services de Santé*, Libreville; République du Mali, Ministère de la Santé publique et des Affaires sociales (1966) *Plan décennal (1<sup>er</sup> juillet 1966 - 30 juin 1976) de Développement des Services de Santé*, Bamako; République du Niger, Ministère de la Santé publique (1964) *Perspectives décennales 1965-74 de Développement des Services de Santé*, Niamey; Sierra Leone Government, Ministry of Health (1965) *National Health Plan 1965-75*, Freetown.



soon be available. The approach to planning in the five countries was pragmatic and has been discussed fully in the preliminary report on the Addis Ababa Seminar.<sup>1</sup> The WHO Regional Office for the Eastern Mediterranean has assisted national planning projects in Somalia and Libya and the WHO Regional Office for the Western Pacific is giving assistance in Korea.

Through the agency of PAHO, many of the countries in the American continent have been receiving guidance and assistance in national health planning.

## 2. CHARACTERISTICS OF DEVELOPING COUNTRIES RELEVANT TO PLANNING OF SOCIO-ECONOMIC DEVELOPMENT

Developing countries are characterized by three features that may be present in various degrees according to their stage of development :

(1) Factors that limit or hamper communication between regions, between sectors of activities or between social groups. In the health field the consequences are :

- (a) the difficulty of educating an illiterate population in health matters,
- (b) the limited ability of the marketing structure to provide the population with supplies adequate to their needs,
- (c) the outmoded agrarian structure, which impedes the production of food.

(2) The uneven economic development (commodities produced at a low productivity are paid for at less than their real value), which results in production becoming directed towards exports and not towards food supplies, with the result that standards of living are so low that even the more elementary health needs cannot be met.

(3) The presence of "vicious circles", e.g., that of poor nutrition and low productivity, which can be broken only through economic measures that, by increasing food production, contribute to improved nutrition and general health conditions.

The three fundamental components of any development policy imply a close relationship between decisions in the health sector and those in the economic sector ; they are :

---

<sup>1</sup> *WHO Inter-Regional Seminar on National Health Planning, Addis Ababa, Ethiopia, 11-12 October 1965, Interim report, Geneva (unpublished WHO document PA/66.5).*

(1) an increase of the accumulation rate ;<sup>1</sup> the *maximization* of surplus is achieved only by making a definite choice of the crops to be grown, and this also determines the level of nutrition ; the *mobilization* of surplus necessitates a reorganization of marketing structures and the establishment, after consultation with public health specialists, of a list of commodities to be placed at the population's disposal ;

(2) the distribution of accumulation between development consumption and investment, which cannot be undertaken without consultation with health and educational administrators, who will take into consideration the principal needs of the country ;

(3) industrialization, which will be successful only if measures are taken to avoid a deterioration in living standards.

The Committee recognized certain fundamental principles that establish the link between social and economic development and matters of health. Economic and social sectors are inseparable, since (a) health is a means of development, (b) economic development is a means towards the attainment of health, and (c) health constitutes one of the objectives of economic development. Thus, so far as health is concerned, there is an imperative need for continuing discussion between economists and physicians at all levels of responsibility and in all sectors of activity.

Because all developing countries have limited resources, choices among competitive ends are inevitable and it is essential to consider all economic measures that could improve health. At the same time, consideration must be given to the factors that improve the productive capacity of men, e.g., education and health, and the accumulation of "things" (e.g., machinery, production plant) needed to increase productivity.

---

<sup>1</sup> For the purposes of this report, the Committee adopted the following definitions :

*Necessary consumption* is the consumption needed to ensure the survival of the population and the operation of the economy at its existing level.

*Development consumption* is the sum of those goods and services that are indispensable for ensuring the development of the economy, because they both represent a rise in the level of satisfaction and are prerequisite for any increase in the productivity of the labour force (e.g., education, health).

*Surplus* is the excess of production (individual or national) over the necessary consumption (individual or national).

*Investment* is the increase in the stock of "things" (machines, production plant, etc.) at the disposal of the economy as a whole.

*Accumulation* is the sum of development consumption and of investment.

*Rate of accumulation* is the ratio of accumulation to the gross national product. This quantity, other things being equal, determines the possibility of increasing the rate of growth of the economy as a whole.

### 3. THE ORGANIZATION OF NATIONAL HEALTH PLANNING

The Committee recognized the necessity for a developing country to begin national health planning as soon as possible, and noted that the quality of planning would improve with experience. The Committee identified two main steps: (a) the preparation of planning and (b) planning itself. The rest of this report is concerned with these topics and with training for planning.

#### 3.1 The preparation of planning

There are two levels of preparation—indirect (often called the pre-planning stage) and direct (concerned with the organization of the machinery for planning).

##### 3.1.1 *Indirect preparation*

Indirect preparation will be considered under two sub-headings, namely—the conditions of national health planning and the basic data required.

##### 3.1.1.1 *Conditions of planning*

In the first countries to become industrialized, three motives stood out in the development of health services:

- (a) the economic motive, based on the realization that workers whose health was protected lived longer and produced more,
- (b) the fear motive, e.g., fear of epidemic diseases, especially cholera,
- (c) the altruistic motive—compassion for other men.

These same motives underlie health planning today.

National health planning is an integral part of general social and economic planning. It is a process that may vary from country to country and even in the same country at different times. Some of the more important conditions are as follows:

The *government's interest* in national socio-economic development planning and in national health planning should be clearly indicated. However, governments change and so may their interests. Nevertheless, it is essential that the preparation of a national health plan is based on clear and sustained directives given by the political authority. Such planning is complicated



in many developing countries by the political instability of governments, whereby both the planning and the execution of programmes are abruptly and recurrently interrupted. The problem of obtaining continuity under these circumstances remains unsolved.

*Enabling legislation* for planning and subsequent implementation of the plan is desirable. Laws and regulations facilitate setting the planning machinery in motion, but it is sometimes possible to proceed without them.

*A planning organization* for over-all socio-economic planning at policy level and decision-making level should co-ordinate and integrate sectoral planning undertaken by groups that are in constant touch with the central planning agency.

*Administrative capacity* is essential : it has been estimated that over 80 % of the failures in socio-economic plans are due to administrative failure, and that administrative systems of government in almost all developing countries with limited resources are inadequate and must be strengthened during the pre-planning period.

The basic difficulty is that few health administrators possess an adequate knowledge of recent advances in public administration. New recruits to public health work need formal training in administrative organization and management. Senior health administration officers may need refresher courses and education in decision-making and problem-solving. Lay administrators can assist physicians to their mutual benefit, both in the planning and in the execution of health programmes.

“Planning” includes the provision of professional personnel from the political sciences as well as the medical sciences to give administrative direction to comprehensive health programmes. Throughout the whole planning process, from diagnosis to evaluation, there is room for a variety of specialists, including those from the social sciences, to assist the health team, both in planning and in implementation. This matter is discussed in the section on training (section 3.3).

The health administrator is largely occupied with decision-making and planning in his day-to-day tasks. He needs to know and apply a knowledge of decision-making gained from the associated fields of public and business administration. He needs to decentralize decision-making to the lowest possible organizational levels, as a shared responsibility wherever competent staff are available. This does not just happen—it has to be planned.

Concentrated training courses in decision-making and planning should be an integral part of national health planning. Much can be accomplished in a course of several weeks if this initial exposure to experts in administrative practice is followed by shorter courses at regular intervals. Non-medical administrators should also take part in these courses.

### 3.1.1.2 *Basic data required for national health planning*

When no data are available, or when the lack of accurate and complete data is a serious problem, the collection of essential data will have to be pursued simultaneously with planning, the plans being modified in the light of the information that emerges. The basic information used for health planning can be listed under the following headings:

#### (1) *Indicators of resources*

*Money.* Expenditure on health services analysed by items and by sources of finance;<sup>1</sup>

*Manpower.* Personnel of different categories used in the provision of health services, including indices of utilization;<sup>2</sup>

*Facilities.* The number of hospital beds and other physical facilities, plus equipment and supplies, in which health services are provided, including indices of utilization;

*Organization.* The organization of the health services, indicating the combined functions of different persons (the "team" concept) and the availability of equipment and supplies.

#### (2) *Indices of health and disease*

These indices include mortality, morbidity, disability rates and ratios, and levels of health.

Some of the resources indices are especially useful, e.g., hospital beds per 1000 population, doctors per 100 000 population, cost per tuberculin test in TB case-finding, or cost of health centres for a large rural republic. Health indicators are useful but have to be used with caution, as, for example, in comparing deaths from abortion per 1000 pregnancies in Chile and in the USSR. In comparisons between countries, hidden variables may invalidate the conclusions.

All countries need to collect the information set out under the first heading (indicators of resources). Indices of utilization show that part of the need for health services that is currently being met and the diseases that are currently receiving attention. Health planning need not await the availability of precise information on indices of health. A broad indication of the more prevalent diseases is sufficient for the preparation of a health plan and such a broad indication can normally be obtained by a study of utilization statistics. This is not to deny that the more precise the infor-

---

<sup>1</sup> Abel-Smith, B. (1963) *Paying for health services—a study of the costs and sources of finance in six countries*, Geneva, World Health Organization (Publ. Hlth Pap., 17).

<sup>2</sup> *World Health Statistics Annual 1962: Volume III, Health Personnel and Hospital Establishments* (1966) Geneva, World Health Organization.

mation on levels of health and the causes of ill-health available to health planners, the better is the quality of the plan that can be developed.

In planning, different indices may be used for the different levels of operation. For instance, the public health plan for a town or rural area may take into account the number of hospitals and hospital beds, the amount of capital construction, or the number of medical workers needed. It may refer to specialized care provided for different groups of the population (e.g., children, women, industrial workers) and to preventive measures (e.g., medical examinations, vaccinations).

From the highest level of the administration to the lowest, the indices must be defined in precisely the same way. Some of the planning indices may be standards.<sup>1</sup>

Further information on basic data for planning will be found in the fourth report of the WHO Expert Committee on Public Health Administration<sup>2</sup> and in the report of a WHO Study Group on Measurement of Levels of Health.<sup>3</sup>

### 3.1.2 *Direct preparation*

There is now a fairly extensive literature on direct preparation (which is concerned with the organization of the machinery for planning)<sup>4</sup> and it is evident that the pattern of development and the machinery for socio-economic planning established in a country depend largely on its political, social and economic institutions and its stage of development. It is beyond the scope of this report to discuss the central planning organization in detail.

As already mentioned, it is essential that, in any country embarking on national health planning, there should already exist some type of central

<sup>1</sup> Public health standards are: the quantitative indices of the state of the environment, health, epidemiological and medical care; hospital beds per number of population; medical staff per number of population; supply of drugs, equipment and transportation; indices of the extent to which medical services are used (personnel, hospital beds, equipment); size of hospital site, area of hospital premises; auxiliary premises and budgetary appropriations for construction and maintenance of medical institutions.

<sup>2</sup> *Wld Hlth Org. techn. Rep. Ser.*, 1961, 215.

<sup>3</sup> *Wld Hlth Org. techn. Rep. Ser.*, 1957, 137.

<sup>4</sup> The Committee recognized that the terminology of the administrative structure varies from country to country. For the purpose of this report the Committee defined the following terms:

*The central planning authority* is the body which, subject to the overriding authority of the cabinet, is the one highest placed in the government in matters pertaining to socio-economic planning.

*The central planning unit* is the technical bureau in charge of the actual process of planning and acts as the secretariat for the central planning authority.

*The machinery for health planning* within the ministry of health is based generally on two units:

The Ministry of Health planning committee and

The planning unit, which, *inter alia*, acts as the secretariat to the planning committee.



planning authority responsible for the co-ordination of all planning activities. In some cases the health and sanitary conditions of a country are of such importance for its development that the minister of health should, whenever possible, be a member of this planning authority. The central planning authority is normally headed by the country's chief executive and is therefore in a strong position to have its decisions adopted by the full Cabinet.

A central planning unit, in whatever form it has been established, should act as the secretariat for the central planning authority. It is most important to stress that the sectoral planning team (e.g., for health) and the central national planning authority should achieve the greatest possible degree of co-ordination.

### 3.1.2.1 *The health planning process*

The health planning process itself might be said to comprise a logical series of steps, for example :

- (1) assessment of the problem, including drawing up an inventory of available resources ;
- (2) formulation of the plan, i.e., definition of objectives and priorities, together with the resources necessary for their attainment ;
- (3) discussion and acceptance of the plan by the political head on behalf of the community ;
- (4) implementation ;
- (5) periodic evaluation of the plan's effectiveness in fulfilling health objectives.

The machinery for the above task (with the exception of implementation) consists generally of two units : (1) a planning committee in the ministry of health and (2) a planning unit that also acts as secretariat for this committee.

### 3.1.2.2 *The health planning committee*

The technical tasks of the committee consist in (a) integrating projects proposed by the operating organization into programmes for medium-term and short-term (including annual) periods, (b) submitting programmes to, and defending them before, central planning and budgetary authorities, (c) recommending policies and administrative and other measures required in carrying out the programme and (d) reviewing and evaluating the programme.

It may be helpful at this point to distinguish between " projects " and " comprehensive plans ", for it is possible to initiate planning by way of carefully prepared projects with limited objectives and full financial support and later go on to the preparation of a comprehensive plan. The

choice will often depend on the available expertise, the time factor and the administrative machinery at hand.

### 3.1.2.3 *The health planning unit*

Although arrangements for planning at the higher levels are important, especially in relation to co-ordination and finance, the detailed work will be done within the planning unit. It is therefore essential to lay down clearly its terms of reference from the outset. The concept of "planning" is new to many people and the unit may find itself isolated and starved of information as a result of misunderstanding and suspicion of its functions. Moreover, planners have been known to exaggerate their importance, with equally unfortunate results.

A strong "sectoral" team, meeting regularly, would do much to keep the perspective right. Planning is a continuous process; someone must have the responsibility for ensuring continuity. The preparation of a first plan may require 12 to 18 months or even considerably longer. If the plan consists, in effect, of a series of projects with set target dates and approved expenditure and there is a good general administrative machinery within the ministry of health, these projects can safely be handed over to the responsible executive divisions, e.g., those for rural health services, hospitals, personnel or finance. The responsibilities of the planning unit can then be limited to measuring progress, with a view to making subsequent plans more realistic.

### 3.1.2.4 *Staffing of the planning unit*

Staffing of the planning unit may present considerable problems. Most ministries of health in developing countries are seriously understaffed and such staff as is available is already overburdened. Few medical personnel have a knowledge of planning, and experience has shown that plans drawn up by a visiting team, particularly if its members are unfamiliar with the country and have spent only a few weeks there, may prove superficial and unrealistic; moreover, such teams do not assist in the building of a permanent organization. The nucleus of the planning unit must consist of local personnel, though external advisers may be brought in to assist.

It is also becoming increasingly evident that the planning team should include non-medical experts, either as permanent members or as readily available consultants. A general administrator can provide expert knowledge of administrative organization and management. A statistician is essential for checking and assessing data and an accountant for preparing the cost analysis. Legal advice may also be desirable, to ensure that legislative authority exists to implement the plan or to draft amending legislation where this is needed. The team should also benefit from the advice of experts in economics, demography and sociology.

There is also the question of adequate clerical assistance, for the plan is built up on details; reliable book-keeping, record-keeping and filing are essential. So also are adequate facilities for preparing and duplicating documents, since the unit serves as secretariat to the planning committee.

### 3.1.2.5 *International aspects*

The Committee recognized that WHO is under considerable pressure to act quickly in providing advice on machinery for planning, including the question of timing and the type of experts needed. Conditions vary so markedly in different countries that a plan of action must be made by someone on the spot. On the other hand, in developing countries trained staff is often scarce and the few men of experience available are submerged by their daily tasks. In many instances, therefore, only preliminary planning by external experts is possible, but then there must also be national counterparts.

The plan should be drawn up by the national staff with the advice of planning consultants, since this will be important for its implementation. Each country has its own problems and it is the responsibility of the officials within the country to conduct the day-to-day administration of health services. These responsibilities cannot devolve on external consultants called in to prepare a national health plan. Before the planning experts can begin their tasks they must know what has already been done. It is important to identify the responsibilities and duties of all members of the planning team and it should be noted that planning forms a part of administration and cannot be separated from it.

In considering the qualifications required of the national staff, it must be borne in mind that doctors undertaking planning should have wide experience in the health services of their own and similar countries, as well as a medical education and background that will inspire the confidence of their colleagues.

### 3.1.2.6 *Co-ordination with other sectors*

In several fields close co-operation with other ministries is essential. Medical education and education in a number of specialties, such as sanitary engineering, dentistry and nutrition, are often the concern of the ministry of education or, possibly, of independent institutions. The ministry of education may also have its own school health services and health teaching facilities. Although the ministry of health usually supervises environmental sanitary installations, the provision of such installations is often the responsibility of the ministry of public works. The ministry of health has overlapping interests with the ministry of agriculture in nutrition and veterinary public health, with the ministry of labour in occupational hygiene, and so on.



### 3.1.2.7 *Prevailing patterns*

Consideration of the planning machinery in various countries brings out the need for a highly qualified staff and for making full use of existing facilities, e.g., statistical departments, without duplicating them for planning purposes. The ministry of health must play a salient part in co-ordination at all levels. Although in some countries it may be possible to decentralize responsibilities, the extent to which this can be done must again be determined by the framework of local government within the country. A national health plan must take into account all health resources within the country, including manpower and the money spent on medical services, including the private sector.

The importance of communication between those responsible for the preparation of the national health plan and the over-all socio-economic planners cannot be overemphasized. As already mentioned, the WHO Regional Office for the Americas has used local courses lasting from three weeks to three months to acquaint senior officials and representatives of professional organizations with the fundamental principles involved in planning. Much resistance to planning, largely due to the lack of a clear understanding of the basic principles, is thereby avoided and the active participation of the important medical and paramedical organizations is enlisted.

### 3.1.2.8 *Responsibility for planning*

Although the central planning authority is generally responsible for the co-ordination of planning, it is accepted that the ministry of health should be responsible for taking and keeping the initiative in the planning of the health sector. In considering co-ordination at different levels in the health field, it must be remembered that in many countries local self-government units are at different stages of evolution and that in certain technical fields their responsibilities in the field of health overlap those of the central government.

There is, therefore, no alternative at present to action by the ministry of health in evolving the over-all health plan and the ministry must be accepted within the country as the body competent to do this.

### 3.1.2.9 *Co-ordination with the professions*

With regard to co-ordination with professional organizations, it is again not possible to generalize. In smaller countries informal methods may be practicable, whereas in larger countries co-ordination may be achieved by direct consultation by the ministry of health with representatives of each body and by having representatives of the professional organizations on the planning advisory committees.

### 3.1.2.10 *Community participation*

Political leaders must be convinced that there is a need for planning. The health expert can help the politician to understand, accept and actively support health planning. When health plans have been prepared they should be brought to the notice of the political leaders as quickly as possible as the best way to meet the health needs of their constituents and to distribute resources fairly. Health experts can use health education technique to gain the confidence of politicians in health planning and to secure community participation.

The successful implementation of a health plan rests upon the close co-operation of the whole population of the country. It would therefore, in theory, be desirable for representatives of the people to participate in planning at the local as well as at the central level. In many developing countries this is not practicable, since local systems of representation have not always evolved and there are special difficulties where there is a high degree of illiteracy. Health education for the community and, especially, for schoolchildren will thus need to come into the curriculum of planning training. There is particular need to adopt some of the principles and practices of the behavioural sciences. Hope for the future may well rest in teaching children concepts of health that will motivate them to protect their own and their communities' health when they become adults.

It will often be necessary for those in positions of responsibility at the central level to assess the needs of the people and to provide for these needs as far as possible within the plan. Where resources are limited it may be desirable to acquaint the political leaders with possible alternatives, so that they are fully aware of the range of priorities on which to build up the expectations of the people. In this respect the medical profession, where it is well organized, can help greatly, but in this matter, as in many others, the final decision is a political one. Once the health plan has been prepared, the over-all principles should be understood by the whole population; the success of the plan may well depend on this.

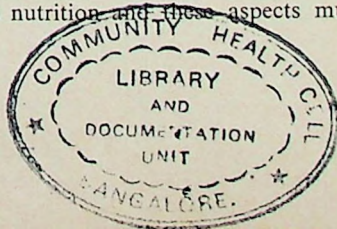
## 3.2 *Elaboration of the plan : planning methods*

### 3.2.1 *The place of health in total development*

It was pointed out in an earlier section of this report that any plan for health services should be closely integrated with the plan for the whole economy. Moreover, health skills are not only needed to plan health services; they are also needed to assist in the planning of other sectors of the economy that have important health aspects. For example, the provision of water supplies and of housing has important health aspects, which need to be considered when plans are laid down. Similarly, there is a close connexion between health and nutrition and these aspects must

3817

H/100





be recognized when an agricultural policy is being developed. Thus, in considering the discussion of health services that follows, it should be appreciated that health planners have important contributions to make outside the specialized field of health services with which this report is principally concerned.

The battle against disease and the maintenance of high levels of health are important in relation to the fulfilment of economic policy. Morbidity affects both attendance at work and the quantity and quality of work achieved. Deaths in early life involve not only human tragedies but also a waste of social investment. Some of the economic effects of inadequate health services can be measured and the provision of health services can make important contributions to economic growth. However, not all health services contribute to economic objectives, nor should economic output necessarily be the principal objective in the provision of health services. Nevertheless, *certain* health services in *certain* economic circumstances can play an important part in economic development.

It is of course generally recognized that the ultimate objective of all development efforts is the improvement of the standard of living of the people. The inclusion of social development objectives in over-all development objectives therefore implies the setting of targets in terms of various indicators of levels of living such as *per capita* food consumption, literacy ratios, life expectancy.<sup>1</sup>

It is because the purpose of health services is partly to provide a humanitarian service that helps to maintain social cohesion and partly to assist with economic growth that no simple formula can be evolved that lays down the precise role health services should play in economic and social development. Rivkin has stated<sup>2</sup> that governments are under strong pressure to allocate resources to social services and that the provision of such services can put excessive strain on limited economic and manpower resources.

In view of the difficulty of producing any "scientific" basis for determining what proportion of national resources should be devoted to health services, it is not surprising that empirical study has failed to show that health spending is, in practice, determined by any clear criteria. Over the last ten years, WHO has evolved a standard framework for national health accountancy. Definitions have been developed and applied for health expenditure, for its functional components and for different sources of finance. It has been observed that, although countries with a higher national income per head tend to spend a higher proportion of their

---

<sup>1</sup> Economic Commission for Africa (1965) *The concept and content of economic and social planning*, Geneva, World Health Organization (unpublished document NHP/SEM./WP/10.65), p. 11.

<sup>2</sup> Rivkin, A. (1963) *The African presence in world affairs : national development and its role in foreign policy*, London, Free Press of Glencoe, p. 118.



resources on health services, a wide variation exists in the proportion so spent, both among high-income and among low-income countries. Nevertheless, no low-income country spends more than 4 % of its gross national product on health services. If the private sector of health services is excluded where it tends to benefit a very small proportion of the wealthier urban population, no low-income country spends more than 2 ½ % of its gross national product on health services; most spend only 1-2 %. Low-income countries tend not to charge for health services, whereas in some high-income countries most of the population have to pay the full cost of these services.

The evidence does not suggest that the countries that have the greatest need for health services spend the most on them. Nor do the different methods of financing seem to determine what is spent on health. The level of health spending seems to be determined more by the history of each country than by more rational criteria. Thus, for example, even such factors as the proportion of physicians among ministers or in the legislature might have a significant influence on the level of health spending. In low-income countries, the decision on the amount to be spent on health services is, perhaps inevitably, a political one and in that (albeit limited) sense can be said to represent the felt needs of the country.

Most health administrators have extremely limited resources; whereas in developed countries the health authorities are provided with as much as US\$ 74 a year *per capita*, in many developing countries less than US\$ 2 is made available.

In view of the present difficulty of comparing the effects of measures in the health field with those of measures in other sectors (e.g., education, production), the Committee believes that further research is needed (*a*) on the criteria for the distribution of resources between the health and other sectors and (*b*) on the criteria for determining the allocation of resources within the health sector.

### 3.2.2 *The total planning process*

The central planning authority lays down the broad guidelines for the over-all social and economic plan of the country to cover all the sectors of economic and social policy. Such guidelines include:

- (1) criteria for the determination of broad consumption objectives;
- (2) policy objectives in the distribution of income;
- (3) broad policy objectives to be fulfilled in each sector;
- (4) a rough indication of the distribution of resources between sectors.

Within the framework of these various objectives, each sector (education, health, agriculture, fisheries, basic industries, consumption industries,

transport, trade, etc.) prepares its own draft plan. Every sectoral plan calls for :

- (1) an accurate assessment (diagnosis) of the existing situation ;
- (2) definition of the means recommended to improve the efficiency in the operations of the sector ;
- (3) an estimate of personnel needs, category by category, together with an indication of the facilities needed for staff training ;
- (4) the costing of the various activities, project by project, taking into account and listing separately : (a) capital expenditure (buildings, vehicles and equipment) spent inside the country or spent on imported goods, and (b) recurrent expenditure on personnel in each category and materials bought in the country or imported ;
- (5) a description of the expected results, in terms as concrete as possible ;
- (6) as accurate as possible an estimate of the expected economic effects ; and
- (7) recommendations for activities in other sectors ; for example, the health planning unit may make recommendations about nutrition (including crop rotation), health education in educational establishments and environmental health.

This draft sectoral plan is then forwarded to the central planning unit, whose task is to determine whether it is possible to carry out the plan as proposed, whether changes are required (and if so, what) and whether the recommendations concerning other sectors can be put into effect. Discussions then take place between each sectoral planning unit and the central planning unit to determine what plans will be finally submitted to the central planning authority.

After it has been approved by the political authority the final version of the plan is sent back to each sector for implementation. During its execution, it is essential to evaluate the achievements and compare them with the objectives set. As a result any necessary modifications can be introduced when the next plan is prepared.

### 3.2.3 *Application of the planning process to health*

The above principles will now be elaborated as they apply in practice to the health sector. The first step of the health planning team is to obtain, through the central planning unit, the general policy objectives laid down for the whole economy that are relevant to health planning. Has a general manpower policy been evolved and what account has so far been taken of the need to train health personnel? What are the broad objectives of the plan for total investment and for total consumption, both governmental

and in the private sector? What is the policy concerning the distribution of income, which may affect the salaries of health personnel and the possibility of certain sectors of the population purchasing health services? Are there any broad policy objectives laid down centrally for the health sector, for early action against certain diseases or to provide health services to support particular areas of economic growth? How is the geographical distribution of the population expected to change in the future?

Most important of all is to produce, in consultation with the central planning unit, a provisional estimate for health expenditure during the planning period. Because of the time needed for staff training programmes to yield a stock of trained manpower that can be deployed within the plan, it may be advisable to plan for the developments to take place over a long period, possibly as long as ten to twenty years.

In producing this estimate of future health expenditure, consideration should be given to past and planned changes in the national income, to trends in spending in other sectors of the government budget and to relative priorities accorded to particular fields of development by the political leadership.

Once an estimate of total health expenditure has been made, it must then be related to the population projected for that year, bearing in mind that the health plan will be one of the factors generating demographic changes. After allocating a proportion of the budget to central and regional services and to training, it is possible to calculate how much will be available for organized health services per unit of population. After various alternatives have been considered, it has to be decided how this budget should be divided between in-patient and other medical care services and preventive services of different types. In making these choices, consideration will be given to the disease pattern and changes in mortality and morbidity and the possibility of altering this pattern by suitably deploying available resources. Alternative budgets can then be prepared that envisage the employment of different categories of staff with all the supporting materials needed to enable them to work effectively. The various options can be considered in a concrete, manageable form.

Planning within a given budget leads the planner to compare the value of the work that can be expected of different grades of staff with the cost of employing them (and of training them). Decisions need to be made on both the preventive and the curative sectors of the plan, however much the two sectors are ultimately to be integrated within the service finally established.

In effect, quantity of service has to be weighed against quality of service and in the process the probable demands of the population need to be considered; if these demands are not all to be met, it is necessary to decide how the limited funds are to be allocated. If no decision is taken on this, allocation (rationing) will be on the basis of "first come first served".



Rationing can be achieved by administrative decision (to give emphasis to particular age-groups or type of disease) or by price (charging, for example, for all curative services or for certain ones).

There are countries whose resources are so limited that it is necessary to plan expeditiously to satisfy the most urgent unmet health needs with whatever resources are available. After this phase of extemporization, it becomes practicable, sooner or later, to take a longer and more systematic view (covering a period of fifteen or twenty years) and to determine the extent to which funds, manpower and other resources could become available within that period for further development.

In other words, it is necessary to start with the minimum and deal first with the most urgent.

In summary, therefore :

(a) a balance has to be struck between curative and preventive services and within the former between in-patient and other services ;

(b) a decision has to be taken on whether certain diseases, age-groups or occupational groups should be given priority ;

(c) the most economical instruments (staff plus supporting materials) to secure the chosen objectives need to be selected, which involves making decisions by balancing quality against quantity.

#### 3.2.4 *Choice of priorities in the health sector*

In high-income countries with large stocks of trained manpower and large economic resources that can be spent on health services, the problem of choice is much easier to resolve than in low-income countries, where economic and manpower resources are extremely limited. Thus it is possible for high-income countries to adjust both the total allocation to the health sector and its distribution among the various parts in accordance with the need for health services as indicated by data on morbidity and by the possibility of preventing disability and death in early life.

Many different ways of establishing priorities are used in different parts of the world. Some countries prefer simply to state certain broad principles, e.g., the need to give priority to preventive services, and leave it to those who work in the health services at the local level to apply these principles in practice. Other countries have attempted to evolve priorities by the use of cost-benefit techniques, while recognizing that they are not applicable throughout the whole health sector. Still others have identified specific aims, such as the reduction of the infant mortality rate or the eradication of particular diseases.

In health planning there is a great need for clear definitions in order to avoid confusion. This is particularly true when dealing with the all-important concept of estimating future needs. In this connexion the words

"forecast", "projection" and "target" are often used indiscriminately. Harbison<sup>1</sup> stresses that a distinction between them is essential:

In the modern world, it is really impossible to predict what is going to happen in particular countries or regions, regardless of the techniques which may be employed. ... *Projections*, of course, are different from *forecasts*. They express the logical consequences of assumed courses of action. They are helpful in determining what *needs* to be done if certain objectives are to be attained, or perhaps what will happen anyway if certain objectives are in fact achieved. *Targets*, on the other hand, are operational direction indicators based upon projections and reasonable judgements.

Harbison suggests that the methodology would be greatly improved if both the concept of a "forecast" and the term itself were discarded, and if analysts would indicate clearly when they are making *projections* and when setting *targets*.

The purpose of target-setting is not to make a prediction of what will take place; nor is it to make projections on the basis of limited assumptions of attainment of one or two specific courses of development. Its purpose is rather to *influence the future course of development*. A target indicates a direction for action. Its precise quantitative dimension is far less important than its function of indicating the direction of activity for achievement of specified goals.<sup>2</sup>

It is evident that without some kind of specific criterion it will be impossible to estimate future needs. Much important work in this field has been carried out in the USSR:

The public health plan is a combined, balanced plan, all the different parts of which (the development of out-patient and polyclinical services, in-patient care, the training of doctors and health workers, capital construction, medical research and so on) must be maintained in the right proportions. A standard ratio of facilities to the population—out-patient and polyclinical services, in-patient services, sanatoriums and health resorts, sanitation and epidemiological services, etc.—is of great importance in planning the development of the health services and also as an index of the standard of medical services. This ratio is approved by the Ministry of Health of the USSR. It is based either on special scientific investigations or on the practical evaluation of existing medical care services.<sup>3</sup>

Mortality and morbidity data and other factors may be used in many different ways in selecting health priorities; on close analysis, however, these methods are often found to contain many common features. Thus, there are many similarities between the principles underlying the different formal methodologies of health planning used, for example, in the Socialist

<sup>1</sup> Harbison, F. (1964) *Human resource assessment*. In: *Economic and social aspects of educational planning*, Paris, UNESCO, pp. 122-123.

<sup>2</sup> Harbison, F. (1964) *op. cit.*, p. 125.

<sup>3</sup> Popov, G. A. *The planning of in-patient services in the USSR*, Copenhagen, WHO Regional Office for Europe (unpublished document EURO-137.2), p. 2.

Republics of Eastern Europe, in India, and in the Latin American countries. Detailed descriptions of these methodologies have been published (see the Annex).

Two interesting developments in planning methodology occurred in the USA in 1965 and 1966. One method, known as Planning-Programming-Budgeting, is now in use in all federal departments, including the Department of Health, Education and Welfare. The other, known as a Community Self-Study Guide for Planning, was developed on an experimental basis in 21 communities by the National Commission on Community Health Services. These two methods might be of use to developing countries seeking means to strengthen their planning.

The planning process could be greatly facilitated by the development of clear concepts. What may eventually become a comprehensive methodology will also assist in determining the kind of empirical data that are relevant, and can assist in preventing the collection of masses of facts and figures that may not be relevant at all. The present dearth of statistical data provides no excuse for failing to develop clearer concepts and more systematic methods of analysis.

Though the means used to establish priorities are often hard to interpret, owing to the different meanings attached to the terms used in different countries, there are, in fact, common features that underlie many systems of health planning. Many countries, consciously or unconsciously, use what may be broadly called economic principles to establish priorities. The emphasis on prevention rather than cure is one such principle. The cost of curative services for a disease can be saved if the incidence of that disease can be reduced or if it can be totally eradicated. Secondly, the common emphasis on saving the lives of younger people in whom there has been considerable social investment and who still have major contributions to make to production represents another choice. The choice of diseases that can be prevented at relatively low cost rather than those that can be prevented only at high cost is a third type of decision with an underlying economic motive. The decision to provide somewhat better health services in areas or for occupations where the loss of skilled manpower or of working hours is of greater value to the economy is a fourth example.

Many countries apply criteria of this kind, although expressing them as principles of public health rather than principles of economics, whereas others have been trying to introduce them by the conscious use of formal economic tools. Although it is not always appropriate to use the same formal systems of establishing priorities for all countries or cultures, the Committee consider that the different systems need further study in order to identify the common features and the differences in emphasis. Public health administrators should learn to use more of the basic concepts and techniques of economics, but health services should not be exclusively



aimed at increasing production. They contribute to other aspects of human welfare that are very real, however hard they may be to measure.

### 3.2.5 *The evolution of the health plan and medical manpower*

Once the pattern of health services for a unit of population has been determined, the distribution of the total financial resources allocated to these services for the planning period can be determined. At this stage it needs to be decided whether health services should be distributed evenly over the country or whether higher expenditure should be allocated to particular areas—because the population is widely dispersed, or because it is desired to give a higher standard of service to particular parts of the economy that are critical for economic growth, or because of differing expressed needs for health services. Any decisions of this kind will necessitate revising the inventory of services for the favoured and less favoured areas. Moreover, the mechanism for establishing the pattern of distribution between areas needs to be determined (central budget control, the sponsorship of health insurance at growth points of the economy or the development of health services on an occupational basis).

When the financial and manpower requirements of the health services are known, the necessary staff training and capital construction programmes need to be worked out and phased over the whole planning period. It is at this stage that the capital construction programme must be checked against the planned capacity of the building industry. Similarly, the manpower requirements need to be checked in the light of national educational and manpower policy to determine whether the required number of persons of the required educational levels can be obtained without damage to other sectors of the national development plan. If undue demands are made on the pool of educated personnel, then either the national educational programme must be expanded or the manpower requirements of the health plan appropriately curtailed.

Population data are important for a number of reasons. First, the trends in the total population, its age structure and geographical distribution and the rate of population growth affect the need for health services. Secondly, an assessment of human resources is of prime importance for national health planning to give a clear idea of prospective sources for the development of medical, paramedical and auxiliary manpower. Thirdly, the effects of health activities upon future population trends, as well as the utilization of human resources, have to be taken into account. In other words, medical manpower analysis cannot be divorced from the general assessment of human resources. Essentially it necessitates a reasonably comprehensive analysis of the existing situation, which is then used as a baseline to estimate the long-term requirements over a period of perhaps 10 to 20 years. The literature on methods of making manpower inventories

is considerable ; this subject was discussed at the United Nations Conference on the Application of Science and Technology for the Benefit of the Less Developed Areas, held in Geneva in 1963.<sup>1</sup> The most difficult aspect of manpower analysis is the determination of long-term requirements.

The Committee noted that the United Nations and its specialized agencies were engaged in a review of international activities in the development and utilization of human resources, with a view to making proposals for intensified concerted action in this important area.

When considering human resources in the smaller countries it is necessary to pay continuous attention to ways of obtaining medical manpower from outside the country if insufficient is available internally. Moreover, attention must be given to the problem of the emigration of medical manpower to other countries, including high-income countries.

This detailed consideration of long-term perspectives is needed to establish staff-training and construction programmes for the first planning period and to determine the amount of current expenditure during the same period. Each year should represent a phased step towards the final objective. Some countries decide to introduce the ultimate plan area by area as staff emerge from training programmes ; thus the building programme is put into effect in successive areas until the whole country is covered. Other countries prefer to plan for each area to evolve gradually throughout the whole planning period. The more drastic the changes being introduced during this period, the greater are the attractions of proceeding on an area-by-area basis.

Only by looking far ahead—for a span of ten to twenty years—is it possible to make training and capital construction programmes consistent with long-term economic realities, insofar as these can be foreseen. Only thus is it possible to avoid undesired differences in the resources devoted to health services in different areas. Only thus is it possible to avoid training staff who cannot be employed because the money is not available to pay them. Health planning must be long-term planning to secure what can be termed “input consistency”.

### 3.2.6 *Evaluation in national health planning*

The determination, as the first phase of national health planning, of the extent and characteristics of health problems from an analysis of the available data requires keen judgement. Evaluation is fundamental to administrative control and indispensable for ensuring that continuous planning is systematically based on experience gained. It measures the degree to which objectives and targets are fulfilled and the quality of the

---

<sup>1</sup> United Nations (1963) *Science and technology for development*, New York, Vol. 1, p. 89 ; Vol. VI, p. 105 ; Vol. VII, p. 81.

results attained. It measures the productivity of available resources in achieving clearly defined objectives. It ascertains how much output or cost effectiveness is achieved. It makes possible the reallocation of priorities and of resources on the basis of changing health needs.

Although evaluation studies are still in a state of development, their wider use should lead to a fuller appreciation of their potential contribution to the continuous improvement in the efficiency of planning. Better methods of evaluation are urgently needed, from complex systems analysis to simple field studies performed by local health administrators. This kind of research should be built into every national health plan so that it can be periodically revitalized, in keeping with medical progress and advances in organizational theory and practice. Local and regional health programmes should serve as a permanent laboratory for evaluation studies in public health practice.

### *3.2.7 Revision of the plan and the process of continuous planning*

Once the first draft has been prepared and shown to be consistent with economic limitations, manpower limitations and the capital construction programme, the draft health plan should be presented once again to the central planning unit responsible for the whole economy. The implications of the plan in health terms and in economic terms should be clearly explained. Once the planning unit has digested these implications it may feel justified in amending its original policy directives or in revising the provisional financial allocation. If one of these courses is adopted, it will be necessary to revise the health plan, either completely or in part. Similarly, the presentation of the health plan may result in new directives or amended financial allocations to other sectors of the national plan.

It cannot be overstressed that planning is a continuous process. Every few years new plans will need to be prepared to take account of the progress achieved, both in health and in other sectors of development.

## **3.3 Training for planning**

### *3.3.1 The need for training*

A problem to which the Committee gave special attention was the experience and training required by staff concerned in national health planning.

It is generally agreed that planning should not become a separate profession within medicine. However, without training there can be no planning, for doctors are not prepared for this work, either in the course of their general medical education or as a part of their specialized public health training.



Health "planning" and "programming" are not new to the public health administrator, who has always had to develop "plans" to justify financial support. What is new is the concept of "planning" as a multi-disciplinary undertaking in which a number of different disciplines co-operate in organized teamwork, preparing a plan that is finally acceptable to the government and will have financial and administrative support for its implementation.

Since the final decisions in the allocation of funds in a steadily increasing number of countries today are taken on the advice of planning bureaux largely composed of persons with training in economics, it has become increasingly important that communication be developed between economists and members of the health professions.

Practically all developing countries have begun to undertake national socio-economic planning. It is therefore essential that senior public health administrators be able technically to assist such governments in elaborating the "health sector" of these plans. Experience in the utilization of senior personnel in several national health planning projects suggests that, if administrators are to be able to assist governments in this way, they should receive special training in certain fields as well as refresher training in others.

Training in planning should be a part of training in public health administration. There is a need to train all types of supervisory personnel, both medical and non-medical, in health departments. This will create an understanding of the purpose and value of planning at all administrative levels in health agencies—national, regional and local.

For health administrators to be able to compete successfully for national resources with experts from other governmental agencies, they must acquire knowledge and skills in planning comparable to that of their colleagues in other sectors.

### 3.3.2 *Personnel to be trained*

It can be said, with some justification, that the planning process requires trained staff at all levels, from those who collect and record data to the senior officials whose task it is to prepare, co-ordinate and present the final plans for approval and incorporation in the over-all national plans. The latter are especially important, particularly in the formative stages of national health planning, for without their guidance and leadership the planning groups cannot function effectively.

General experience in the administration of public health and medical services is therefore a first consideration. Where, for example, outside help is called in to develop a national health plan, it is essential that there should be national counterparts; however, if the latter are to develop the planning process, they will need instruction. Senior staff, for reasons indicated below (section 3.3.4), may require only a relatively short course

in the theory and practice of planning and in related subjects. Their subordinates, those responsible for the day-to-day work, may be given practical training in longer courses, designed to familiarize them with planning requirements and procedures as applied to their own country.

The question was raised in the Committee whether a new class of experts should be developed to take on the responsibilities of health planning, i.e., lay administrators. It was the consensus of opinion that attention should primarily be directed, particularly in developing countries, to the training of medical administrators. As resources increase, lay administrators can be recruited and trained; long-term plans could well provide for such training. Most developing countries will have no choice but to train health administrators in planning and to refresh their knowledge and skills periodically.

### 3.3.3 *Preparation of teachers*

Teaching and learning are interdependent. Accordingly, teachers must be prepared for their teaching roles if the learners are to profit from the teaching. This implies the careful selection and preparation of teachers of planning. Modern teaching methods (e.g., programmed instruction, audio-visual aids) and case studies taken from the developing countries where the learners will return to work are essential. The report of the WHO Expert Committee on Professional and Technical Education of Medical and Auxiliary Personnel<sup>1</sup> provides information on this subject.

### 3.3.4 *Training courses*

The Committee discussed the appropriate length of training courses and how this time should be allocated. It was concluded that no specific time could be recommended; some courses would be only a few weeks long, whereas others, for top-level personnel and full-time specialists in planning, might last as long as two years. However, few senior personnel can be away from their posts for more than three months, and training courses should be planned accordingly.

It is suggested that the disciplines in which either some further training, with a possible change in emphasis, or a basic understanding of principles is needed are:

- statistics (health, vital, population and economic),
- demography,
- political science, including economics and government,
- public administration,
- cost accounting and budgeting.

---

<sup>1</sup> *Wld Hlth Org. techn. Rep. Ser.*, 1966, 337.

It is not the intention that the planner should attempt to replace the expert in any of these fields. However, if he is to get the best out of such experts he must be able to talk their language.

### *Statistics*

Anyone who has obtained a DPH or MPH has followed courses in health and vital statistics. However, even if a certain familiarity with statistics as used generally in public health is taken for granted, the techniques used in planning call for knowledge not generally obtained in courses on public health. Thus, although part of the training in statistics may be in the nature of a refresher course, an important part will be new to most participants; this will include economic statistics, sampling as used in planning, systems analysis and survey techniques, operational research and cost-benefit analysis.

### *Demography*

Demography will be a new field to most participants in training courses. No planning is possible without a thorough understanding of population problems. In some countries the lack of manpower is the important factor limiting the pace of economic development. An understanding of population dynamics is essential to any planner. In the narrower field the health planner will be concerned with the estimation of future manpower availability—not only of medical manpower. He must be in a position to discuss these problems intelligently with government officials, not only from the ministry of health but also from the planning unit.

### *Political science, including economics and government*

Instruction in political science is an urgent need for anybody dealing with planning, and adequate time must be devoted to it. Since very few economists are likely to become familiar with medical thinking, it is important to train medical administrators so that they can participate fully in discussions with planning economists.

### *Public administration*

Failures of socio-economic plans are often due to faulty administration. The serious lack of middle-level workers in administration has to be taken into consideration in most developing countries. Often plans are drawn up that depend for their implementation on basic changes in administration within a few years along lines followed in developed countries. The health planner should co-operate closely with the public administrator at all stages of planning, from pre-planning to execution. To make this possible the health planner needs to understand the basic principles of administration. Training in public administration should cover the essentials of federal government, state government, organization theory and administrative management.



*Cost accounting and budgeting*

It has been the general experience that in no field is the average public health worker weaker than in cost accounting and budgeting. In most developing countries methods of allocating funds and systems of accountability and control are outmoded. In particular, health budgets are seldom arranged in a manner that is useful for recording the resources devoted to particular parts of the health programme. It is, of course, not intended that the planner should be able to carry out cost accounting and budgeting himself, but he should be familiar with modern techniques and thus be able to appreciate meaningful subdivisions of health expenditure and understand estimates of the financial resources that have previously been made available or are likely to become available for the implementation of health programmes during the planning period. The planner should give particular attention to the principles underlying what is often called performance budgeting. As these principles aim at relating planned and incurred expenditure to the individual projects and activities, they can provide indications for the more active use of budgeting in the planning and evaluation processes than is usually possible with traditional budgeting techniques.

After these basic studies, a course of instruction on the actual planning process would follow. Each of the subjects taught would need to be discussed in detail with the expert teaching it, especially in relation to the depth and breadth of knowledge desirable and time that can be allotted. The general pattern might, however, be along the following lines—health planning machinery; methods of health planning; evaluation studies and research in public health practice.

It will be noticed that several disciplines, including psychology, anthropology and sociology, have not been mentioned. An elementary knowledge of these subjects would, of course, be extremely useful to any person undertaking planning, particularly in a country other than his own, but they should always form part of the background of any general public health worker. Familiarity with sociological research methodology, as well as a knowledge of the social studies related to health that have been carried out in developing countries, would be very useful for health planners and whenever possible should be included in training courses. If any worthwhile attempt were to be made to teach the basic principles of these subjects, additional time would have to be devoted to the course. A possible solution would be to arrange a few well-prepared seminars, especially for the more senior students.

The critical question in training personnel for work in planning in developing countries is simply: What tasks are you preparing the person to carry out? To answer this question, health administrators from the countries concerned and those actually responsible for short-term and long-term planning should be asked to participate in designing the cur-

riculum: the needs of Africa might be quite different from those of Latin America.

One way to develop such curricula and carry out courses would be as follows. First, a group consisting of a health administrator, an expert in the subject under study, a curriculum specialist and an educational psychologist would determine exactly what task the student was being prepared to carry out. In preparing the curriculum, the group would also review existing courses in schools of public health and institutes of higher learning and the relevant reports published by WHO. Subsequently, at least one teaching and research centre might be set up in each geographical region, preferably attached to a university that has a school of public health, or to a department of public health in a medical school, a good department of political science, social science and education or an institution of equivalent academic status; it also possible to use suitable regional organizations. Such a centre should be prepared to give follow-up and refresher courses in outlying areas of the country or in other countries.

The curriculum should include instruction in the use of indices and indicators in health planning, as discussed in section 3.1.1.2 (page 15) and the discussion of well-prepared case-studies based on actual practice in developing countries. The case-studies can be combined with the use of field demonstration areas, located near the training centre. The main aim is to obtain the student's active participation and not just his passive observation of health centre activities.

Actual plans can be used for teaching purposes and can be very effective if the students can make evaluation studies and criticisms of the plans and thereafter prepare new ones.

### 3.3.5 *The training institute*

Ideally, training should be undertaken in an area where the problems are similar to those likely to be encountered by the student in his own country. However, problems of urgency, cost and availability of skilled and experienced teaching staff must be taken into account when considering the practicability of establishing training centres.

The crux of the matter would appear to be the ready availability of experts in the various fields, and this, in turn, involves the selection of special university centres or public health institutes in which to hold the courses of training. The fundamental principles of planning may be generally applicable in any part of the world, but the urgent need is for knowledge that has an immediate practical application in the developing countries.

Programmes of research are also required, much of which would, no doubt, be research into various aspects of public health administration, especially planning. Special problems requiring multi-disciplinary action



for their solution may need to be referred to universities or equivalent institutes. There is here a most fruitful field for inter-disciplinary co-operation among various university faculties, including medicine, economics and political science, agriculture, law, sociology and architecture.

Every training centre for planning should include research activities as an integral part of its programme, since the best teachers are those who enrich their teaching with the results of current research in their own and allied disciplines.

Information is available<sup>1</sup> on the training facilities in the United Nations Planning Institutes, especially at the three regional institutes—the African Institute for Economic Development and Planning, the Asian Institute for Economic Development and Planning, and the Latin American Institute for Economic and Social Planning—as well as on the various UN-sponsored institutes of public administration. There already exists close co-operation between some of them and between UN and WHO.

Health administrators from developing countries should have access to research workers in the training centres in their regions, to bring to them problems urgently in need of solution. In turn, teachers should have access to the health centres in the developing countries for research purposes. This cross-fertilization would strengthen the work of both and accelerate the application of new knowledge to improve the health of the people.

It will be necessary, however, to ensure that research techniques do not outrun practical considerations. It will be a long time before complex methods can be applied in most developing countries. At present they do not need them, for their basic requirements are relatively simple. What is required is clear, practical and authoritative planning to promote health services, training and research within the compass of the over-all social and economic circumstances of a given country.

#### 4. FUTURE STUDIES

The Committee, bearing in mind the importance of national health planning in relation to over-all socio-economic development plans, emphasizes the need :

(1) to continue to note trends in national socio-economic planning and to collect and analyse systematically social, economic and health data relevant to national health planning in developing countries in the various geographical regions with a view to developing more meaningful health and resource indicators ;

---

<sup>1</sup> United Nations Economic and Social Council (1965) *Relationships among planning institutes: Report by the Secretary-General* (unpublished document E/4035).



(2) to pursue further the examination of the various aspects of the inter-relationships between over-all national economic and social planning and national health planning ;

(3) to utilize as a planning team medical administrators and non-medical administrators in order to advise governments on the best approach to national health planning projects ;

(4) to study further the different methodologies for national health planning as a means of improving planning in countries at different levels of development ;

(5) to develop a systematic approach to budgeting and cost-accounting as an important part of national health planning and as an essential basis for the choice of priorities ;

(6) to give consideration to the preparation of a practical manual on national health planning, which should describe in detail how health planning is carried out, indicating the minimum information essential for health planning purposes and the way it can be obtained, assembled and assessed ; it should also explain what is desirable but not essential ; it should illustrate with actual examples the uses of the information and thus the advantages derived from the planning process ; finally, it should show how plans can be evaluated over a period and suitably amended and developed ;

(7) for member governments and other agencies to study the use of different mechanisms of financing health services (such as health insurance) and for establishing priorities in the allocation of health services in low-income countries, with full consideration of the administrative problems ;

(8) to study and experiment with new ways of training economists in the health aspects of national development and of training health planners in the economic aspects of national planning, e.g., by field training of joint teams ;

(9) for the integration of accumulated experience through the periodic review and assessment of the consultative planning process in the assistance given to requesting countries in national health planning ;

(10) to develop regional centres, in conjunction with universities or equivalent institutions, for training, research in methodology and consultative services to countries in the region ;

(11) to undertake studies of the possible usefulness in diagnosis and treatment of the paramedical and auxiliary medical personnel employed in many developing countries, so that recommendations can be made on the educational level required of trainees and on the range and length of training programmes.

---

## Annex

SHORT BIBLIOGRAPHY OF NATIONAL HEALTH  
PLANNING METHODS

## 1. LATIN AMERICA

- Durán, H. (1965) *Health planning in the countries of Latin America*. In : *Canad. J. publ. Hlth*, 56, 271.
- Durán, H. (1966) *Methodology for health planning in Latin America*, Geneva, World Health Organization (unpublished document NHP/INF/66.2).
- Hall, T. L. (1966) *Planning for health in Peru : New approaches to an old problem*. In : *Amer. J. publ. Hlth*, 56, 1296.
- Pan American Health Organization (1965) *Health planning : problems of concept and method*, Washington, D.C. (Scientific publication No. 111).

## 2. USSR

- Bogatyrev, I. D. (1959) [Material referring to the establishment of standards for the necessities of curative-prophylactic assistance to inhabitants of towns.] In : *Zdravookhr. ross. Fed.*, No. 2, 32.
- Popov, G. A. (1962) *The planning of in-patient services in the USSR*, Copenhagen, WHO Regional Office for Europe (unpublished document EURO-137.2).
- Popov, G. A. (1965) *Some new techniques in public health planning*, Geneva, World Health Organization (unpublished document NHP/SEM./WP/8.65).
- Popov, G. A. (1966) *Some aspects of the use of norms and standards in studying the efficiency of medical care*, Copenhagen, WHO Regional Office for Europe (unpublished document EURO-294.2/6).
- Popov, G. A. (1966) *Principles of public health planning in the USSR*, Geneva, World Health Organization (unpublished document NHP/INF/66.4).
- Rozenfel'd, I. I. (1963) *Planning and allocation of medical personnel in public health services*. In : *Principles and methods of planning public health services : Part III*, Jerusalem, Israel Program for Scientific Translations.

## 3. INDIA

- Government of India Planning Commission (1964) *The planning process*, Delhi, Government of India.
- Ministry of Health, Government of India (1962) *Report of the Health Survey and Planning Committee, 1959-61*, Delhi, Government of India (in two volumes).

Paranjape, H. K. (1964) *The Planning Commission : a descriptive account*, Delhi, Indian Institute of Public Administration.

#### 4. GENERAL

Further information on the bibliography of this subject is given in *Bibliography on health planning* (1965) Geneva, World Health Organization (unpublished document A18/Technical Discussions/5).

---



WHO publications may be obtained, direct or through  
booksellers, from :

ALGERIA	Société nationale d'Édition et de Diffusion, 3 bd Zirout Youcef, ALGIERS.
ARGENTINA	Librería de las Naciones, Cooperativa Ltda, Alsina 500, BUENOS AIRES. — Editorial Sudamericana S.A., Humberto 1° 545, BUENOS AIRES.
AUSTRALIA	Mail Order Sales, Australian Government Publishing Service, P.O. Box 84, CANBERRA A.C.T. 2600; <i>or over the counter from Australian Government Publications and Inquiry Centres at:</i> 113 London Circuit, CANBERRA CITY; 347 Swanston Street, MELBOURNE; 309 Pitt Street, SYDNEY; Mr. Newman House, 200 St. George's Terrace, PERTH; Industry House, 12 Pirie Street, ADELAIDE; 156-162 Macquarie Street, HOBART — Hunter Publications, 58A Gidps Street, COLLINGWOOD, Vic. 3066.
AUSTRIA	Gerold & Co., I. Graben 31, VIENNA 1.
BANGLADESH	WHO Representative, G.P.O. Box 250, DACCA 5.
BELGIUM	Office international de Librairie, 30 avenue Marnix, BRUSSELS.
BRAZIL	Biblioteca Regional de Medicina OMS/OPS, Unidad de Venta de Publicaciones, Caixa Postal 20.381, Vila Clementino, 01000 SÃO PAULO — S.P. <i>see India, WHO Regional Office.</i>
BURMA	Information Canada Bookstore, 171 Slater Street, OTTAWA, Ontario K1A 0S9; Main Library, University of Calgary, CALGARY, Alberta; 1683 Barrington Street, HALIFAX, N.S. B3J 1Z9; 640 Ste Catherine West, MONTREAL, Quebec H3B 1B8; 221 Yonge Street, TORONTO, Ontario M5B 1N4; 800 Granville Street, VANCOUVER, B.C. V6Z 1K4; 393 Portage Avenue, WINNIPEG, Manitoba R3B 2C6. <i>Mail orders to</i> 171 Slater Street, OTTAWA, Ontario K1A 0S9.
CANADA	China National Publications Import Corporation, P.O. Box 88, PEKING. Distribuidores Ltd, Pío Alfonso García, Carrera 4a, Nos 36-119, CARTAGENA.
CHINA	Imprenta y Librería Trejos S.A., Apartado 1313, SAN JOSÉ.
COLOMBIA	MAM, P.O. Box 1674, NICOSIA.
COSTA RICA	Artia, Smecky 30, 111 27 PRAGUE 1.
CYPRUS	Ejnar Munksgaard, Ltd, Norregade 6, COPENHAGEN.
CZECHOSLOVAKIA	Librería Científica S.A., P.O. Box 362, Luque 223, GUAYAQUIL.
DENMARK	Nabaa El Fikr Bookshop, 55 Saad Zaghloul Street, ALEXANDRIA —
ECUADOR	Anglo Egyptian Bookshop, 165 Mohamed Farid Street, CAIRO.
EGYPT	Librería Estudiantil, Edificio Comercial B No 3, Avenida Libertad, SAN SALVADOR.
EL SALVADOR	The WHO Representative, P.O. Box 113, SUVA.
FIJI	Akateeminen Kirjakauppa, Keskuskatu 2, HELSINKI 10.
FINLAND	Librairie Arnette, 2 rue Casimir-Delavigne, PARIS 6°.
FRANCE	Buchhaus Leipzig, Postfach 140, 701 LEIPZIG.
GERMAN DEMOCRATIC REPUBLIC	Govi-Verlag GmbH, Ginnheimerstrasse 20, Postfach 5360, 6236 ESCHBORN — W. E. Saabach, Postfach 1510, Follerstrasse 2, 5 COLOGNE 1 — Alex. Horn, Spiegelgasse 9, 62 WIESBADEN.
GERMANY	G. C. Eleftheroudakis S.A., Librairie internationale, rue Nikis 4, ATHENS (T. 126).
FEDERAL REPUBLIC OF GREECE	Max Bouchereau, Librairie "A la Caravelle", Boite postale 111-B, PORT-AU-PRINCE.
HAITI	Kultura, P.O.B. 149, BUDAPEST 62 — Akadémiai Könyvesbolt, Váci utca 22, BUDAPEST V.
HUNGARY	Snaebjörn Jonsson & Co., P.O. Box 1131, Hafnarstraeti 9, REYKJAVIK.
ICELAND	WHO Regional Office for South-East Asia, World Health House, Indraprastha Estate, Ring Road, NEW DELHI 1 — Oxford Book & Stationery Co., Scindia House, NEW DELHI; 17 Park Street, CALCUTTA 16 (Sub-agent).
INDIA	<i>see India, WHO Regional Office.</i>
INDONESIA	Iranian Amalgamated Distribution Agency, 151 Khiaban Soraya, TEHERAN.
IRAN	The Stationery Office, DUBLIN.
IRELAND	Heiliger & Co., 3 Nathan Strauss Street, JERUSALEM.
ISRAEL	Edizioni Minerva Medica, Corso Bramante 83-85, TURIN; Via Lamar- mora 3, MILAN.
ITALY	Maruzen Co. Ltd, P.O. Box 5050, Tokyo International, 100-31.
JAPAN	The Caxton Press Ltd, Head Office: Gathani House, Huddersfield Road, P.O. Box 1742, NAIROBI.
KENYA	The Kuwait Bookshops Co. Ltd, Thunayan Al-Ghanem Bldg, P.O. Box 2942, KUWAIT.
KUWAIT	The WHO Representative, P.O. Box 343, VIENTIANE.
LAOS	Documenta Scientifica/Redico, P.O. Box 5641, BEIRUT.
LEBANON	Librairie du Centre, 49 bd Royal, LUXEMBOURG.
LUXEMBOURG	The WHO Representative, Room 1004, Fitzpatrick Building, Jalan Raja Chulan, KUALA LUMPUR 05-02 — Jubilee (Book) Store Ltd, 97 Jalan Tuanku Abdul Rahman, P.O. Box 629, KUALA LUMPUR —
MALAYSIA	Perry's Book Center, K.L. Hilton Hotel, KUALA LUMPUR. La Prensa Médica Mexicana, Ediciones Científicas, Pasco de las Facul- tades, 26, MEXICO CITY 20, D.F.
MEXICO	

Price : Sw. fr. 6.—

Prices are subject to change without notice.

WHO publications may be obtained, direct or through  
booksellers, from:

---

MONGOLIA	see India, WHO Regional Office.
MOROCCO	Editions La Porte, 281 avenue Mohammed V, RABAT.
NEPAL	see India, WHO Regional Office.
NETHERLANDS	N.V. Martinus Nijhoff's Boekhandel en Uitgevers Maatschappij, Lange Voorhout 9, THE HAGUE.
NEW ZEALAND	Government Printing Office, Government Bookshops at: Rutland Street, P.O. Box 5344, AUCKLAND; 130 Oxford Terrace, P.O. Box 1721, CHRISTCHURCH; Alma Street, P.O. Box 857, HAMILTON; Princes Street, P.O. Box 1104, DUNEDIN; Mulgrave Street, Private Bag, WELLINGTON — R. Hill & Son Ltd, Ideal House, Cnr. Gilles Avenue & Eden Street, Newmarket, AUCKLAND S.E. 1.
NIGERIA	University Bookshop Nigeria, Ltd, University of Ibadan, IBADAN.
NORWAY	Johan Grundt Tanum Bokhandel, Karl Johansgt. 43, OSLO 1.
PAKISTAN	Mirza Book Agency, 65 Shahrah Quaid-E. Azam, P.O. Box 729, LAHORE 3.
PARAGUAY	Agencia de Librerías Nizza S.A., Estrella No. 721, ASUNCIÓN.
PERU	Distribuidora Inca S.A., Apartado 3115, Emilio Althaus 470, LIMA.
PHILIPPINES	World Health Organization, Regional Office for the Western Pacific, P.O. Box 2932, MANILA — The Modern Book Company Inc., P.O. Box 632, 926 Rizal Avenue, MANILA.
POLAND	Składnica Księgarska, ul. Mazowiecka 9, WARSAW ( <i>except periodicals</i> ) — BKWZ Ruch, ul. Wronia 23, WARSAW ( <i>periodicals only</i> ).
PORTUGAL	Livraria Rodrigues, 186 Rua Aurca, LISBON.
REPUBLIC OF KOREA	The WHO Representative, Central P.O. Box 540, SEOUL.
SINGAPORE	The WHO Representative, 144 Moulmein Road, G.P.O. Box 3457, SINGAPORE 1.
SOUTH AFRICA	Van Schaik's Bookstore (Pty) Ltd, P.O. Box 724, PRETORIA.
SPAIN	Comercial Athenaeum S.A., Consejo de Ciento 130-136, BARCELONA 15; General Moscardo 29, MADRID 20 — Librería Diaz de Santos, Lagasca 95, MADRID 6.
SRI LANKA	see India, WHO Regional Office.
SWEDEN	Aktiebolaget C.E. Fritzes Kungl. Hovbokhandel, Fredsgatan 2, STOCKHOLM 16.
SWITZERLAND	Medizinischer Verlag Hans Huber, Länggass Strasse 76, 3012 BERNE 9.
THAILAND	see India, WHO Regional Office.
TUNISIA	Société Tunisienne de Diffusion, 5 avenue de Carthage, TUNIS.
TURKEY	Librairie Hachette, 469 avenue de l'Indépendance, ISTANBUL.
UGANDA	see address under KENYA.
UNITED KINGDOM	H. M. Stationery Office: 49 High Holborn, LONDON WC1V 6HB; 13a Castle Street, EDINBURGH EH2 3AR; 109 St Mary Street, CARDIFF CF1 1JW; 80 Chichester Street, BELFAST BT1 4JY; Brazennose Street, MANCHESTER M60 8AS; 258 Broad Street, BIRMINGHAM B1 2HE; 50 Fairfax Street, BRISTOL BS1 3DE. <i>All mail orders should be sent to P.O. Box 569, London SE1 9NH.</i>
UNITED REP. OF TANZANIA	see address under KENYA.
UNITED STATES OF AMERICA	<i>Single and bulk copies of individual publications (Not subscriptions):</i> Q Corporation, 49 Sheridan Avenue, ALBANY, NY 12210. <i>Subscriptions:</i> Subscription orders, accompanied by check made out to the Chemical Bank, New York, Account World Health Organization, should be sent to the World Health Organization, P.O. Box 5284, Church Street Station, New York, NY 10249. Correspondence concerning subscriptions should be forwarded to the World Health Organization, Distribution and Sales Service, 1211 GENEVA 27, Switzerland. <i>Publications are also available from the United Nations Bookshop, New York, NY 10017 (retail only).</i>
USSR	<i>For readers in the USSR requiring Russian editions:</i> Komsomolskij prospekt 18, Medicinskaja Kniga, Moscow — <i>For readers outside the USSR requiring Russian editions:</i> Kuzneckij most 18, Meždunarodnaja Kniga, Moscow G-200.
VENEZUELA	Editorial Interamericana de Venezuela C.A., Apartado 50785, CARACAS — Librería del Este, Av. Francisco de Miranda 52, Edificio Galipán, CARACAS.
YUGOSLAVIA	Jugoslovenska Knjiga, Terazije 27/II, BELGRADE.

---

Orders from countries where sales agents have not yet been appointed may be addressed to: World Health Organization, Distribution and Sales Service, 1211 Geneva 27, Switzerland, but must be paid for in pounds sterling, US dollars, or Swiss francs.