APPROACHES TO PLANNING AND DESIGN OF HEALTH CARE FACILITIES IN DEVELOPING AREAS

Volume 1

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World Health Organization, Geneva

WORLD HEALTH ORGANIZATION
GENEVA
1976
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Prerequisites for planning
Legislation (1)
Standards
Machinery for planning

Area-wide planning
Regionalization
Types and functions of facilities
Cooperation between facilities
The referral system
Economic aspects of allocation of resources

Tools for planning
The planning team
Information requirements
Functional programming (1)
Standardization (1)
Type plans

Planning of individual facilities
Steps in planning and provision for expansion and remodelling
Economic aspects of planning and operation
Relationships (client/architect/engineer/contractor)
First-line facilities (health centres, health posts, mobile units)
General hospitals (rural, district and regional)
Teaching hospitals
Specialized hospitals and departments

Planning of parts of facilities
Inpatient areas
Intensive care unit
Outpatient services
Emergency
Operating rooms
Laboratory
Radiology
Central sterile supply
Dietary
Laundry
Medical records facilities
Communications
Power
Sanitary equipment
Piping installations
Floors and floor coverings

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Different aspects of a particular topic may be covered in different volumes.
Construction
Methods (1)
Materials
Environmental aspects (1)
Costs

Operation
Commissioning
Medical and surgical equipment
Furniture
Behavioural and social aspects
Safety
Hygiene
Maintenance
Optimal use of resources
Evaluation
INTRODUCTION TO VOLUME 1

While it is accepted that the strengthening of health care facilities is the primary responsibility of all countries, WHO has a duty to help Member countries to solve all recognized problems and to overcome other obstacles hampering progress in the development of national health services. In this endeavour it is necessary to design and implement changes that enhance the performance of the total health service delivery system in a balanced and integrated manner. Major changes in the total health care system cannot be implemented without the gradual development of mutual understanding, cooperation and confidence between those providing and those using the services. The activities of WHO in this field reflect those requirements.

The types of activity for the improvement of health care delivery with which WHO is concerned can be grouped into the four following categories:

(1) actions aimed at increased population coverage;
(2) actions aimed at improved quality and utilization of services;
(3) actions aimed at increased efficiency and less costly services;
(4) actions aimed at better planning and allocation of resources.

Within the scope of activities defined above some more specific undertakings aimed at the strengthening of health care facilities have been developed by WHO. One of these is a comprehensive study of the planning, programming, design and architecture of hospitals and other medical care facilities in developing countries. This study has been undertaken by WHO to bridge the gap between existing knowledge and experience and their practical utilization in the field of health care facilities planning and development. A consequence of this gap is that there is a considerable waste of resources in the developing countries. The main objective of the WHO study is to assist governments and national or regional agencies in the following efforts:

- defining a coordinated medical care facilities system within the integrated community health services;
- programming long-term action to adapt, modernize, and coordinate existing medical care facilities, and to rationalize planning and construction of new institutions;
- planning individual medical care facilities in developing countries.

The final product of the study will be the implementation of an appropriate technology to the development of medical care facilities, but an intermediate step is the elaboration and presentation of such a technology in the form of clear and practical advice on all phases of construction of hospitals and other health care facilities, from area-wide planning to equipment, in a series of publications planned to cover the whole range of the study. The contributions fall under three main headings: (a) legislative and administrative framework; (b) planning and programming; (c) architecture and technique.

There is a growing awareness in developing countries that many of their hospitals and other health care facilities are neither adapted to their needs nor compatible with their resources. Many of the mistakes made by planners and architects in developing countries stem from a belief that the problems of planning and construction of such facilities are essentially the same in both developed and developing countries, differing only in detail. This view appears to be erroneous. The chain of reasoning underlying the whole process of planning, programming, design and construction remains fairly independent of local circumstances. However, if this chain of reasoning is followed, taking into account all the relevant local or regional particularities, the end product may differ greatly from one setting to another. Unfortunately, this rather complicated, but necessary, procedure is all too often missed and an end product evolved in one country is simply copied in another country where it may be...
inappropriate. For example, costly labour-saving technology, whose use is justified in countries where manpower is scarce and expensive, should not be considered in countries with abundant and cheap manpower.

The mistakes most commonly encountered have been reported frequently, but it is not enough to deal with these errors individually after they have been made. The WHO study is an attempt to map out the route leading to correctly planned and designed health care facilities and to indicate the main pitfalls to be avoided. If the chain of reasoning mentioned above were completely explicit and formulated in clear, unequivocal terms, this study would be relatively easy. Unfortunately, this is not the case. The role played by health care facilities and their place in a developing health system need to be redefined, especially in view of the new concepts in primary health care now being evolved. If we think in terms of functions to be performed, starting from the periphery where people are at risk or fall sick and need basic care, the physical requirements are seen in a new light. Basically, a health building is an envelope or shell accommodating certain services and indispensable to their proper performance. Up to a certain level, nothing more is needed than a consultation room and some very simple equipment, possibly using an existing building, but as the complexity of the tasks performed increases and the environmental requirements become more stringent, it is necessary to provide more suitable premises.

At the same time, the reasoning behind the provision of health care facilities at various levels may perhaps be shifted from the classical projections of the demand for hospital beds or targets of the numbers of beds required per 1000 population to a more rational and convenient adjustment of facilities to the functions to be performed at various levels of care and consequently to projections of the various kinds of staff to be available at these levels. In other words, whatever the demand or even the need may be, and whatever target of beds per 1000 population is advocated, facilities should be provided only insofar as the staff necessary to perform the functions implied by these facilities is available, or will be available when the facilities are operational.

In the past, the lack of guidelines adapted to developing countries has led to inappropriate decisions being taken. In many countries such faulty decisions have been aggravated by the employment of architects trained in developed countries and having little, if any, knowledge of the broader aspects of design interpretation that are essential for meeting the functional and cultural requirements and limited resources of the developing countries. It proves difficult to remedy this lack of first-hand knowledge as nearly all the readily available manuals, documentation, patterns, and plans concerning health care facilities have been published in, and for, developed countries.

It has now become evident that guidelines are needed to promote the better use of scarce resources, distinguish those parts of developed technologies (1) that are suitable, (2) that can be adapted for developing countries, and (3) that are inappropriate and must therefore be replaced by a technology to be developed in the particular areas. This present series of publications should not be regarded as the final word on the subject; rather, the views expressed and the questions raised are intended to be of help to everyone engaged in the promotion of health in all the developing countries. It is hoped that health authorities will find in the successive volumes information of use in the two broad types of problem they have to solve: (1) planning (in the broader meaning of the term), which entails a correct appraisal of the situation, the preparation of appropriate legislation or regulations, the drafting of realistic policies and the preparation of suitable programmes; (2) decision-taking on proposals from their own services or from external consultants, which requires knowing what are the main points to be considered to arrive at a judicious evaluation.

It is essential that there should be a regular and rapid feedback from those using these publications in order that guidance fully alive to the changing types and backgrounds of problems confronting the reader can be included in successive volumes. Without such feedback the information provided would rapidly become obsolete; in fact, the intention is that there should be continuous updating following technological progress. At the same time, the sharing of problems that have similar backgrounds can lead to a reconsideration of the advice given, the introduction of new subjects, and the modification of ideas where this is appropriate.
For whom is this series intended and in what respects can it help them? Broadly speaking, it is intended for decision-makers: health or public works ministers, health planners, and architects.

Ministers of health or public works must be aware of the far-reaching implications in the gift of a hospital through bilateral or international aid, or in a plan for hospital construction submitted by the national health services. A health facility is a useless shell in the absence of the necessary staff and equipment. This implies that the investment costs have to be matched by running costs and that construction of a hospital costing, say, US $4 million means that US $1 million will have to be spent every year to operate it.

The health planner needs help in deciding what kind of facility is needed, where it should be situated and what priority should be allocated to it; how to phase the erection of various facilities having regard to the availability of material and human resources; how to make use of scarce and often unreliable statistics; and in recognizing which statistics are indispensable and which merely helpful. For the architect, the intention is not to teach him his trade but to bring to his attention the well identified pitfalls into which he may fall, especially if he has received his training in a developed country.

This series of publications will not constitute a manual on hospital planning or attempt to elaborate a theoretical framework for design; rather, practical advice will be presented in the simplest possible manner. Although recourse to specialized knowledge will continue to be necessary for users, it is hoped that the series as a whole will clearly indicate the steps to be followed, the facts to be weighed, and the components to be considered in order to arrive at a correct planning solution. Buildings are often constructed in answer to inadequate programmes and policies, and this is an expense that countries with limited economic resources can ill afford. In studies of the building phase in situations where economic resources are scarce it is necessary not only to examine the different stages embracing cost control, but also to evaluate the building project before a decision to build is taken. It must first be determined that the project is adequate and that both the programme and the architectural solution proposed, making use of available technology, cater efficiently for real needs. Very often projects are conceived in answer to the formal picture of health care needs and a desire for the best possible care rather than as a realistic response to economic, technical, and personnel limitations. The contributions in this series all reflect a way of thinking about the various facets and elements of health care facilities. They are not a substitute for the work of governments, architects, or industry, but indicate landmarks and steps to be followed, provide data to be considered, and emphasize underlying principles. It is hoped that this approach will lead to the reconsideration of many notions that are usually taken for granted.

Developing countries with scarce economic resources can achieve efficient health care facilities only by making a strenuous effort to interpret the existing situation, developing the capacity to select from international experience aspects of planning and design that are useful, and clearly defining feasible goals in relation to the technical and economic resources of the country and in accordance with its cultural and social values. In this way, the health authorities of developing countries will achieve a capacity to evaluate the quality of proposed projects, rejecting those that are unsuitable.

The various contributions in this first volume may appear to follow no logical arrangement as regards subject matter. A strictly logical sequence would entail covering first, as indicated in the synoptic table, subjects relating broadly to planning prerequisites, then area-wide planning, planning programming and planning of individual facilities and parts of facilities, details of construction, and finally operation. Each volume would then be of particular interest to a defined group of specialists. To avoid a specialist approach, in the belief that it is important for each category of user to be aware of the problems inherent in all the different phases of the whole process, a range of topics will be covered in each
volume of the series. Also, as explained above, comments from readers concerning volume 1 will enable the World Health Organization to modify the orientation, presentation, or content of later volumes in accordance with expressed needs. Readers are therefore invited to send their comments to:

Division of Strengthening of Health Services
World Health Organization
1211 Geneva 27, Switzerland.
THE IMPORTANCE OF LEGISLATION AND ADMINISTRATION FOR MEDICAL CARE FACILITIES, WITH SPECIAL REFERENCE TO THE DEVELOPING COUNTRIES

R. F. Bridgman

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INTRODUCTION

Any inquiry into the administrative structure of medical care facilities evokes answers that vary considerably, not only from one country to another but also between different establishments. It seems at first sight that there are many ways of administering inpatient and ambulatory care facilities. When the survey encompasses the legislation within which administration should be framed, even greater differences are observed. Some countries have enacted a vast body of legislative instruments that are periodically revised, others seem content with general guidelines, while some follow traditional and customary rules specific to each establishment.

It was felt important to include as a preamble to these series of contributions on the planning and design of medical care facilities a study on the legislative framework within which the administration of such facilities takes place. Such a framework should be both a dynamic instrument for development and a guide exerting a more or less firm restraining influence. A study of this kind should start from a general analysis of solutions reached in some developed countries but its main aim should be to serve as an inspiration for developing countries.

1. INITIAL PROBLEMS AND PRIOR CONDITIONS

Health care institutions present extremely varied aspects depending on the facilities offered, the socioeconomic level of the population served, and the geographical setting — urban or rural — within which health care is provided. Personal health care or medical care comprises professional attention intended to maintain and improve the level of health of individuals by means of preventive and curative measures and rehabilitation. This notion is particularly important for the developing countries, where it is essential to integrate the preventive and curative services and where the problems of staff training and the financing of services require the participation of all categories of health personnel. Some developed countries aim to adopt the same approach in reorganizing their health care services.

Some medical attention is provided outside an institutional framework; this takes the character of services provided against remuneration freely agreed between private individuals. The practice of general medicine before the introduction of social security systems and before the medical and allied professions became organized is an example of this type of care. Such services are not dealt with here since it is clear that the result of a verbal agreement between two individuals is not subject to any legislation of the kind discussed in this contribution. However, the complexity and cost of medical care, the organization of the health professions, and the desire of the public to obtain the benefit of social security measures (governmental or otherwise) lead to the establishment of systems that employ institutions of a kind that governments cannot allow to develop unregulated.

There can be no question of confining this study to public hospital establishments since the existence of outpatient clinics, health centres with beds, private hospitals and group practices where physicians and members of allied professions work together, whether full-time or part-time, makes it necessary to consider the system of medical care as a whole. Moreover, this need is reinforced by the possibilities in some countries of public hospitals organizing a private sector on the one hand, and of some private hospitals participating in medical care for the poor on the other hand, particularly when the government assumes responsibility for all or part of the cost.

In this study the word "institution" refers either to the public or private medical care facilities network or to the medical and allied professions delivering medical care in these facilities or outside this context. The word "establishment" refers in practice to the components of the

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a The term "health care" is used when the activity referred to has a certain significance for health in the broad sense, while "medical care" is used to denote activities of a mainly medical character or when departure from common usage might create semantic difficulties. Neither term should be taken to denote exclusive or contrasting activities.
public and private medical care facilities system proper. The term "institution" therefore covers one or more systems made up of physical components, while the term "establishment" covers these physical components.

All the developed countries have health care systems that are subject to regulations. These regulations may be restrictive or very liberal, but during the last 20 years the governmental health services have seen a gradual strengthening of their executive and supervisory powers as a result of increasingly precise and complex legislation.

In the United States of America the "Medicare" and "Medicaid" acts of 1966 are an example of regulations dealing with medical care for certain economically underprivileged population groups. In 1973 the United Kingdom thoroughly revised its legislation on the National Health Service. In 1970 France promulgated a hospital law aimed at coordinating the public and private sectors and at establishing a single hospital system with great flexibility. In some developed countries the cost of medical care is largely covered by the different social security systems, which have thereby obtained considerable influence on the development of health care institutions, the status of their staffs, and the volume and quality of care they provide. In other countries the state assumes this role directly.

History shows that the establishment of health care systems in the developed countries, supervised and maintained through adequate legislation and administration, is an inevitable consequence of economic development, social progress, and the growing political awareness of the population. In reality it is not only the realization of needs by the government but also the pressure of public opinion demanding care that leads to the drafting of regulations.

The developing countries cannot afford not to commit themselves to a similar process. Many of them have already embarked upon the process to some extent, but for many reasons, some of which will be analysed below, these countries have not been able to decentralize their services sufficiently. As a consequence, a large proportion of their rural population has no access to health care establishments. In studying the problems of organizing medical care and the ways in which they have been tackled and solved, it is not easy to draw a clear distinction between the developed and developing countries. The criteria generally put forward are of doubtful value but the most important of them are listed below.

(1) Mean annual per capita income. This is merely a statistical value that does not reflect the inequalities inherent in social structures and in the uneven development of economic sectors. There are countries with a low per capita income where a minority may receive high-quality medical care whereas the majority have access only to institutions inadequate to meet their demands.

(2) A low overall ratio of health personnel to the population as a whole. This also is not a valid criterion. It has long been regretted that in the large cities of developing countries there are a large number of physicians and even hospitals (mainly private), contrasting with a tragic shortage in the rural areas and small towns where the majority of the population lives.

(3) The ability of the health services to meet the demands of the population. This is not a valid criterion, particularly when an attempt is made to express it in terms of the length of the waiting list for admission to hospital. There are large population groups that request medical care only for the most dramatic accidents, others seek care for minor and sometimes imaginary complaints. The demand for medical care is a very complex phenomenon associated with many physical and psychological factors. It is becoming clear that the supply of simple medical care and beds in local hospitals does not always suffice to win the confidence of local populations. The utilization of such services is sometimes low even when city hospitals are overcrowded and when there are still considerable unsatisfied needs.
Ultimately, and solely for the subject under consideration, the inability of health services to meet the basic needs of the population might be adopted as a criterion for the underdevelopment of those services. Many studies, completed or in progress, on the utilization of health services suggest that when a health system cannot provide:

- 10 - 20 preventive contacts
- 80 - 120 curative contacts
- 6 - 8 hospital admissions per 100 population
- or 30 - 50 days in hospital per annum

that system is unable to meet all the basic health needs of the population. The figures suggested above are fairly arbitrary and correspond to a stable health situation where there is no serious epidemic or specific endemic disease.

This minimum utilization threshold, which is nevertheless regarded as effective for meeting basic needs, is much lower than the threshold for meeting the demands of populations with a high standard of living, where the consumption of medical care is 2-4 times greater. However, the view may be taken that if a country can guarantee this minimum threshold for its entire population it will be able to confront the serious health problems that form unacceptable obstacles to the nation's social, cultural, and economic development.

It is important to determine this threshold since studies on existing hospital legislation throughout the world have shown that most countries where the health services are substantially above the threshold have a comparatively complex health legislation and administration. On the other hand, most of the countries below this threshold have not promulgated any laws concerning their health services or else do not have an adequate administrative structure to implement the legislation. Finally, a large number of countries have retained the regulations laid down by a former colonial or occupying power, but these regulations no longer correspond to the current situation.

**General Situation**

Countries without a developed health legislation exhibit a variety of situations, but they have a number of common features that may be defined as follows:

(a) Centralization of public administration

Countries that were subjected to foreign rule for many years were provided with an administrative system that was generally highly centralized. However, this administration, located in the country's administrative capital, could take very little initiative since the major decisions were taken in the capital of the occupying power. In many fields, but particularly in the health field, services were organized in a historically older and more primitive way than the corresponding services of the occupying powers. When these countries became independent, their central administrations continued to work with the components left behind by the former powers and they have had neither the time nor the resources to provide themselves with modern legislative and administrative structures. Moreover, they were discouraged from doing so by another factor — namely, the weakness of the local authorities.

(b) Weakness of the local authorities

In many developing countries the local authorities perform only routine duties connected with elementary and traditional activities. They have not the financial and manpower resources to set up a local administration able to show initiative and capable of taking charge of the health services and helping to prepare long-term programmes and plans. In other words, the administrative microstructures are weak or non-existent. Therefore, the health services are deprived of the necessary support.
In the regional or provincial administrations (and even in the state administrations of federated countries) executive powers are limited on account of the paucity of competent staff and inadequacy of the financial resources, which, where they exist at all, are drawn from modest local taxes. For these reasons legislative provisions aimed at decentralization can scarcely be applied and the central authorities are compelled, whether wishing to or not, to retain control. It is not easy to change this situation since the most competent administrators prefer to remain in the central services located in the large cities where living conditions are better and where their authority extends over the country as a whole.

(c) Sectoral priorities

In general, the problems of health care do not receive high priority from governments. The sick have never formed political pressure groups, and diseases and serious accidents are universally regarded as chance and relatively rapidly forgotten misfortunes. Social institutions for education and social insurance enjoy greater favour than health care institutions since they meet needs that are more constant and more uniformly distributed. Economists who prepare development plans at the central level often tend to think that health institutions are expensive and that their influence on the general economy of the country is debatable. It is very difficult to assess the cost-benefit ratio of health care because, while it is possible to evaluate the benefit derived from preventive programmes, some aspects of curative medicine are warranted only from a social and humanitarian point of view. In many developing countries, because the hospitals are insufficient in number and tend to be crowded with patients who are very seriously ill, many of whom are disabled or dying when they are discharged, the poor reputation of hospitals tends to be perpetuated among national economic planners. That is why it is not unusual to hear it said in some developing countries that medical care could remain an individual responsibility. Where sickness insurance agencies are beginning to develop, governments are all the more willing to give them complete freedom, believing that the patients whose expenses they cover will no longer have to be paid for by the government. However, it is noticeable that consciousness of the impact of health services on economic development is growing in many countries. This view encourages governments to devote more attention to the promotion of health and to the means for achieving it.

(d) Different forms of ownership of health establishments

The needs for medical care are so great and so urgent that some private groups take the initiative in setting up institutions to meet them. Traditionally, religious missions and communities have regarded the foundation of hospitals and establishments for the care of the chronically ill as part of their charitable role. Large numbers of such establishments have been set up in many developing countries and form essential initiatives in areas where the government has been able to do little.

Companies with a large number of employees regard the establishment of health and social services as a means of maintaining the productivity of their staff and also of ensuring the loyalty of the technicians they have trained. This type of initiative may assume considerable proportions where these companies exploit mines or large plantations and where they employ virtually the entire working population in the area. In many cases the employees' dependants (women and children) are also looked after. Finally, it is not uncommon for the government to request that the few patients not associated with these companies but who live in their villages and on their land should also receive care, under contract, in the private health institutions. These people are generally independent craftsmen, those in receipt of welfare, widows, and orphans.

The presence of a growing number of physicians and the advent of a new social class made up of relatively highly paid clerical workers, technicians, and managers in the large industrialized and commercial cities is leading to the setting-up of medical care establishments of a commercial nature and of an independent sector of medical practice.
This diversity of ownership has serious consequences when, because of the lack of a legal framework and the weakness of the governmental and regional administration, the operation of these different types of establishment cannot be supervised and no valid and regular statistical data can be obtained on their utilization by the people. At the opposite extreme from the authoritarian methods of nationalization, absolute liberalism leads to duplication and abuses of many kinds. There is a danger of a rapid increase in the fees charged by private physicians and hospitals, so that they become accessible only to a tiny rich minority in the country. Government health services attending to the majority are in danger of losing their best staff, who are attracted by a flourishing private sector.

Main Stages in the Development of Health Services

It seems that most developing countries commit themselves to a similar development process, whatever the influences to which they were formerly subjected. It is possible to identify a certain number of stages in the development of their health and social sectors, corresponding to the changes in the forces that irresistibly mould their society and their expanding economy.

First stage: initial situation

Only members of the ruling class can pay for high-quality medical care, which they often obtain abroad or in the few hospitals run by foreigners. The system of free health assistance applies to almost the whole of the indigenous population. The medical care establishments are infirmaries for the poor, financed and run directly by the central administration. The priority health programmes are directed towards the prevention of the major endemic and communicable diseases. In reality, most of the population has no access to hospitals on account of transport difficulties. Sometimes the sick receive some relief from traditional and empirical healers.

Second stage: start of economic development

Exploitation of the natural resources of the developing countries, begun a long time ago, mainly by very powerful foreign companies, continues today under agreements for bilateral or multilateral cooperation with the governments of industrialized countries or with multinational companies. This activity is accompanied by rapid improvements in the roads and road transport system. By this stage the preventive health services have changed the people's outlook on illness, thus motivating an increased demand for medical care. The government has already set up a ministry of health and is endeavouring to organize provincial or regional health administrations. On account of the increased demand for medical care and the increase in the number of physicians returning from foreign universities, sometimes with specialist qualifications, the government finds itself involved in the modernization and extension of existing public hospitals and in the creation of new establishments. As a result, an increasing proportion of the budget allocated to the ministry of health is absorbed by the public hospitals. Preventive programmes are jeopardized by inadequacy of staff and financial resources.

Third stage: extension of economic development of the market economy type

The establishment of large industries leads to the introduction of secondary and tertiary activities such as banking, hotels, wholesale and retail trade, insurance, import and export companies, transport and aviation companies. These activities require the recruitment of staff of a certain intellectual level, trained under the national education system. Between the rich class and the mass of poor, unskilled workers, craftsmen, and farmers a new class is growing rapidly: the civil servants and the staffs of public and private companies. For this new class, whose political influence is on the increase, the old system of medical care is no longer acceptable. The members of this class are not rich enough to use the few private luxury hospitals, but are already too high up the social ladder to put up with the discomfort of hospitals for the poor. A private commercial medical sector of uneven quality is being
created and is attracting, on the one hand, some young physicians who have little desire to enter the public sector at a poor salary and, on the other hand, middle-class patients.

Fourth stage: search for additional funds

The financial imbalance becomes worse with the construction of hospitals, the most expensive of which are sometimes erected by private foreign companies or as part of bilateral assistance programmes. The minister of health may then consider fixing a charge per hospital day for patients with some financial resources. This brings him into competition with the private sector. In the absence of hospital legislation and proper regulations on book-keeping the situation becomes confused. It sometimes happens that private hospitals make daily charges that are lower than those of the public hospitals, since they also receive part of the fees charged by the physicians. They may also make savings on the quality of care and the safety of patients. It often happens that, under the application of old and out-of-date rules, the income received by the public hospitals is paid into the treasury, which prevents them from investing that income in improved facilities. Under these conditions it cannot be expected that the directors of public hospitals will make any great effort to find paying patients or even to get those patients who could pay to do so.

During this stage the largest commercial and industrial companies begin to take responsibility for the medical expenses of their staffs and set up mutual sickness insurance funds, which are paternalistic in character and comply with no rules in the absence of national legislation. Most frequently, companies that have not set up their own hospitals send their sick employees to private hospitals, over which they have varying degrees of control as a result of contractual agreements. Government employees often receive free care in public hospitals, but the government does not reimburse the hospitals for the cost of their treatment since in principle it finances them completely.

This combination of factors leads to growing financial difficulties and to a gradual deterioration of the public hospital system.

Fifth stage: structuring by the government

At this stage in development the government is faced with a choice. If it decides not to impose effective coordination and control on the various institutions it will see the development of a large number of independent and competing sickness insurance funds covering certain employees and even self-employed workers. These funds will quickly accumulate sufficient resources to set up medical services, obviously restricted to their members. However, the aims of these services are mainly curative since sickness insurances, by their very nature, take little interest in active prevention. The remainder of the population will have access only to public establishments whose development will be jeopardized by budgetary limitations and by the loss of staff to the private sector.

On the other hand, if the government realizes in time the danger of the deterioration and breakdown of the public health system, and if it has the political resources to do so, it will draft legislation laying down rules of coordination with varying degrees of compulsion, either allowing a free sector to continue subject to some state control or going so far as to set up a national health service involving the nationalization of all health care institutions.

The choice between these two extremes and the many intermediate solutions is basically a political one, but in all cases it becomes essential to promulgate legislation on health care and the various forms of professional or mutual sickness insurance societies or on a general system of social security. If it is to be implemented, such legislation requires the setting-up of a competent and effective health and social administration.
As stated in the Fifth Report on the World Health Situation, 1969-1972, a "The developing countries with a market economy thus find themselves following a path which leads either to the gradual breakdown of the public health system or to the institution of compulsory social insurance funds, whose budget is shared between employers and employees, possibly with government subsidies. This is a healthy development if the government organizes it in good time by promulgating social laws and by laying the foundations for a rational organization of public and private health services and mutual benefit societies, which should gradually merge to give a limited number of social security schemes. This process makes it possible to defray the increasing costs of individual medical care without a proportional increase in state participation. The latter may even be decreased, releasing credits for more intensive prevention campaigns."

During this step only wage earners and their dependants are covered, representing a modest part of the population. Contributions are paid principally by employers, whether private firms or state undertakings, or by the government itself for its officials. The coverage of independent artisans may be of a voluntary nature for some time. Rural workers could be covered by the agricultural cooperatives if the functioning of the latter is subject to effective government supervision. Families without means remain the responsibility of the public authorities.

2. OBSTACLES TO THE RATIONAL PLANNING OF HEALTH CARE

Any attempt to plan a system of health care encounters obstacles, and an effort must be made to overcome them. The main obstacles are usually as follows:

(a) Ownership of establishments and freedom of the medical profession

The existence of a heterogeneous private sector presents the legislator and planner with problems. A distinction is normally made between private, non-profit-making or charitable establishments and profit-making or commercial establishments. Most non-profit-making private establishments are run by philanthropic societies, often of a religious nature. They sometimes have substantial financial resources derived from developed countries and have a dedicated staff who accept very modest salaries or hardly any salary at all. In the developing countries it is hard to see how these institutions could be nationalized and their staffs replaced.

As long as governments cannot offer salaries comparable with the fees paid in the private sector it would be unreasonable to require physicians to accept full-time appointments in public hospitals. Moreover, members of the medical profession in the developing countries prefer to remain in the large towns since the majority of the people who benefit directly from improvements in the economic situation and can therefore afford to pay higher medical fees live in these towns.

(b) Diversity and complexity of hospital functions

The wide variety of functions fulfilled by the different types of hospital presents health authorities with a difficult problem. The distribution of establishments on a regional basis is universally accepted as the only satisfactory solution. Under this system there is a hierarchy of establishments ranging from village health posts to the large regional hospital, via rural hospitals or district health centres with beds and intermediate or provincial hospitals. Leaving aside the village health posts, which make it possible to implement a basic prevention programme, to deliver elementary outpatient care, and accommodate a small number of maternity cases, the most difficult problem is presented by the rural hospital or the district health centre with beds. In theory, these establishments should make it possible to deliver medical care of the same level as that provided by the family physician, and should also provide hospitalization facilities for obstetrics and minor medical and emergency cases.

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However, in the developing countries the necessary technical level is rarely attained. Physicians stay for only a short time and are discouraged by the extreme difficulty of obtaining and maintaining the minimum technical equipment - a laboratory, facilities for radiology, and a surgical unit of a reasonable standard.

In most of the countries that have made great efforts to provide the rural areas with small hospitals there is a low bed occupancy rate, reflecting a certain lack of confidence among the population. As soon as the means of communication are improved, patients ignore the local facilities and try to obtain treatment in intermediate or provincial hospitals. In highly populated areas with regular means of communication, the health authorities are often faced with a choice: either to try to raise the technical level of the rural hospitals or to strengthen the intermediate district or provincial hospitals, using the rural hospitals as primary health centres that act as "front-line" units for the intermediate hospitals. The solution to the problem depends on several factors that may be dealt with in general directives embodied in the legislation on health care establishments and in the regulations issued by the government health services.

Another factor promoting diversity of function is the simultaneous existence of public establishments and private commercial establishments. In countries where these two types of medical establishment coexist it is found that the private commercial hospitals concentrate on surgery and obstetrics and are not interested in internal medicine or paediatrics. This is because they can charge higher fees for surgical and obstetric services. Moreover, even in the areas of surgery and obstetrics the private commercial hospitals tend to seek out "easy" cases and to leave the high-risk cases to the public hospitals. Where the public and private sectors are comparable in size, large numbers of internal medicine patients, sick children, and the most serious surgical and obstetric cases pour into the public hospitals, thus jeopardizing both their reputation in the eyes of the public and their financial stability.

(c) Problems of construction and equipment

Often no satisfactory solution is found for these problems where there are no regulations on compliance with compulsory technical conditions and general directives. There are numerous examples of hospitals that are poorly adapted to the climate, to local energy resources, to the available staff, to the habits and wishes of the population, and to the likely financial resources. Modern hospitals in the developing countries are often built to over-complicated plans and require mechanical and electrical equipment that is very difficult to maintain and repair. There are several such establishments that it has never been possible to put into operation. Where an effort is made to operate them, the costs are so high as to endanger preventive programmes.

The absence of norms or standards of construction and equipment gives free rein to the ambitious fantasies of certain architects and engineers or, still worse, to those of commercial companies that are not interested in the operating conditions.

(d) Training and recruitment of health personnel

In all the developing countries these are major obstacles. The present study merely summarizes the basic causes of these obstacles, which could be mitigated by suitable legislation and administrative procedures.

Training is too frequently closely copied from the training normally given in the developed countries, where disease patterns and social problems are very different. In the training of medical students too much emphasis is placed on specialties and on the most elaborate methods of biological and radiological diagnosis, which physicians in developing countries will not easily be able to use in everyday practice.

The recruitment of staff is jeopardized by the indifferent conditions and rather low status of work in public hospital establishments, and also by inadequate remuneration that encourages part-time private practice or even resignation from the post. Moreover, it sometimes happens that arbitrary budgetary allocations, where there are no written regulations
determining the book-keeping procedures and budget calculations, are insufficient to provide salaries for posts that have been officially approved, and these posts remain vacant. There are countries where there would be an abundance of staff if the health administrations could pay salaries regularly.

(e) Poor quality of health statistics in medical establishments

This is a serious obstacle to the preparation of building and equipment programmes. Often there is a lack of balance between hospital morbidity statistics and utilization statistics. For reasons linked with tradition, priority has often been given to detailed morbidity statistics, which are of doubtful value when the cause leading to the patient's admission is mentioned on admission and not on discharge. The inadequacy of diagnostic facilities in intermediate level and local hospitals is also responsible for inexact diagnosis. Finally, doubt may be cast on the value for the planning of health care facilities of collating detailed morbidity statistics. What is important is to know, for example, how many surgical cases occurred during a given period; the numbers of cases of hernia or gastric ulcer, although of value for assessing the evolution of the main causes of morbidity in the population, have hardly any relevance when calculating the numbers of beds and staff required.

There are no universally adopted standards for utilization statistics. Moreover, the value and interpretation of the figures are doubtful where the average number of patients in the hospital is very much higher than the official number of beds. Finally, the collection of all these data necessitates additional work that the staff, few in number and overworked, cannot perform reliably and regularly. Accurate statistical data are certainly indispensable, but in the developing countries it would be better to restrict them to the useful minimum and to attempt only very gradually to develop programmes such as those implemented in the developed countries.

(f) Inadequate coordination of the system of health care with other social institutions

The system of health care, whose tendency to become disorganized in the absence of suitable legislation has been indicated above, often suffers from a lack of coordination with the other social institutions:

(1) The national education system is responsible for the training of physicians in most developing countries and sometimes for the training of nurses and health auxiliaries and technicians. Moreover, establishments providing practical training (i.e., the teaching hospitals) are frequently under the supervision of the ministry of national education rather than the ministry of health. A system of medical care whose highest levels (i.e., the regional and national hospitals) are outside the system is virtually headless and cannot operate harmoniously. The essential exchanges of staff, services, and patients between the lowest and highest levels of the hospital system do not take place properly. Two groups of hospital physicians develop: those in the teaching hospitals who hold university posts, and the others whose prestige and job satisfaction are lower.

(2) Social security schemes; even in an elementary form such as mutual sickness insurance societies these show a natural tendency to set up their own systems of medical care, i.e., to recruit and employ their own staffs of physicians and to build and manage hospitals reserved for members of the scheme. In the absence of any coordinating legislation a dual system gradually develops: sickness insurance schemes expand where there is a sufficient number of contributors (wage-earners in industrial and commercial cities), while the non-wage-earners, mainly craftsmen and peasants, remain the responsibility of the public system.

The sickness insurance funds, by definition, take little interest in preventive medicine. Their hospitals, although often excellent, provide traditional curative services and do not meet the need for integration in the cure and prevention of diseases.

It must be added that economic development entails a higher proportion of wage-earners and rising wages, and hence social insurance funds sometimes have large financial
resources, since their income is derived from contributions levied on salaries. Finally, the retirement and old-age pensions branch of social security schemes shows profits during the first few decades of operation because the average age of the wage-earners is comparatively low and life expectancy in the developing countries is relatively short. These conditions enable the funds to build up their own system of medical care rapidly and to offer their personnel more satisfactory conditions of work and remuneration than the public sector. Because of this situation, unchecked by any legislation, the social insurance fund sector grows rapidly while the public sector weakens and declines. This phenomenon is observed in countries that have reached a certain degree of economic development and are not provided in good time with legislative and administrative structures to ensure that the health and social sectors are coordinated.

(3) Occupational medicine assumes increasing importance as industrial and agricultural development progress. There are several different aspects to occupational medicine: medical examination on recruitment, systematic and periodic control of workers' health, diagnosis and treatment of occupational accidents and diseases, etc. In the developing countries, medical care of all kinds for workers and their families may also be included under occupational medicine. Owing to financial and staffing difficulties of these countries it is advisable to avoid setting up an independent occupational medicine sector and to use the entire health care system for general medical care. Such integration is particularly desirable to ensure that the occupational medicine services contribute to the maintenance and improvement of the workers' health and do not confine themselves to attempting to improve output simply for the benefit of the company. Industrial medical services are sometimes accused by the workers of benefiting only the factory management, which inevitably leads to industrial strife. Such difficulties are avoided by using the public health care services.

(4) Preventive medicine assumes considerable importance in the developing countries because the majority of the population lives in a potentially unhealthy environment and suffers from malnutrition. Parasitic diseases are extremely common, infectious diseases constitute a widespread risk, and there are considerable problems of nutrition and housing. Much improvement could be obtained by health education of the public. It is currently accepted that preventive medicine comprises two main areas of activity. The first (known as primary prevention) is concerned with environmental health and with strictly preventive measures (vaccinations) for communities. The second (secondary prevention) consists of the early detection of prevalent diseases (tuberculosis, leprosy, disorders of pregnancy and of child development, venereal diseases, etc.). This second area is indissolubly linked to the treatment of affected individuals and the relevant activities are carried out by health personnel within health care institutions.

However, it is best to avoid splitting the overall prevention programme since this remains the direct responsibility of the public health authorities, which may draw up agreements with local authorities or with voluntary agencies such as the Red Cross and charitable institutions. Since in practice primary prevention is conducted mainly in the field and within the community, the files, record cards, and administrative staff can easily be accommodated in a few rooms at the local hospital or health centre.

(5) Welfare activities for people unable to meet their needs through their own work or that of their family have long been the responsibility of local authorities. Abandoned children and orphans, the physically and mentally handicapped, the chronically sick, the aged and others with no family of their own have traditionally been given a modest place in villages inhabited by sedentary farmers. This is still the case in many regions in the developing countries. However, economic development, well or less well organized, has caused an abrupt break with tradition in the absence of a system of social assistance. It is enough to mention the migration of adolescents and adults towards rapidly expanding towns, the opening of large industrial sites, the departure of workers to the developed
countries, and the mechanization of agriculture, forestry, and mining in order to understand that the rural communities, deprived of some of their work force, can no longer support people who do not work. Certainly, it is not yet possible for the developing countries to guarantee an acceptable standard of living to large numbers of disabled persons. However, there are two situations that present governments with problems that can no longer be ignored or avoided.

The first is the increase in the number of handicapped persons resulting directly from economic development. The introduction of new machinery and the use of toxic insecticides and fungicides lead to many serious occupational accidents and diseases on account of the inexperience of the workers and the inadequate precautions taken by employers. In principle, such cases should be the responsibility of the occupational welfare services, but these have neither the resources nor the legislative and administrative structures to solve the problems.

The second is the increased mobility of populations as a result of development of transport facilities. The large cities and their suburbs are faced with providing welfare for large numbers of people for whom there is no longer any place in the villages, where the traditional structures are threatened. It is not unusual for each worker who finds a job to be accompanied by several unproductive persons who depend on him.

Inevitably, therefore, the authorities are faced with the problem of social assistance. In the absence of adequate institutions the easy solution is temporary admission to hospital. The hospitals must therefore be able to transfer the welfare cases, often admitted as an emergency measure, to social assistance institutions.

Old people and the chronically ill are currently a very serious problem in the developed countries, and the developing countries will sooner or later be faced with a similar problem. Here again there is a need for coordination between the medical care and social assistance systems.

The solution to all these problems cannot be found in improvisation and the goodwill of independent and uncoordinated institutions. Social legislation covering all the sectors mentioned above must form the framework for a programme of rational and effective action.

3. PRINCIPLES OF LEGISLATION AND ADMINISTRATION FOR HEALTH CARE INSTITUTIONS

A country that has only a few hospitals owned and financed by the central government services, and in which all the physicians are state employees, does not often feel the need to promulgate laws regulating the operation of these services. However, a legislative framework is essential when there are institutions with different forms of ownership, when certain groups of wage-earners receive some financial coverage for the medical care they need, when local authorities have some power and are able to express their wishes concerning, and contribute financially or through the voluntary work of citizens to, the operation of health care institutions, and when curative and preventive medicine have to be coordinated and integrated in order to increase the effectiveness of staff and buildings.

Two important points must be stressed.

(1) There is no standard legislation that the developing countries can copy. The example of the developed countries shows that existing health legislation differs from one country to another since it reflects historical and political circumstances. The legislation on health care institutions includes technical provisions concerning equipment and facilities; these are admittedly universal, as are the standards for the maximum permitted level of pollutants in drinking-water, for example. However, the legislation also includes many aspects specific to each country and each culture. For example, strict segregation of the sexes may affect
architectural arrangements for patient accommodation and require, for example, two rooms to be set aside for washing corpses and two sets of postmortem equipment to be provided. In other cultures such separation may not be necessary. The admittance of mothers to the paediatric ward is another example of a local custom that may affect architectural arrangements. Nevertheless, there are not many types of health legislation because, since culture and history affect legislation, the countries with similar cultures and parallel histories have promulgated legislation with many features in common.

(2) Before a law is drafted and promulgated it is necessary to make sure that the administrative apparatus will be capable of implementing it. Consequently, the administrations of health care establishments (particularly hospital managements), the health and social administrations of states, provinces, or regions, and the central administration should possess all the supervisory facilities and executive powers envisaged in the bill. Some developing countries that have been politically independent for over a century have developed a complex legislative framework, generally inspired by that of the European countries. However, they have lacked the knowledge or ability to erect an administrative structure capable of implementing the laws, which remain theoretical and become outdated without ever being used. It has been said that law is an index reflecting the value concepts inherent in any given civilization. In this study the term "legislation" covers not only the law or laws passed by the legislative assembly or promulgated as decrees or orders by the government, but also the implementing legislation and to some extent the administrative decisions, circulars, and judicial decisions comprising case law, which constitute legal instruments of a general nature. All these aspects, which are studied below, are only very rarely contained in a single text.

It is already possible to see the need to adopt a cautious approach; this is considered in the fourth part of this study (p. 35), which lists the stages that must gradually be passed through. However, a comparative study of hospital legislation and systems in force shows that technical progress, on the one hand, and the influence of intergovernmental organizations such as the United Nations, the International Labour Organisation (ILO) and WHO, together with the existence of international nongovernmental federations or associations such as the International Hospital Federation, the World Medical Association, and the International Social Security Association, on the other hand, are forces that are drawing the countries of the world towards converging solutions. To take one example, it is clear that legislation in countries with Arab, Chinese and European cultures in the eighteenth century differed much more than the types of organization found today in Egypt, Japan and Italy, for instance. In view of this it seems possible to draw up a classification of administration and legislation for health care institutions. The main sections of a standard legislation are analysed below.

Section 1: Definition and Functions of Health Care Institutions

As already mentioned, medical care can be defined as curative, preventive and rehabilitation activities supplied to individuals (see p. 11). Medical care is indivisible. However, from the legislative, administrative, and financial viewpoints, two types of medical care must be distinguished: that given to individuals who can travel to hospitals or health centres or receive treatment at home; and that given to those admitted to establishments where they remain for some time. In the former case, medical care consists essentially of professional medical attention provided by the health personnel. In the second case it also includes the provision by the administration of all services connected with everyday life: accommodation, food, personal hygiene, heating, and physical and moral comforts.

Members of the medical and allied professions are responsible for medical care in both cases. However, the role of the hospital is very extensive and such establishments comprise not only rooms for patients, diagnostic and therapeutic facilities, but also outpatient clinics and sometimes even home-care services.

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The overall organization of health care should therefore take into account all institutions delivering medical care and all establishments where such care is provided and where patients are accommodated. Consequently, consideration is given in this study to the following:

A. **Health institutions**, i.e., all organizations and professions providing medical care, principally:

1. the hospital organization, with its two branches:
   (a) inpatient care
   (b) outpatient care

2. the medical profession
   (a) general practitioners
   (b) specialists

3. the allied health professions:
   (a) nurses
   (b) auxiliaries
   (c) technicians

4. preventive facilities.

B. **Establishments**

1. general hospitals:
   (a) regional
   (b) intermediate or provincial or district
   (c) local or rural

2. special hospitals
   (a) psychiatric hospitals
   (b) maternity hospitals
   (c) paediatric hospitals
   (d) communicable diseases hospitals
   (e) others

3. teaching hospitals

4. health and preventive medicine centres (including sanatoria)

5. rehabilitation establishments

6. chronic and long-stay establishments.

These establishments may be publicly owned and administered at different levels - national, regional, and local; on the other hand they may be private establishments, either voluntary or commercial.

The most modern legislation entrusts medical care to institutions that are required to meet the public's demands for medical care. The institutions, whether the agencies running establishments or the professions, enjoy various privileges but have a duty to help people in need by supplying the professional and material assistance within their capacity.
Formerly, hospital laws tended to give priority to the accommodation of serious cases rather than to the cure of common diseases, which impeded the development of outpatient clinics and preventive and rehabilitation activities. Nowadays, in many countries, the law requires establishments to provide health care for the entire population, including the accommodation of patients where necessary. This new approach permits the integration into the hospital system of health centres, health centres with beds, dispensaries providing curative and preventive services, etc. These establishments, in addition to their curative functions, can therefore take an active part in prevention and rehabilitation and in the organization of outpatient and home-care services. The law should specify these functions in the preamble, if any, and in the introductory sections.

Section 2: Ownership and Classification of Medical Care Establishments

(a) Ownership

The various types of establishment are defined by legal provisions recognizing the status of the following:

(1) **Public hospitals** having the legal status of establishments belonging to the state or to the public authorities of a region, district, or local community. It is also possible for public hospitals to belong to corporate bodies independent of the public authorities proper but given responsibility for public services. This is the case in most of the Latin countries. In many countries, not all public hospitals are under the control of the ministry of health. Some establishments belong to other ministries such as defence, communications (hospitals for railway workers), labour and social security (governmental or quasi-governmental), justice (hospitals and senatoria for prisoners), education (university hospitals with a public or quasi-governmental status), etc.

(2) **Private voluntary hospitals** owned by private organizations, either religious or secular. The establishments owned by sickness insurance funds generally belong to this group. These establishments must accept government control of their budgets and staffs to safeguard their voluntary character. Any profits from their operation must be invested in modernization and improvements benefiting the population. The public authorities may entrust the care of the poor to these establishments, meeting the expenses as in the public hospitals.

(3) **Private commercial hospitals**, which, with the political systems in force, have greater freedom of action than the public hospitals. However, the need to coordinate their activities with those of the other establishments results in some degree of control by the public authorities. This control tends to be stronger where the government contributes financially to the care of the poor. Control may be delegated to the sickness insurance agencies, which use these private establishments for the care of their members; these agencies may be private mutual benefit societies or social security funds under varying degrees of State control. In addition, the safety of patients and the quality of care lead legislators to lay down technical conditions of accreditation and standards concerning buildings, equipment, and staff. The law should therefore make provision for the private establishments.

(b) Classification

Establishments should be classified on the basis of the functions they are expected to fulfil. The law defines these functions and provides a classification, generally in accordance with the concept of regionalization.

(1) **Regional hospitals** have specialist departments for patients from regions with from one million to several million inhabitants. They provide general medical care for the community within which they are located and they also receive in their specialized departments, patients referred from intermediate and local hospitals.\(^\text{a}\)

\(^{a}\) WHO Technical Report Series, No. 122, 1957 (*Role of hospitals in programmes of community health protection: first report of the Expert Committee on Organization of Medical Care*).
(2) Intermediate or district hospitals provide general or moderately specialized care for the majority of patients in geographical areas with 50,000–300,000 inhabitants.

(3) Local hospitals do not have a full range of departments and are normally restricted to the practice of general medicine and obstetrics.

(4) There are also special hospitals for pediatrics, tuberculosis, mental diseases, infectious diseases, rehabilitation, chronic diseases, etc.

(5) Outpatient departments are attached to all the above categories of hospital.

(6) Peripheral establishments for basic health care such as health centers and dispensaries.

This classification requires a detailed census of the entire system of medical care and the compilation of operating statistics, which have to be communicated periodically to the central government. The obligation to take a census and compile statistics should be embodied in the law.

Section 3: Administration of Medical Care Establishments

The concept of the regionalization of medical care establishments extends not only to the duties they should undertake and thus to their technical equipment and staff, but also to their administration. It is often at this level that the first draft of the programme is established. In any case, it is the duty of the local administration to collect the basic data and to consider the wishes and reactions of the population. Planners and architects will have to work with health and/or hospital administrators. Two types of hospital administration can be distinguished.

(1) The first type is characterized by an administration run by a director who is responsible to the government authorities or to the private authorities owning the establishment. This director may be a physician with or without responsibility for clinical activities, or a non-medical administrator. In some countries there is dual control: the medical director being responsible for medical matters while the administrative director deals with the preparation of the budget, book-keeping, personnel, maintenance and supplies. The hospital may even be managed on a joint basis, with the matron, the head pharmacist and the head of the financial services on the same hierarchical level as the two directors mentioned above.

(2) The second type is characterized by the existence of a management board that acts as a corporate body and is represented by its chairman. The director or directors of the establishment are responsible to this board, acting as rapporteur and secretary. The directors are permanent and take decisions on an everyday basis but must account for their activities at each regular meeting of the board.

The peripheral establishments for medical care are in most cases directly managed by the health authority, except the private voluntary establishments.

Section 4: Staffs of Medical Care Establishments

Manpower planning is one of the most important tasks of health authorities. These tasks involve recruitment, training, continuous education, appointment, and promotion, all of which have a bearing on the structure of the establishment to a variable extent.

The staffs of medical care establishments include many professional groups, principally:

(1) the administrative director and his assistants responsible for general "housekeeping", book-keeping, personnel, and finance;
(2) general physicians and specialists in various branches of medicine (internal medicine, gynaecology/obstetrics, paediatrics, etc.) surgeons, and other specialists; these personnel may be heads of clinical departments or deputy heads, assistants, residents, etc. They may be employed on a full-time or part-time basis. Some of them may deal solely with inpatients, others with outpatients and possibly with preventive examinations;

(3) biologists, pharmacists, and dentists with university training, having the same types of duties and conditions of employment as physicians;

(4) hospital and sanitary engineers;

(5) nurses (male or female), midwives, physiotherapists and other rehabilitation staff, laboratory, radiology and pharmacy technicians, etc., holding diplomas issued by professional training schools which, depending on the country, may be independent, attached to medical establishments, or run by universities;

(6) auxiliaries not holding diplomas but who have received special training;

(7) general service staff for kitchens, laundries, cleaning and disinfection, workshops, ambulances, mortuaries, animal houses, gardens, etc.

The legislative problems concerning the staff are as follows:

(a) Qualification, i.e., the possession of a diploma or certificate recognized by the competent authorities. The value of diplomas awarded by voluntary teaching institutions or even private schools is variable. The general tendency is towards the drawing up of curricula by the government and the organization at the national level of examinations and competitions leading to the award of diplomas and certificates. Responsibility for this may lie with the ministry of national education or with the ministry of health.

(b) The appointment of staff is a matter for which a large variety of solutions may be adopted. Appointment may be decided at the central level in countries where there is a strong concentration of executive powers at the governmental level. It may be entrusted to the regional or local authorities and even to the management boards of establishments. In most cases, however, legislation lays down standards regarding the value of diplomas and certificates and the various conditions governing practice (age, probation period, physical and mental capacity, undertaking to serve for a given period, military and legal duties, etc.). Obviously, standards vary according to the qualification and duties of the different types of staff. The central administration may reserve the right to appoint directors of establishments and head physicians while delegating its powers concerning other types of staff to the regional or local authorities. In general, pharmacists and non-medical biologists are subject to rules similar to those governing physicians.

(c) The rules concerning promotion, the status of health workers employed by local communities or the state, and retirement and leave problems are often governed by joint civil service regulations in order to harmonize career structures and conditions of work and remuneration in the various sectors of general administration.

Private establishments are not exempt from all these legislative and administrative constraints. Although appointments are decided by the private authorities owning and managing the establishments, these authorities have to observe standards comparable with those governing public establishments, particularly as regards the qualifications of candidates. Indeed the legislator, while respecting the private character of these establishments, has to safeguard the interests of the patients.

Section 5: Financing

The financing of medical care institutions is a very complex problem, which has such considerable repercussions on family budgets, the effectiveness of establishments, the standard
of living of the medical profession, and the budget of the public authorities that it should be of central concern to the government. To indicate its importance, some average figures are given below which are valid for a large number of countries with upward or downward variations of 25-30%.

Health expenditure as a whole amounts to 6% of the gross national product (GNP), 20% of health expenditure (or 1.2% of the GNP) goes on primary prevention, the training of health personnel, and other government expenditure, particularly capital investment, while medical care as defined above absorbs the remaining 80% (or 4.8% of the GNP). The overall expenditure of hospital establishments amounts to 50% of this last category of expenditure (or 2.4% of the GNP), while ambulatory and home-care supplied by medical practitioners and specialists outside the hospitals amounts to 25% (or 1.2% of the GNP). The remainder (25% or 1.2% of the GNP) represents expenditure on pharmaceutical products, prosthetic appliances, dental care, and other expenditure outside the hospital.

Every year this expenditure makes greater demands on the national income, and there are many differences between countries in the way it is covered. In countries that have set up a national health service the government budget meets most of the expenditure, which is thus covered by the revenue from general taxation. In other countries hospital expenditure is largely covered by the taxes levied by local authorities. In many countries the state and local authority budgets cover only the expenditure on primary prevention, care of the poor, and part of the construction and heavy equipment costs (capital investment). The remainder is paid by the population, either directly or through various systems of prepayment based on a levy on workers' salaries by private mutual benefit funds, sickness insurance funds, or some other system of social security.

Clearly a mechanism as complicated as this - which has been greatly simplified in the above description - requires a legislative framework with three aspects:

(a) The medical care institutions must follow identical accounting rules, whatever their type, in calculating the budget and breaking it down into sections so that the supervisory financial bodies, whether the state or social insurance agencies, can draw up comparisons between establishments.

(b) The approval of budgets and the control of expenditure should be laid down in legal regulations so as to enable the the financing agencies to plan and control their contributions.

(c) The financing agencies should be bound by regulations to pay their contribution in accordance with set procedures governing the vouchers to be produced, the latest permissible dates, the method of payment, etc.

In countries with a national health service there is only one source of financing for public establishments, even if these establishments fulfil complex curative and preventive functions. The system of the annual budget is customary, even if for supervisory and comparative purposes an average cost per patient-day is calculated. However, in countries where only a part of the finance is provided by the government there are many sources of funds. The main ones are the local authorities, sickness insurance funds and mutual benefit societies, companies, accident insurances, the state and its administrative agencies, and finally private patients who must either supplement their insurance payments by an additional contribution (cost-sharing, etc.) or, if they belong to a non-insured and non-indigent social class, must pay the full amount of the costs incurred. In this case the annual operating budget is still calculated but expenditure may be invoiced in different ways: overall charge per patient-day or hospitalization cost separated from the cost of technical services and medical fees. Moreover, if the establishment is responsible for preventive activities or for hygiene and primary prevention it may charge rental fees for premises as a further source of funds.
Finally, the regulations should specify whether special budget sections such as the working capital fund, the depreciation on capital expenditure, the hire of certain premises, the repayment of loans, and the income and expenditure from endowments, gifts and legacies should be included in the day charge submitted to the financing agencies.

In this section stress has been laid on the financing of the establishments themselves, confining consideration to operating costs. However, two other aspects should not be ignored: capital expenditure and the financial rules that should govern the fees charged by members of the medical and allied professions.

Capital expenditure is normally divided into two sections:

- expenditure on major repairs and equipment;
- expenditure on buildings, modernization, and major modifications carried out over a period of several years.

The first type of capital expenditure can be included in the annual budget since it is normally paid all at once during a single financial year. However, it may be subsidized by the state. In many developing countries the work is carried out directly by the department of public works and not shown in the accounts. This practice is contrary to orthodox financial procedures and should be governed by regulations.

The second type of expenditure consists of work that may last for several years and be written off over 30 or 50 years or even longer. As with the financing of operating expenditure, there are a great variety of solutions. The entire cost may be covered by a state subsidy. In other cases there is a partial subsidy and the establishment has to find the rest, either by borrowing from banks or social insurance funds or by using income from assets and gifts. Repayments of loans and interest charges are normally included in the annual budget and thus in the day charge. Whatever solution is adopted, it can be seen that regulations are necessary.

Medical fees raise other problems since physicians and members of the allied professions (pharmacists, biologists, and dentists) may practise either individually and privately, or as a group, or in public establishments.

As a general rule the government does not exercise supervision over the financing of medical care provided privately. However, sickness insurance funds wish to avoid charging their members fees that are much higher than the repayments that the funds agree to make. They therefore tend to recruit salaried health personnel who make no charge for the care of the insured patients. There are drawbacks to this system since it leads to conflict with the medical profession. However, where almost the entire population is covered by sickness insurance the solution generally adopted is to draw up agreements between the funds on the one hand and the entire medical profession on the other, each party being regarded as an institution or a corporate entity. In this case the government is called upon to act as arbitrator and mediator in the event of any dispute. This development requires the introduction into legal instruments of regulations concerning the financing of health institutions. Experience has shown that it is beneficial to bring the remuneration of physicians in the public and private sectors into line so as to prevent the private sector from attracting the best staff at the expense of the public system.

Section 6: Relations Between Medical Care Institutions and other Health and Social Welfare Institutions

Medical care institutions, whether hospital establishments or the medical or allied professions, inevitably enter into relations with other health and social welfare institutions. It is obvious that the structure of medical care establishments is largely influenced by the extent of integration and by the relationship between hospitals and other health institutions.
(a) Preventive services

In the present stage of development of diagnostic techniques, secondary prevention and curative medicine can no longer be separated. However, primary prevention uses different methods (environmental control) and is directed towards groups (immunizations). This field is of cardinal importance in the developing countries, but the staff and equipment are often accommodated in medical care establishments, mainly at the local level. It is therefore important that the regulations should make provision for hospitals and outpatient medical centres to set aside rooms for the personnel of preventive services (epidemiologists, sanitarians, and sanitary engineers) and their documentation and equipment.

(b) The teaching of medicine and associated activities

Wide use is made of medical care establishments in the teaching of medicine and associated activities. In some countries the professional training of physicians, nurses, health technicians, and other types of staff is the direct responsibility of the ministry of health. In these cases it is no problem for establishments providing such training to include lecture and demonstration rooms and teaching laboratories in their building programme, the cost of construction, maintenance, and operation being included in the budget allocated to the establishment. Similarly, arrangements can be made for staff to divide their activities between medical care and teaching.

In other countries, on the other hand, university education and training for the health professions are under the supervision of the ministry of education. This ministry, or the universities under its control, may themselves set up and run university hospitals. This solution has serious drawbacks, particularly in depriving the general hospital system of its most effective and most specialized staff. In large cities this leads to the existence of a university hospital and other general hospitals controlled by two different governmental bodies and whose staff are subject to different regulations. Finally, unless university hospitals are affiliated with outpatient departments and health centres there is a danger of clinical teaching being restricted to special and rare cases. The situation of schools of nursing and midwifery is sometimes ambiguous; they may be controlled either by the university or by the hospitals although it seems to be generally accepted that only advanced training of high-level nurses should be provided by the university.

Other countries place all health care establishments, including those where medicine is taught, under the supervision of the ministry of health. An agreement with the universities and the national education authorities makes it possible to use not only the regional hospitals but also the intermediate and local hospitals as well as health centres and group practice centres for professional education and training under precise arrangements that should be laid down in the regulations.

One problem to be solved is the status of hospital physicians who also have teaching duties. In order to avoid the difficulties of a dual career it is recommended that a system of equivalent posts be introduced, e.g., chief physicians and senior lecturers, assistant physicians and assistant lecturers, etc.

These aspects of legislation are appropriate both to section 6 and to section 8 (p. 33).

(c) Specialist establishments and medical research

In many countries, including the developing countries, there are specialist establishments and institutes of a high level whose objectives are to supply a special type of medical care and to conduct medical research. These establishments do not always form part of the hospital institution. Generally they are cancer institutes or oncology centres, psychiatric hospitals, establishments for tuberculosis or leprosy, etc. Individual initiative may even
lead to the setting up of special establishments for paediatrics, cardiovascular surgery, ophthalmology, or any other specialty that involves medical care but for which the high degree of specialization and the importance of the research justify the foundation of institutes.

However, it is important for two reasons to avoid giving these specialized institutes absolute independence and complete autonomy. The first is the difficulty of coordinating the activities of these establishments with the other components of the health care system. For example, the existence of an autonomous cancer institute in a region will not be sufficient to provide care for all cancer cases; the majority of such cases are diagnosed and treated in general hospitals. An autonomous establishment therefore entails duplication of both equipment and staff, and this must be avoided in the developing countries. The second reason is connected with the rapid changes in the relative importance of these specialist disciplines. The success of the outpatient treatment of tuberculosis has led to the conversion of former sanatoria into establishments for respiratory diseases or even into homes for invalids. New concepts in psychiatry have led to a substantial reduction in the proportion of beds for mental patients in a given population, and hence to low utilization of the beds available in the traditional psychiatric hospitals. These important changes have occurred within one decade in the developed countries.

There is therefore a tendency to avoid autonomous medical care establishments and to make provision for their coordination and even integration by including them all in the legislation on medical care. Here again, problems of staffing, financing, and planning make integration desirable.

The problem of medical research is particularly difficult to solve. For one thing, it is unfair to include expenditure on research in the budgets of medical care establishments and to have the cost borne by patients and by sickness insurance funds that were not set up for that purpose. Moreover, medical research is conducted not only in the laboratories of universities and pharmaceutical companies but also in medical care establishments.

The perfection of a new method of therapy requires trials on patients in a large number of establishments. In the developed countries research is for practical purposes divided into two parts. Schematically, basic research is a matter for the universities, while applied research is conducted by the pharmaceutical companies and the hospitals. However, this latter type of research may be subsidized by the universities and the pharmaceutical companies in cases where they request the collaboration of hospital physicians. The need to coordinate this complex structure and to prevent similar research projects from being undertaken simultaneously in several departments that are unaware of each other's activities has led some of the developed countries to set up a national medical research centre, which may be autonomous or may form part of a scientific research centre. If this centre is also responsible for drug control and other practical tasks, the developing countries may plan to set one up at an early stage in the organization of their health system. Here again legal provisions are needed.

(d) Social security

The role of social security in the financing of medical care institutions has been stressed on several occasions. It is inevitable that the social security system should be called upon to play an important part in the planning and operation of these services. However, it is necessary to be aware that there is a natural tendency for mutual benefit societies or sickness insurance funds to organize medical care services for their own members only since their budgets are derived from contributions levied on the salaries of those who are members. This tendency entails a danger that a dual system of medical care will develop - one system for the insured and another for the poor - which would be in constant imbalance because of the economic development that increased the proportion of wage-earners. In addition, the ability of the sickness insurance funds to offer better conditions of work and remuneration, creates the conditions for a "brain drain" at the expense of the public sector.
It is therefore of the utmost importance that there should be legislation enabling the government to coordinate social assistance and social insurance services and fix their respective responsibilities in the financing of a single system of medical care. The principle is to prohibit the funds from setting up an independent system and to secure their financial contribution to the care provided for their members in public or private establishments that form part of a system coordinated, planned, and controlled by the state. Whether the facilities provided for the socially insured are more comfortable than those for the poor is a secondary matter determined by convention and by the individual situation in the departments set aside for them.

It should also be noted that social security is not a compulsory stage in the development of a country's social services. On the one hand, a government right from the start may set up a national health service covering all citizens and financing all medical care expenditure from general and local taxes. On the other hand, this national health service may form the final stage of a development that begins with the setting up of local mutual benefit societies, continues with the merging of these societies and their extension to all types of wage-earners and even to self-employed workers, and concludes with coverage for the entire population. In any case legislation is required to guide this development and to define its successive stages. There may be regulations specifying the proportion of the annual budget or of the hospital day-charge that the sickness insurance funds are obliged to contribute, the procedures for supervising patients' length of stay and the quality of care, the remuneration of physicians, and other minor matters.

Section 7: The Planning of Medical Care
Institutions and Establishments

There are two aspects to the planning of health services: systemic planning, which is concerned with the structure of institutions and of their administration, and, physical planning, which is concerned with architecture, town planning, and the engineering of establishments.

(a) Systemic planning

This operation is the responsibility of the central authorities, which must decide on the way of applying the concept of regionalization, the distribution of establishments throughout the country, the number of hospital beds, the activities of the outpatient and preventive services, the size of the rehabilitation services, the staff necessary, the construction cost, foreseeable operating expenditure, and methods of financing.

Systemic planning consists of a series of studies corresponding to the stages necessary to ensure that it is practical and effective. The stages are as follows:

(1) compilation of a list of existing institutions, with the number of establishments, the number of beds per speciality, the number and characteristics of major items of equipment, the personnel of various categories, operating budgets, etc.;
(2) statistics on internal activities and utilization by the population. These statistics have two complementary aspects. On the one hand they cover the work of the clinical and outpatient departments and the medico-technical services, and, on the other hand, the use that the population served makes of these services, generally expressed as indices: admissions or discharges per 1000 inhabitants per year, hospitalization days per head, visits or consultations per head per year (subdivided into first consultations and subsequent consultations);
(3) morbidity and mortality studies to define the priorities and broad outlines of health policy;

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This term refers to the analysis, structuration, and evaluation of systems composed of institutions and establishments.
(4) the opinions of the regional and local authorities, expressing the needs felt by
the various population groups.

These studies should be carried out for each country and even for each region of the same
country since it is very difficult to apply to one country the results obtained for other
countries. Thus, recent studies show that, in countries where economic development is still
fairly low, it is the adults who request medical care for accidents and for acute and generally
serious diseases. Sick children and old people are rarely hospitalized, either because the
seriousness of their condition is not recognized or because the waiting period for admission to
hospital is too long, or because the mainly rural populations are traditionally resigned to a
high mortality rate in these age-groups. In the developed countries, on the other hand, the
chief consumers of medical care are children under 1 year of age and old people over 60 years.
It is clear that systemic planning should take these facts into account in accordance with the
development of the standard of living and the economic conditions leading to deep-seated
changes in the structure of the system of medical care.

The importance of medical and vocational rehabilitation varies in different countries
since it depends on the employment situation. Countries where manpower is in short supply
pay more attention to the rehabilitation of the injured and victims of occupational accidents
than countries where there is a high proportion of unemployed ready to fill the gaps left by
the disabled.

(b) Physical planning

This develops from the concrete application of the definition of local, intermediate,
regional or specialized functions referred to under the heading "Classification", section 2,
(p. 24). The preparation of architectural plans and engineering projects for any large
establishment should be preceded by a functional programming study to define the place of the
establishment within the regional framework and the functions of its main sections: departments
of internal medicine, surgery, obstetrics, paediatrics, other specialties, medico-technical
services (surgical block, radiology unit, laboratory), and central services (kitchens, laundry,
disinfection unit, etc.).

Regulations should be framed requiring the directors and management board - where one
exists - to draw up a functional programme for approval by the supervisory authorities. This
will be the basic document used by the architect in preparing the various stages of his plans:
master plan, preliminary plans, final plans, large-scale building plans. Each stage should be
approved so as to prevent last-minute rejection of the detailed plans, which are particularly
expensive to draw up.

The functional programme is a written document which may include sketches and graphs
showing the interrelationships of the different parts of the hospital or the health centre.
It should not, however, include spacial plans that might restrict the architect's freedom
in designing. The master plan is the optimized interpretation of the programme in terms of
space, taking into consideration the available site and desirable orientation in connexion with
climatic conditions. The preliminary plan is a small-scale plan showing the internal
distribution of departments. The final and working plans give all the constructional details
for the contractor to realize.

The preparation of programmes and plans is the responsibility of the owners of the
establishments, which may be public institutions, local, regional or national hospitals, or
private institutions, voluntary or commercial. In some countries, the government services are
in charge of these works.

In all cases, dissemination of standards and technical requirements applicable to all
establishments playing a role, even a marginal one, in health policy is of great importance as
a guide for those responsible for the preparation of programmes and plans. These standards and
approved technical requirements may be purely advisory, or be constraining according to prevailing administrative patterns.

The government may, but not necessarily, go a step further in taking the view that it is worthwhile to disseminate standard plans for small hospitals and local health centres, so that these could be built as a uniform series instead of each one being designed separately. It is very difficult to draw up standard plans for large establishments on account of the constraints arising from the area of land available, its climatic exposure and location in relation to the town, and the different types of function fulfilled by such establishments. However, several developed countries have adopted documents published by the ministry of health proposing standard plans and designs for the main components of large hospitals such as the clinical wards, outpatient clinics, and surgical block. Government subsidies may depend on the way in which the architect and engineer follow the government's specifications and standard plans.

The importance of standard plans for the components of large hospitals and for small hospitals has increased since industry began manufacturing equipment and furniture to standardized dimensions. This applies to hospital beds, laboratory benches, radiology equipment and other instruments that are readily used in premises built to a base module such as 0.60 or 1.20 metres. It is recognized that modular construction is less expensive and above all easier to adapt to new needs and to changes in function of the premises. Admittedly, many developing countries do not have a construction programme and industries large enough to justify prefabricated building components. However, the module principle, i.e., the adoption of a single unit of measurement for the entire building, can be applied using local resources and traditional building methods. There is still the advantage of adaptability, and that is a major argument in its favour.

Finally, there should be legislation specifying the administrative and technical procedures for the preparation and approval of projects, from the original master plan, via the preliminary plan and the intermediate-scale plans, down to the final building plans. These plans should of course be accompanied by specifications and estimates, i.e., documents explaining the building procedures and the type of materials employed, on the one hand, and the construction cost of each part of the project, on the other hand. Here again the government may distribute standard specifications so as to keep the cost of projects within the limits laid down in the long-term plans. When the cost of a project is important, it is strongly recommended that the government office in charge of controlling, and possibly establishing, functional programmes and plans should be attached to the ministry of health and become one of its specialized offices.

Section 8: The Medical Profession

In the developed countries the medical profession is an institution that should, like many others, be protected and organized through suitable legislation. The developing countries that have schools or faculties of medicine and where the number of physicians is increasing rapidly have to deal with the same problems.

In some countries the medical profession has its own organization and settles its own problems without state intervention. Such corporate systems take the form of associations, national federations, professional bodies, or unions. There are, however, several points of contact between the medical profession and the government and social authorities.

(a) Presence of parallel systems of medicine

Generally speaking, the medical profession claims the exclusive right to carry out diagnostic and therapeutic activities and demands that this right be withheld from traditional healers and other practitioners who do not hold a diploma in medicine awarded by a school or faculty recognized by the government. A law is therefore needed to confer this privilege upon qualified physicians. However, it is inevitable that some diagnostic and therapeutic services
will be provided by assistants, auxiliaries, nurses, or midwives. This is a problem for all countries, but particularly the developing countries. There should therefore be regulations specifying the acts that can be performed by members of allied professions, either under the authority and responsibility of a physician or independently. In most cases such acts are delivered to ambulatory patients in peripheral health establishments.

In many developing countries the status of practitioners of traditional medicine has not been precisely established and this may result in arbitrary and contradictory decisions. Where the number of physicians is clearly inadequate and the practitioners of traditional medicine exercise a prescientific art that has been handed down to them, the status and functions of these practitioners should be specified, and legislation may be introduced to provide for their gradual integration as health auxiliaries. However, they should have received a brief training in the basic principles of health care.

(b) Conditions for the practice of medicine

In the interests of patients and to safeguard the dignity of the profession there are ethical rules governing the practice of medicine, interprofessional relationships and relationships between physicians and patients. These rules should make it possible to settle disputes arising with patients or between physicians and should govern professional relationships with the public authorities and social security agencies. In several developed countries these rules are codified in the form of a "law of medical ethics". This law primarily deals with:

(1) relations between physicians, including the possibility of associating in group practices;
(2) problems associated with medical confidentiality, freedom of choice in patient/physician relationships, freedom of the physician to select appropriate therapy for his patient, financial matters;
(3) the qualification of specialists and the scope of their activities.

(c) The medical profession in relation to hospitals and other health care establishments

This has been examined in an earlier section (p. 26) but three specific aspects may arise:

(1) the possibility of full-time hospital physicians continuing part-time activities privately, either outside working hours or in hospital wards set aside for private and paying patients;
(2) the possibility of part-time practice in the hospital, as an assistant or senior physician or as a consultant specialist;
(3) the participation of physicians in preventive medicine, which presupposes their remuneration by the public authorities and suitable arrangements regarding medical confidentiality that will make it possible to draw up the health statistics essential for planning.

Section 9: The Allied Health Professions

Comparable problems of employment arise with regard to the nursing profession, assistant and auxiliary physicians, and laboratory, electroradiology and physiotherapy technicians. Legislative provisions are needed to ensure a fair distribution of staff and to balance the status of these staff in the different public and private medical care establishments.
4. TENTATIVE APPLICATION TO THE DEVELOPING COUNTRIES

The circumstances in which medical care institutions develop and the obstacles they may encounter is analysed in the first part of this study and theoretical legislation on medical care broadly outlined in part 3. It is now necessary to examine the stages through which the developing countries have to pass to provide themselves with an effective legislative and administrative framework. One cardinal prerequisite must be pointed out: legislation should not be promulgated unless the means for implementing it are available. In view of the initial weakness of the administrative framework in many developing countries, it is necessary to prepare legislation in successive stages.

**Embodiment in the Constitution of the State's Responsibility for Public Health**

A country's constitution serves as a frame of reference for all written legislation, which should be in accordance with the stated principles. Some constitutions do not mention the citizen's right to health protection and promotion. However, other constitutions lay down the principle of state responsibility for the organization of health and social protection services, which establishes a solid legal basis for the laws and decrees on medical care prepared by the ministry of health.

Apart from the principle of state responsibility, it is desirable that the constitution should entrust the organization and planning of public health institutions to the state while allowing for the possible transfer of these functions to special agencies.

**Promulgation of an Outline Law**

As long as the developing countries are unable to assemble sufficient resources to provide the majority of the population with medical care, there is no point in their promulgating detailed legislation that cannot be implemented for several decades. However, in order to avoid the chaotic and uncoordinated development that may occur if there is no legislation at all, an outline law should be promulgated as soon as possible.

Take as an example a country with public hospitals directly run by the central government, a few private hospitals of various kinds, and a certain number of physicians. The overall potential for medical care in this country does not exceed 1 hospital bed per 1000 inhabitants and 1 physician per 5000 inhabitants. There is a ministry of health with responsibility for the health services, but its functions do not extend either to the education and training of medical personnel or to sickness insurance and labour problems. This ministry is responsible for preparing an outline law on the organization of the medical care services and for submitting this law to the other ministries and to the legislative assembly. The text of this outline law may be brief and restricted to the settlement of a number of points.

(a) Definition of the functions of the two main medical care institutions: the hospitals and the medical profession

This definition will establish the following principles:

1. the obligation of the establishments and the medical profession to meet urgent requests for medical care;
2. the integration of secondary prevention, curative medicine, and rehabilitation for individuals (personal medical care);
3. utilization of hospital premises for primary prevention and hygiene activities.

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As in earlier parts of this study, the term "outline law" refers to the law itself and the decrees implementing it.
(b) **Affirmation of the unity of the system of health care**

Health care should constitute a unified system subject to planning and control by the ministry of health. It may comprise several sectors: public, voluntary private and commercial private. However, the setting-up of each establishment and the functions it should fulfil must be submitted for approval to the government health services. National planning of the health sector and its relationships with the other socioeconomic sectors is essential for raising the level of population welfare and productivity. Improvements in water supply, transportation, agriculture, sanitation and education have direct influence on the level of health.

A special paragraph in the outline law may be devoted to medical care establishments of the ministries of defence and justice, which provide care for military personnel and prisoners, respectively. Although these establishments are usually under the supervision of the respective ministries, the possibility of setting up mixed civil and military hospitals to be administered in accordance with agreements between the competent authorities may be provided for in the outline law.

It is very important to assert the unified character of the health care system before large mutual benefit societies and sickness insurance schemes are organized in order to avoid the creation of parallel networks, the drawbacks of which are outlined above. However, the wording of the law may merely state the need for prior permission to operate within the framework of a general plan. It sometimes happens that mutual benefit societies or sickness insurance schemes have funds available to invest in medical care establishments; this possibility should not be overlooked. Moreover, it is possible to imagine the case of, say, a mining district or a heavily industrialized area where the majority of the population is made up of workers (with their dependants) compulsorily covered by a sickness insurance scheme organized by the main employers in the district. In this case the sickness insurance fund, as a corporate body, may be authorized to set up and run medical care establishments for its participants. An agreement may be drawn up with the health authorities to ensure that the minority of the population living in the district, consisting of self-employed craftsmen and uninsured persons who are not directly employed by the big companies, can be admitted to the medical care establishments and that the costs, if these patients cannot pay for themselves, are borne by the government's social assistance budget.

Conversely, in district where workers earning regular wages and covered by insurance schemes are in the minority, the medical care establishments organized by the public authorities must accept insured individuals at the sickness fund's expense. In exceptional cases the social insurance agencies may be authorized to set up and run special establishments such as medical and occupational health rehabilitation centres, which are a priority need in industrial sectors including mining areas, large construction sites, centres of heavy and electrical engineering, and the railways. However, these exceptions must remain special cases subject to individual decisions, and should not constitute precedents.

(c) **Administrative structure**

In the developing countries it is often necessary to keep a high concentration of executive powers at the central level because of the limited number of competent officials to whom responsibilities can be delegated. However, this situation should change in the future when more officials and administrators have been trained.

In any case, it is of the utmost importance that the structure of the health administration and the medical care institutions should be comparable with that of the general administration. Often the organization of the health services does not run parallel with that of other sectors such as education or the administration of local communities. The result is that the health services have only a vertical structure and lack horizontal relationships with representatives of other socioeconomic sectors at the same level, whether local or regional. When this
happens the health services function in a vacuum, which jeopardizes their effectiveness and development. This point is particularly important with regard to planning. If an administrator of medical services is content to send proposals for the development of his services to a higher authority without first informing other colleagues at the same level and obtaining their tacit approval, his proposals will inevitably be confronted with other proposals at some time during their examination by the authorities responsible for the socioeconomic plan and may not enjoy the priority they deserve.

It is therefore a good idea to model the pattern of hospital administration on that of the general administration, decentralizing the executive powers to the extent that current circumstances permit. In some countries where a federal structure has been established under the constitution, decentralization of powers to the constituent states is a legal requirement. Nevertheless, the federal ministry of health should retain the powers of promulgating general legislation and of planning based on homogeneous and comparable statistics.

The administration of medical services in the developing countries may in the course of time pass through the following stages:

First stage. Public hospital establishments should all be under the supervision of the ministry of health, which should retain the powers of control and management as long as decentralization remains impracticable. However, the ministry must receive information on the requests of regions and districts so that it can adjust its plans to different regional conditions. Consequently, it is important to set up as soon as possible regional committees with advisory powers, forming intermediate stages for the movement of information between the local establishments and the central authorities. Such exchanges of information should take place in both directions; reports and proposals from the periphery and instructions and directives from the ministry. At this stage ministerial decrees will assign supervisory and decision-making powers to the central administration and will set up regional advisory boards whose opinions must be taken into account by the ministry in drawing up the annual plan (including preparation of the national budget) and long-term plans. The composition of these regional boards varies according to the country and its political structure, but they generally include representatives of the government authorities, the directors of health services, and leading local citizens, mayors, and individuals elected or designated by the government.

Second stage. When the administrative services are well supplied with competent staff and it is possible to set up regional services capable of accepting responsibilities it is recommended that certain executive powers should be transferred to the latter, i.e., powers concerning the administration of establishments, the preparation and spending of the budget, and the appointment of unqualified or auxiliary staff. At this stage the ministry remains responsible for general supervision, the drafting and promulgation of laws and regulations, financial controls, the appointment of managerial staff, and planning. It entrusts responsibility for management to the regional boards, which are themselves advised and supervised by the regional health directors (representing the minister at the regional level).

Third stage. A few years later the development of the system of health care leads to the creation of a large number of establishments and to increases in their staffs and budgets. It becomes difficult to run all these establishments directly from the regional boards, and there is a danger of management becoming cumbersome and inflexible. The recommendation is then to decentralize still further the daily management of establishments and to set up in each large establishment an administrative management assisted by an advisory board composed of physicians and leading local citizens. Where sickness insurance schemes cover a certain proportion of the population their administrations may be represented on the regional boards and, if appropriate, on the district boards.

Fourth stage. When the country has reached a high degree of development the regional boards may be granted extensive executive powers and given the tasks of preparing the budget for the establishments and of collecting the information needed for planning and evaluation.
However, it seems preferable to stop decentralization at the regional level, without going so far as to confer executive powers and a very wide measure of autonomy on the administrations of the establishments themselves. Indeed, in the developed countries, where the autonomy of hospitals has its roots in the past, some contemporary governments are endeavouring to reduce this autonomy. However, exceptions may be considered for large cities, where it may be possible to establish a health administration for the hospitals and outpatient services with powers comparable to those of the regions. The health administration should however correspond exactly to the general administration.

It is appropriate to stress once again the importance of ensuring that the administrative organization for medical care, and health care in general, corresponds to the organization of the other public service sectors. It is essential that the medical care services should, at each level, be supported by the corresponding elements of the general administration and should not merely be links in a vertical chain that is attached at the top but hangs free at the bottom. Horizontal connections simplify and speed up administrative procedures. When the central health authorities can entrust some of the supervision of staff and expenditure to the regional level of the general administration, which is empowered to carry out these tasks for other public service sectors, earlier and more flexible decentralization becomes possible.

(d) **Hospital management**

Another concrete problem to be settled by regulations concerns the qualifications of the person entrusted with the authority to manage the regional or district hospital group: whether he should be medically qualified or a lay administrator. However this may be, efforts must be made to avoid competition between the administration of medical care and that of hygiene and primary prevention. Experience has shown that the dual system prevalent in many developed countries since the start of the century has led, on the one hand, to the isolation of medical care establishments devoted solely to curative medicine, and, on the other hand, to inadequate development of the hygiene and prevention services. The integration recommended by WHO results in a single health management with jurisdiction over the hospitals, outpatient services, and the prevention and hygiene services.

It seems, therefore, that the director of health services, first at the regional level and subsequently at the district level, should be delegated executive powers by the central authorities. He should act as rapporteur and secretary to the various committees at his own level: one committee for medical care, one for hygiene and sanitation measures, and yet another for primary and secondary prevention programmes on behalf of individuals. In these circumstances health care establishments, particularly hospitals, lose some of their autonomy and become health services on the same level as the other health services. There is then no longer any difficulty in integrating the prevention and curative services in accordance with the plan decided on at ministerial level.

(e) **Financing of medical care institutions**

This is a crucial problem for the developing countries, and its solution governs the solution of most other health and social problems. As explained earlier (p. 27) in most countries with a market economy, whether developed or developing countries, the government takes 25-35% of the gross national product (GNP) for the budget and the minister of health receives 1.25-2.64% of the GNP. Since total health expenditure amounts to about 6% of the GNP it is very difficult to finance a national health service in which all expenditure is covered by the state. In the developing countries where most of the expenditure for public establishments is paid from state funds, a series of expedients are used to make good the deficit. Efforts may be made to collect payments from some patients, or else families of patients may be given the task of providing their food and sometimes of obtaining expensive drugs on the free market. These practices endanger the effectiveness of the establishments and should be abandoned and replaced by more valid procedures. It is sometimes possible to have part of the cost of medical care met by the local authorities, where they are authorized
to levy taxes, and by some form of social insurance. It is also possible to finance the sickness insurance scheme by means of a special tax: not a flat rate compulsorily withheld from wages alone but a levy on all income.

The first prerequisite for establishing the financing of medical care services on a rational and effective basis is to determine the level of expenditure, to analyse it, and to compare the budgets of different establishments. Many developing countries have not yet applied modern accounting methods. It is therefore an urgent task for the legislators to promulgate legislation applicable to all medical care establishments in order to determine, e.g., the true cost of a hospital day per patient, the average cost of selected conditions (product of the day cost and the average length of stay), and the average cost of an outpatient consultation, and to calculate the annual budget and its various components on the basis of statistics on activities and on the utilization of medical care facilities by the population. These operations, which have become routine in the developed countries, are rarely carried out in the developing countries. In the latter the annual budget is either arbitrarily fixed, generally well below minimum needs, or there is a system of allotments in kind for each establishment, not shown in the accounts, which prevents any comparison and leaves the administrators unaware of the cost of the services they are managing.

The section of the outline law concerning financing should then list the possible sources of funds and the procedures for invoicing and collecting the amounts due from the various agencies that cover the expenditure for medical care incurred by their members. Two procedures are current:

(1) the annual budget is shared among the paying agencies in proportion to the number of members of each agency;
(2) the patient-day charge is billed to the paying agencies for each patient treated in the establishment.

It is generally accepted that the second procedure may lead to abuses in connexion with the average length of stay since the real cost of treating a patient generally decreases as his condition improves. The true budgetary unit should be the average cost of the given condition, which would encourage health authorities to develop preventive activities and to improve the effectiveness of hospitals and outpatient services.

The aim of the legislator is to ensure that the cost of medical care corresponds to the fair price for effective treatment and the patient's speediest possible return to working life.

(f) Use of hospitals for teaching and training purposes

The outline law should also lay down the principles for using hospitals for the teaching of medicine and the training of personnel in the allied professions. The relevant articles should be drafted by agreement with the ministry of national education where the latter is responsible for the teaching of these categories of staff. It is normal for the ministry of national education to contribute financially to the expenses incurred by hospital establishments for teaching and, in some cases, research.

(g) Responsibility for planning

Finally, the outline law should lay down the government's responsibility for systemic and physical planning and should provide for the publication of standards and norms for public hospitals and licensing requirements for private establishments.

Overall socioeconomic planning may be the responsibility of a planning ministry or of a high commission attached to the prime minister's office or to the department of finance and economic affairs. In such cases the planning services of the ministry of health prepare a draft plan, which is submitted to the competent agency. The outline law can only indicate the
existence of that agency, but it is very important that the representatives of the ministry of health should be involved in planning at a high level.

Another possible arrangement is that the long-term plan is drawn up in broad outline by the ministry or the high commission for planning and submitted to the legislative body as an overall finance law covering all socioeconomic activity, but the publication of implementing decrees and the supervision of the achievement of the annual targets are entrusted to the ministry of health.

The legislative document may be a brief text of 20 or 30 paragraphs confined to the statement of principles. Many detailed provisions will have to be laid down subsequently in decrees and other regulations, which allow greater flexibility. It is important not to jeopardize the system of medical care by legislation that is too detailed and rigid and cannot be modified except by amendments and partial repeal, requiring renewed submission of the legislation to the legislative assembly and to other ministries. The developing countries that have no legislation on medical care should prepare an outline law laying down the principles and leaving the ministry of health with the responsibility of preparing and issuing implementing legislation, taking into account changing circumstances.

**Law on the Organization of Public Health**

When the situation permits the minister of health may proceed further with the coordination of medical care institutions and with the integration of preventive and curative medicine. In this case the outline law on the organization of medical care may be replaced by a law on the general organization of health activities in which the principles governing medical care occupy one section, while other sections are concerned with public health, primary prevention, and health protection and promotion. This occurs when medical care establishments can be nationalized and can form an integral part of a national health service.

The standard outline law on the organization of public health consists of virtually the same sections. However, the problem of financing is shifted from the level of the medical care establishments to that of the regional and central health authorities. Moreover, the participation of hospitals in preventive medicine is more direct and straightforward.

When labour and social security are the responsibility of a different ministry, and when the ministry of national education is responsible for the teaching of the medical professions, coordination with public health is more difficult. It still has to be established, but there is a danger of the legislative apparatus becoming more cumbersome and complicated because the law on public health becomes an interministerial document that must be signed by several ministers. In some countries, nevertheless, this does not constitute a serious obstacle when laws are signed by the prime minister, the president, or the sovereign after consultation with, or approval of, parliament.

**Organization of Health Services as Part of Social Legislation**

The task of the legislator cannot be restricted to drafting laws and decrees that relate only to a single social sector, however important that sector may be. He must consider all the sectors involved and the influences of the socioeconomic sectors on one another. Stress has already been laid on the need to consider the organization of medical care within a broader framework and to study its relationships with two other social sectors of equal importance:

1. the education and training of health personnel;

2. social insurance and welfare.

If health problems are dealt with by a ministry of social affairs that is also responsible for other social sectors, the basic legal text may become much broader in scope; it is
therefore recommended that a joint service for health, labour, and social security should be set up to be responsible also for the professional education of health personnel. The legislator can then draft a general outline law establishing a harmonious system covering social affairs, of which public health is an integral part. A solution of this kind is not always possible, but it must be pointed out that some developed countries have adopted an intermediate solution between the integrated conception of social affairs and the existence of separate ministries of health and social security. This solution splits social security into two sections:

(1) the agency responsible for benefits in kind, i.e., the coverage of medical expenses (sickness insurance proper);

(2) the agency responsible for benefits in cash, i.e., disability pensions, financial compensation for wages lost through disease, old age pensions and allowances of all kinds (unemployment benefits, housing allowances, death benefits, etc.).

The first section, which finances all or part of medical care, is attached to the ministry of public health; the second section comes under the ministry of labour. Thus the ministry of health obtains the financial resources needed to operate and develop the medical care services from two budgets: the state budget and the sickness insurance budget. However, the fact that the ministry of health also administers the social assistance budget covering expenditure on care provided for the poor and for uninsured workers may lead it to have the sickness insurance budget paid out of tax revenue in order to simplify accounting operations by unifying the sources of funds. This is another way of approaching a national health service, which presupposes that a higher proportion of the national budget is allocated to the ministry of health.

In this kind of development, which leads the medical care services from a primitive assistance stage with a few charitable establishments towards a complex and coordinated structure of high economic efficiency, the role of the legislator is to prepare decrees implementing the basic law in the light of economic and social development. When the outline law becomes inadequate it should be amended or repealed and replaced by a law that is closer to the theoretical model suggested in the third part of this study (p. 21).

It is impossible to describe an ideal and single development process since this depends on the economic and political conditions of each country. No attempt is made here to suggest a universal model; rather, the components of possible legislation are set out.

CONCLUSIONS

The developed countries, which have had social and medical services for several centuries, have been compelled to promulgate laws to bring order into a situation characterized by the great variety in legal ownership of medical care institutions. Since the start of the twentieth century the introduction of social security systems and the specialization of medical disciplines have created new problems such as meeting increasingly high expenditure and regionalizing health services. The developed countries have had to improve their legislation continually and adapt it to new ideas and situations. Practically all the hospital laws in the developed countries have been recast during the last 25 years, and some countries have thoroughly revised their legislative and administrative structures for health and medical care during the last five years. Nevertheless, the past and tradition still carry great weight, which is why health legislations differ from each other, even though it is possible to describe major types of legislation corresponding to groups of countries with comparable cultural and political structures.

The major types of legislation are, however, tending to converge, so that it is possible to depict in broad outline a general legislative framework, the principles of which could be applied in practically all situations. This general law is put forward for the consideration of governments in the developing countries which have not had the opportunity to provide themselves with legislation on the organization of medical care. Economic development in the
developing countries, particularly in those that have a market economy, is leading them along the path that has been taken by the developed countries since the start of the industrial revolution. This development, which in some sectors is proceeding at a very fast pace, tends to lead to the creation of many types of medical care establishments and to aggravate the lack of coordination; in some circumstances this could produce deterioration of the public health sector through the uncontrolled proliferation of private commercial institutions. Very great differences may then appear between the means available to the different social classes for medical care.

The way to mitigate this danger is to promulgate legislation fixing the status, administrative structure, and functions of medical care institutions. Such legislation must be coordinated with parallel action by the government relating to the other social institutions. Regulations on the organization of medical care may therefore form part of a broader law on the organization of public health in general and may even be integrated into an outline law covering all social institutions of which health is an integral part.

Legal provisions must, however, be implemented, and this presupposes that competent administrators will be trained and adequate administrative machinery set up. The developing countries will therefore have to proceed in stages, starting with an outline law followed by more detailed decrees covering specific problems.

The purpose of social legislation is to improve the population's living conditions, to ensure that as far as possible all citizens enjoy equal rights, and to give every citizen access to health services of good quality. This legislation places restraints only on individuals who seek to benefit from the lack of regulations.

Developing countries should therefore develop a legal and administrative framework in order to make the most effective use of the limited resources of personnel and funds, avoiding the individualistic development of rival sectors, which may worsen the disparities between different regions and social classes.

In the first of this series of publications on health facilities for the developing countries the need for sound legislative and administrative structures is stressed since these structures condition all actions and decisions concerned with the planning, operation, and effectiveness of the facilities.

It must not be forgotten that legislation, which constitutes a frequent point of reference for all those concerned with the planning, design, administration, financing, and utilization of services, is the expression of majority public opinion at a given moment in the history of a society. Its task is partly to provide guidance and to prevent abuses but its essential role is to offer the most effective means of ensuring the wellbeing and material and intellectual advancement of the population.
THE ROLE AREA-WIDE PLANNING AND FUNCTIONAL PROGRAMMING IN THE PLANNING PROCESS FOR MEDICAL CARE

Marian W. Miskiewicz  

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1. ORGANIZATIONAL BASIS

Only medical care that is easily accessible to the individual, and thus to the community at large, can fulfil its basic tasks, i.e., disease prevention, early diagnosis, restoration of health, and alleviation of disability effects. In spite of differences in individual countries in the scope and delivery of health services, the organizational forms of medical care are similar and include in general domiciliary care, emergency care, ambulatory care, and hospital and other institutional care. Differences in degree of development of the health services system and in the system's structural or functional transformations are the result of the political, economic, social, and cultural conditions prevailing in various countries.

As a rule groups and institutions participating in the delivery of health services should be coordinated into an organizational and functional system. This concept covers services considered both horizontally (i.e., institutions delivering primary, secondary, and tertiary care\(^{1}\) to the population of a defined area, e.g., district or province) and vertically (i.e., organizations coordinated from one level to another, e.g., national-regional-local, in order to discharge a definite, problem-oriented function such as control of communicable diseases or provision of geriatric care).

Complex and organizationally uniform medical care tends towards integration of necessary elements to form a unified structure. This applies to both planning activities and services. While coordination permits the combination of plans, programmes and certain activities into a whole, integration also provides possibilities for joint administration.

In integrated medical care, services are largely regionalized. This requires the establishment of administrative and technical machinery to build, operate, and control the medical care facilities network designed for a particular geographical area, as well as the determination of the scope and range of activities for each facility. This entails, on the one hand, spreading of front-line facilities and, on the other hand, concentration of the more specialized facilities.

2. PRINCIPLES OF AREA-WIDE PLANNING

In order to achieve and put into operation the organizational structure outlined above it is necessary to formulate plans encompassing a whole area, whether at the central, regional, or intermediate level. Such plans will aim at ensuring both wide accessibility of basic services and concentration of some specialized services to achieve optimal use of all available national resources over a given period for improvement of health status of the population. Area-wide planning for medical care facilities is the part of health care planning that aims at the most effective distribution of facilities to provide complex medical care.

Area-wide planning should comprise, especially for coordinated or integrated medical care, all facilities required for a given geographical area in accordance with the health service system adopted. It should also be coordinated with town and country planning to ensure rational allocation of facilities with regard to the size and character of the area and its geographical situation; the settlement structure, distance to, and time needed to reach, the facilities; and other such conditions particular to the area considered. In many countries, town and country planning is the starting point for national or regional development plans. Location of medical care facilities should take environmental conditions into consideration for the protection of both the facilities and the environment.

\(^{1}\) Primary health care consists of basic curative care (simple diagnosis and treatment, referral of complex cases to a higher level), preventive care, and essential educational measures; secondary care comprises the care provided through specialized services on referral from primary care services; tertiary care includes highly specialized services such as those for plastic surgery, neurosurgery, and heart surgery.
It can be assumed that, irrespective of the political system and the degree of socioeconomic development of a country, the health services system comprises at least three levels of facilities:

1. Peripheral facilities delivering primary care, whether in rural or urban areas;
2. Intermediate facilities, which provide complex medical care in their own area and are used as referral centres by neighbouring areas lacking such facilities;
3. Central facilities rendering highly specialized services.

Finally, a large town should, in principle, have peripheral health facilities for front-line medical care, general hospitals for intermediate care, and specialized centres for selected cases. However, the dynamic aspects of medical disciplines should be taken into consideration since there is a continual two-way process of regrouping and multiplication, and the plan should be flexible enough to adapt to the continual changes in medical science (such as the shift from institutional to ambulatory or even preventive care for tuberculosis). Therefore, the whole network of health care facilities should permit dynamic evolution of the balance between peripheral, intermediate, and specialized care.

Progressive concentration of resources in the secondary and tertiary facilities takes on two apparently contrasting aspects. At the lower levels, relatively unspecialized facilities are found (e.g., health centres and intermediate hospitals). At a higher level complex facilities will house specialized departments encompassing the whole range of health care activities (medical and social; somatic and mental; preventive, restorative, and rehabilitative) for various types of patient in need of both short-term and long-term care.

At a still higher level it is both more economical and more convenient not to house all services in the same building. Thus tertiary care and specialized services such as oncology or cardiology can be scattered throughout the urban area. Here, however, the individual facilities, even when under separate management, are still functionally interrelated.

3. FACTORS TO BE TAKEN INTO CONSIDERATION IN AREA-WIDE PLANNING

In undertaking area-wide planning for medical care facilities it is necessary first of all to collect information on available resources, main health problems, and geographical, socioeconomic, and administrative conditions in order to determine priorities. The final aim should be the progressive setting up of a network of institutions permitting comprehensive, promotive, preventive, curative, and rehabilitative medical care. Three main factors will have to be considered: manpower available, utilization of services, and sociopolitical conditions.

In area-wide planning the most important single factor is health manpower, numbers and types both available and projected, as this will determine the functions to be performed. Personnel must be allocated according to a soundly based scheme, and it is necessary both to provide the best possible working and living conditions for these personnel and to consider their attitudes and motivations in relation to the tasks to be performed.

A decision on the quantity, types, and sizes of facilities to be provided will be based essentially on an estimation of the extent to which the health services are utilized by the population. Numerous factors influence utilization, and one of the main prerequisites for area-wide planning is to investigate these factors.

The demands and expectations of the population must be taken into account at the planning stage. For example, when, as is often the case, consumers are especially conscious of the benefits they can expect from medical care, preventive activities should be provided for in medical care facilities. Thus when patients come to seek medical care, for whatever reason, they can also be offered health education and immunizations. On the other hand attitudes are often observed that reveal low motivation to look for medical care or point to lack of confidence in, or conviction about, the efficacy of certain medical activities such as prevention or rehabilitation. Attitudes of this kind are produced mainly by limited experience in utilization of health services, failure of medical care to meet consumers'
expectations, insufficient health education, or opposed religious convictions. Such factors may have a considerable influence on the utilization rate of facilities provided in a given area, especially in the initial period.

Area-wide planning also should not neglect financial considerations, which influence the utilization of medical care. For instance, health services provided free of charge encourage higher utilization rates; this must be reflected in the proposed sizes and types of facility, and structure of the network. Charging patients a fee for delivery of medical care causes reluctance to seek such care. This is observed mainly in poor countries but it also occurs in affluent communities when high fees charged for health services lead to a demand for essential care only, especially curative services. On the other hand, provision of free health services available, irrespective of when or where the perceived need occurs, may be a cause of medically unjustified over-utilization. In some countries where health services are free health authorities should be aware that patients may have to meet certain expenses (for transportation, medicaments, supplies, food, etc.) and they should try to avoid these "hidden" charges as far as possible.

The types and frequency of community contacts with preventive/curative care facilities can be influenced by various health or administrative policies that, for example, encourage people to utilize services for preventive purposes (such as mass campaigns against a prevalent disease) or aim to include defined patient groups in a planned care project where the frequency of contact is determined by the medical and nursing personnel.

In preparing an area-wide plan, consideration should be given to the physical accessibility of services. Attention to this important element will improve the utilization of medical care. In conjunction with the financial aspects of accessibility already discussed it ensures that health care is easily obtained. However, it is also important for the public to know how the health care system is organized and distributed and how it behaves in relation to those seeking care. Essential aspects of physical accessibility are the numbers, locations, and kinds of entry points into the system and the nature of the routes leading to medical care at various levels along which the patient moves, by his own initiative or through referral. Not only is it very desirable to have, for example, a relatively large number of entry points, but a clearly defined system of routes from the entry points into individual medical care facilities of the same or a higher organizational level is also essential.

Each member of the medical care facility staff has an important role with respect to the use made by patients of the health services since his attitude may either encourage or discourage utilization. The behaviour of the medical and auxiliary personnel is determined by various conditions. Among those producing a negative attitude are poor organization of the work, inadequate staff and equipment, professional dissatisfaction, lack of motivation, and absence of a clear indication of the social effectiveness of the care provided. Even where circumstances favor the accessibility of services the attitude of the staff can hamper patients' movements, unnecessarily prolong routes within the medical care facilities, and cause delays in meeting even simple health care demands.

Thus, for organizational reasons or because of the unhelpful attitude of the staff some health demands may not be met or they may be referred to another facility or needlessly transferred to a higher organizational level. Some personnel may have inadequate professional qualifications. This is often combined with lack of a sense of duty and of responsibility towards the patient, producing effects similar to those discussed above. For these reasons area-wide planners should be very careful to take into account all obstacles to accessibility since not only physical, but also organizational and behavioural, factors may cause unnecessary movements of patients or reluctance on the part of patients to use the services, thus influencing the level of utilization.

Every area-wide plan for medical care facilities should take into account the role of the local or higher level of public administration in the execution of the plan and the tasks it will have to carry out. In supporting the implementation of the plan, fully or partially, the public administration takes an active part in geographical planning and is interested in the progress of the project. Where the regionalization principle has been accepted medical care facilities will first of all meet the health needs of the population domiciled within the
defined administrative area. This is of increasing political and social importance for any administration because an area-wide plan for medical care facilities is more and more often one of the components of a general socioeconomic development plan in the particular catchment area (national, regional, or local).

It is essential to take account of public opinion, especially when utilization of the medical care facilities has developed and the community has grown accustomed to the availability of such facilities. The public usually reacts to changes in the network of medical care facilities and will often defend the status quo conditions even when the facilities are inefficient or inadequate for modern medical requirements. In such circumstances, since the public, the local authorities, and the planners designing the network may hold different opinions, compromise solutions are sometimes required before a plan is evolved. It is often useful to set up an advisory committee composed of representatives of all groups concerned with the proposed changes.

Extensive use should be made in area-wide planning of sociodemographic factors. For example, in long-term planning it is important to take into consideration foreseen population numbers by sex and age groups, migrations, and future changes in settlements or in family structure (coexistence with children, numbers of elderly people, employment of family members, etc.). Useful supplementary data include numbers of chronically (physically or mentally) handicapped persons, women's employment, and other information of local significance.

Health information systems, now used in most countries, often operate with data that are too indefinite to be used directly in area-wide planning for medical care facilities. However, statistical information or special monitoring data on infectious diseases and certain other conditions of epidemiological or social importance (such as malaria, tuberculosis, sexually transmitted diseases, malnutrition, or accidents) are usually satisfactory. Where specialized surveys, or at least analytical studies of medical records, have been undertaken, the statistical data might advantageously be used in the planning process.

It is especially useful to make comparisons of epidemiological data with information on the frequency and types of contact between patients and professional staff (i.e., consultations, treatment, diagnostic examinations). Such comparisons are meaningful only when the kinds and locations of medical care facilities used by the patients are known. For instance, the health care demands of two different communities under closely similar epidemiological circumstances may vary considerably. However, this variation might result merely from a difference in the availability of suitable health care. Where such comparisons have been completed, and the results applied in planning practice, the planning concepts produced have a sounder and more justifiable basis.

Statistical data on patient attendance are of great importance for assessing the activities of medical care facilities. For instance, in planning for ambulatory or domiciliary care facilities, data on patients' contacts with physicians, nurses, social workers, or diagnostic units in a given facility and for a population with defined characteristics will provide a yardstick for defining the expected monthly, daily, or hourly workload in a similar facility planned to serve a comparable community. The consequences of any observed differences should be evaluated and the findings reflected in the plan. Similarly, in planning for hospital care facilities use is made of data on inpatients (admission to, and discharge from, the hospital) relative to population size, average length of stay, annual bed occupancy rate, etc.

The statistical information referred to above is of even greater importance when it is correlated with the kinds of activity of a given facility, categories of patients, and types of disease treated. In addition to data reflecting the numbers and kinds of services delivered, information should be collected on the outstanding demand for services. This concerns numbers of patients waiting for appointments (with specialists for example), diagnostic procedures, surgical operations, prosthesis, admission to hospital, etc. Such information may be obtained from the waiting lists of the departments concerned.

Greater use is now being made of operational research techniques in area-wide planning for medical care facilities. This involves analysis of the workload of each facility, permitting.
accurate evaluation of activities performed and forecasting of the probable future demand. This approach also aids decision-making on the concentration or spreading out of medical care facilities and on their optimum size and structure.

An inventory should be made of the available resources and there should be a simultaneous assessment of their utilization since under- and over-utilization give rise to a misleading picture of the situation. The plan should respect and make the optimum use of existing resources. This is important not only for linking the old and the new, but also for modernizing and expanding facilities. In endeavouring to achieve rapid development and modernization of medical care facilities, existing facilities are sometimes unduly neglected and their usefulness for other health purposes is underestimated. Therefore, it is advisable to make a detailed inventory of all medical care facilities, to define their present activities, organizational and physical structure, and the value of the buildings and installations. Such a study would indicate whether the facility could continue to be used without modernization or expansion, or whether some remodelling to maintain or extend the existing functions should be undertaken. The study could also result in use of the facility for different types of health services.

These methods are of importance, especially where there is an obvious lack of facilities. Such a situation still prevails in most countries. Even in countries where a large hospital network is available, there is often a lack of beds for long-term care, convalescence, or medical rehabilitation. In countries where ambulatory care is still underdeveloped, provision of basic health care for the community must certainly take precedence over the provision of more complex facilities.

4. SCOPE OF AREA-WIDE PLANNING

Listing the types of facilities operating within the health services systems that should be included in the area-wide planning process is by no means an easy task. The situation differs to a certain extent in every country and is influenced by various factors such as the prevailing political, social, and economic systems, the specificity of development decisions, and development trends, taking into consideration traditions and ethnic and religious influences. The wishes of the community, the level at which initiatives are taken, the weight of social pressures, the views and opinions voiced by politicians, administrators, and members of the medical profession all have a great influence on the scope of area-wide planning.

Differences in the methods of financing medical care systems are of crucial importance in deciding on the numbers and types of facilities to be included in the area-wide planning. The effect of the plan could be considerably reduced if the costs of the health services are borne directly by the consumer without reimbursement or if various medical care facilities are operated by private profit-making organizations or by large industrial firms, trade unions, etc. In such cases, only partial integration of the facilities may be possible. The task of the planners is much easier when the financing of the medical care system comes mainly from the government or the social insurance system.

5. FUNCTIONAL PROGRAMMING

Irrespective of its level, whether country-wide, regional, or district, area-wide planning is the essential first step in preparing the next, more detailed stages of planning for a medical care facility or series of facilities. Functional programming denotes the collection and analysis of information on all medical care facility functions and required services, and the drawing of conclusions useful for the design. It follows that the functional programme specifies the aims, scope, and functions of the project.

A great deal of information relevant to these definitions should already have been collected during the area-wide planning process. Hence, the collected and analysed components of the plan may be utilized in functional programming.

Area-wide planning, extending to the whole country or to a large part of it, cannot, as a rule, go into details and a description of the functions of each individual facility is not included. In regional planning, when an immediate plan has been prepared, more detail is
given on medical care facilities, and data relating to smaller administrative areas forming the region are brought together and coordinated. Data concerning descriptions of functions, internal organizational structure, and catchment populations are especially important in this connexion.

In the area-wide planning for local health care facilities, for instance, statements might be found on the numbers, sizes, functions, and locations of individual peripheral facilities. For secondary medical care facilities, the services range and profile, manpower, numbers and types of premises, and locations might be included in the plan. Such a concrete plan would reduce the scope of functional programming, which would then take less time, thereby improving the entire capital investment process.

The observations above result from practical experience in countries where the process of area-wide planning has been developed. There is every reason to believe that action taken along these lines will promote comprehensiveness and coordination, both in area-wide planning and in functional programming. This by no means limits the role and importance of programming. Three important tasks of functional programming can be identified:

1. To define elementary (e.g., scrubbing up) and complex (e.g., preparations for surgical operations) functions as well as complete procedures (e.g., surgical operations from anaesthesia to recovery), and to describe all the different steps in each function and procedure. The reasons for this are explained below.

2. To explain the nature, scope, and forms of relationships between functional elements or groups of elements of a given facility, and to indicate where interactions occur and their extent. This may even entail clarifying the links between the facility under study and other facilities at the same or different levels.

3. To adjust the architectural design of the facility according to the aims, scope, basic functions, and location assigned to the facility in the area-wide plan.

Because a considerable time will elapse between adoption of the plan and the start of building, assumptions made in the area-wide plan have to be updated. Even the basic aim laid down for the facility may have to be brought up to date as a result of, for instance, changes in the incidence of diseases, adoption of a new policy for more active and differently oriented health protection for the population, or new developments in medical science.

Economic and social development, as well as progress in technology, have a bearing upon the functional contents of the projected facilities. As a rule, therefore, the architectural design is influenced by changes made in the original area-wide plan. In this connexion particular attention should be paid to the changing concept of patient accommodation such as nursing units for long-term stay or intensive care, part-time hospitalization (day or night care), or ambulatory care and domiciliary care as substitutes for institutional care.

Specialized groupings where inpatient and outpatient care are concentrated in a single unit under one medionursing team almost automatically secure the desired continuity of medical services. They also require areas for care before and after hospitalization to be provided.

Major and rapid transformations are taking place in facilities for diagnostic procedures. Such transformations, resulting from technological development and use of special techniques based, for example, on mechanization or automation, often provoke changes in current working methods. Different premises and equipment, as well as quantitatively and qualitatively different personnel are then required. Therefore, in the process of functional programming, assumptions in the area-wide plan concerning diagnostic services should be updated.

Promotion of health activities such as health education, surveillance of the environment, and screening of certain population groups also provokes increased demands for premises, personnel, and equipment. Similarly, prevention of certain diseases, which involves a growing number of tests and diagnostic examinations, especially in high risk population groups, often requires specialized facilities, fixed or mobile.
Rehabilitation, which is of increasing importance in medical care, stimulates the development of two kinds of facility. First, the medical and auxiliary staff at the local and intermediary levels apply rehabilitation measures in the early stage of disease, and the hospital or health centre should therefore have the proper equipment and skills for patients undergoing early rehabilitation. Second, when rehabilitation is being continued after the acute phase of sickness is over, adequate numbers of beds should be available in nursing units or in specialized rehabilitation departments, and rehabilitation facilities and skills should be available also in clinics delivering ambulatory and even domiciliary care. Specialized rehabilitation facilities are usually provided for suitable cases at the intermediate, regional, and national levels.

Further consideration of the primary and secondary tasks of functional programming are necessary to indicate more precisely what should be done, where, and by whom. It should be laid down from the outset that this is essentially a matter of teamwork. One part of a programming team should consist of those engaged in the original formulation of the medical care area-wide plan - namely, physicians, nurses, medical technicians, and health administrators, who have sufficient knowledge of medical care organization, its development and management organization, and methods of work, etc. The second part of the team should be composed of designers who have a good knowledge of the architectural requirements, technology, installations, and equipment for medical care facilities.

The medical care part of the programming team should first of all provide the designers with detailed explanations regarding the proposed concept of delivery of medical services - namely,

1. meeting patients' needs through one of the medical facilities at the point of entry into the health service system, i.e., peripheral facilities for primary care, mobile emergency facilities, casualty departments, and specialized clinics whose services do not necessarily require patients to be referred from the primary care facilities;

2. using further stages of referral routes within a given system; according to the health status of a patient two actions are possible:
   a. immediate action for patients in need of urgent medical care; this leads from the entry point to the treatment and diagnostic area, to an intensive care or other short-term nursing unit, or into a specialized clinic;
   b. normal action, which leads from an entry point to a specialized clinic, and then to the treatment and diagnostic area or to a short-term or long-term care nursing unit.

The medical care part of the programming team should also explain to the designers the functions to be performed in the facility. This will help them achieve the best possible use of space, relationships between different parts of the facility, and communication patterns.

Descriptions of functions in relation to the place of action should start with a definition of the main health care facilities. These include the following:

1. Peripheral facilities for the delivery of primary care, either ambulatory or domiciliary. This care can be delivered by physicians, medical assistants, dentists, community or visiting nurses, midwives, social workers, and auxiliary personnel. The following services are rendered: ambulatory consultations, home visits, immunizations, periodic health examinations, minor medical and dental treatments, nursing, certain simple laboratory examinations, emergency first-aid. Health education, social community interviews, individual social action, and sanitary supervision of the environment should be carried out simultaneously.

2. Intermediate medical care facilities where, on account of superior diagnostic and therapeutic services, specialized (secondary) care is delivered to patients referred from primary care. Ambulatory consultative services, emergency care services, diagnostic services of all kinds, various treatments, and short-term to long-term hospital care are provided.
Sociomedical services are also available in these facilities, including institutional care for patients with complaints preventing a self-dependent life, temporarily or permanently. In addition to the above-mentioned services, some education and post-graduate training for medical and allied personnel may be linked with the intermediate medical care facility.

Attention should be given to the storage and distribution of medical and other supplies such as drugs, blood, dressing materials, sanitary articles, medical instruments, appliances, and foodstuffs in these facilities.

(3) **Central hospital complex.** Organizational changes within the health service system, increasing tendencies towards converting the hospital into a complex medical care centre, the development and improvement of diagnostic and treatment methods, continuing social pressure towards an increase in medical care utilization, and imperative economic reasons - all these factors cause changes in interdepartmental relationships of a hospital. The hospital ward (nursing unit) once regarded as the medical care focal unit gradually loses its importance to the benefit of the diagnostic and treatment areas.

The outpatient department is generally subdivided at that level into specialized clinics located centrally, as a rule, close to diagnostic and treatment facilities and patient accommodation. The clinics should be concentrated to make up a separate zone. Various services should be attached to the clinics such as admission counters, cloakrooms, central medical records, and a drug distribution point. Behind the specialized clinics the following services should be found.

(a) Diagnostic and treatment facilities accessible from two sides, i.e., from the outpatient and inpatient facilities. This especially concerns units to which patients are continuously referred for examination or treatment (radiography, electrocardiography, operating rooms, physiotherapy, medical rehabilitation). Location of the laboratory in this zone is not indispensable since specimens for biological examination are collected from different units and delivered to the laboratory.

(b) Inpatient facilities (i.e., wards and nursing units) should be grouped in such a way as to allow for isolation when necessary (infectious diseases, obstetrics, paediatrics), for protection against cross-infection, and for cooperation between departments performing similar functions (general surgery, orthopaedics, urology, ear, nose, and throat, for example). Wards may also be grouped according to the concept of progressive patient care.

(c) Casualty and emergency services comprise both patient accommodation and diagnostic and treatment facilities. This area is characterized by fast traffic for both patients admitted as emergency cases and outpatients under casualty treatment. It could also be entered (along a separate route) by inpatients in need of emergency care. The casualty and emergency services cooperate first of all with the diagnostic facilities (immediate diagnosis), the treatment facilities, and with the nursing units, among which the intensive care unit has for the last few years played a special role. Casualty and emergency services should have rapid and direct connexions with the intensive care unit. (Points of entry and routes for patients have been mentioned in relation to emergency facilities; it should be pointed out that, except for lying-in women and patients with infectious diseases, all other admissions can be made at the same place. Lying-in women and patients with infectious diseases are usually admitted directly to the appropriate wards through separate points of entry.)

(d) Social care facilities within a central hospital complex may play a two-fold role: first, as simple premises for social workers and social care appointments, which can be located along with ambulatory care facilities; second, as individual units, which can be located within the hospital or outside of it.

(e) Prevention (public health) facilities, if combined with other medical care facilities, would not require any specific conditions for mutual cooperation. They might be connected only with the diagnostic zone.

(f) Supplies and general services should have simple, straight connecting routes to all units concerned; this is especially important for central sterilization and its connexions with the operating theatre and the emergency department.
CONCLUSIONS

Experience shows that area-wide planning and functional programming are essential stages in the planning of medical care facilities. Some general conclusions can be drawn on the means of preparing and implementing such a comprehensive enterprise.

Area-wide planning for medical care facilities is an inherent part of the process of health planning. It should operate over a long period (not less than 10 years) and as many health care facilities as possible should be involved, including all types of medical care facilities. Use should be made in the area-wide planning process of all information that can provide an objective basis for the various elements in the plan.

Functional programming is the next important stage of development of the medical care network and the improvement of its operation. It should define the purpose, scope, structure, and functions of the facility or group of facilities planned.

Area-wide planning and functional programming should be consistent with the organizational and economic principles and patterns of the health services system. Attempts should be made in the planning and programming process to develop a set of alternative solutions and to periodically update information on the situation, adapting the plan as necessary to make it responsive to changes that occur.

The importance of ambulatory and domiciliary care, especially when such care is provided through peripheral primary care facilities, should not be neglected, and special preference should not be given to planning and programming for inpatient facilities. If the legislation permits, general prevention, hygiene, and social care facilities should be included in the planning and programming process.

An effort should be made to emphasize the importance of those health services, especially primary and secondary care at the local and intermediate levels, that are directly available to the community.