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HEALTH ECONOMICS

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(Agenda item 11)

1. Background 1/

1.1 Geographic and demographic

The WHO Eastern Mediterranean Region, with 22 Member States extending from Morocco to Pakistan, covers an area of 13.7 million square kilometres. The total population numbers almost 379 million (in 1989), up from less than 200 million in about 1970; the rate of net population growth is relatively high, averaging 2.4% in 1989. Roughly 44% of the population are under 15 years and 16% under 5 years of age.

Muslims make up the largest majority of the people in the Region, and Arabic is the language of 18 out of 22 Member States. However, around 60% of the Region's total population speak other languages. Except in religion and language, the countries in the Region are markedly heterogeneous. There are land-locked or nearly land-locked countries, island countries, countries with high mountains, and countries that have areas below sea level; they vary in area from about 700 to 2.5 million square kilometres. In population, they range from under half a million to more than 118 million, and in overall population density from 2 to close to 700 people per square kilometre. Some are quite affluent, and others, very much the opposite.

1.2 Socioeconomic

The Region is more rural than urban: the rural population numbers close to 215 million. Yet six of the Region's cities each has a population of more than 2.5 million. Agriculture is an important source of income, accounting for about 15% of gross domestic product (GDP) 2/ (range 1%-67%). Mining and quarrying, including the extraction of crude petroleum, are also an important source of revenue, accounting for another 19%. Manufacturing industries represent a rather limited share, with a range of 2%-21%. This diversity is reflected in the per capita gross national product (GNP) 3/, which varies from approximately US$100 to US$19 000, with an overall average of about US$1130, definitely lower than in some past years (e.g., US$1500 in 1982). Per capita GNP is still less than US$200 in one country (this was true for six countries around 1970) and exceeds US$1000 in 12 countries (only four countries around 1970), despite recent unfavourable changes in exchange rates in a number of countries.

1/ Background data in this section differs somewhat from that presented in the "Second Report on Regional Evaluation on Health for All Strategies, submitted to this Regional Committee. (document EM/RC38/12).

2/ GDP = Gross domestic product (at market prices) equals final expenditure minus imports of goods and services.

3/ GNP = Gross national product (at market prices) equals gross domestic product (at market prices) plus net property income from other countries.

Based on their GDP per capita, the countries of the EMR can be classified in three categories: (i) poor countries, with few resources and very low GDP per capita; (ii) middle-income countries, with reasonable resources; and (iii) low-income countries, some of which are among the least-developed countries in the world.

Demonstrable developments have taken place with regard to education. For example, around 1970, first-level school enrolment of boys represented 25% in three countries (now in two countries) and 75% or more in 13 countries (now 17). For girls, progress has been more marked: the ratio was below 25% in seven countries (now two) and 75% or more in six countries (now twelve). This expansion in schooling is reflected in adult literacy rates: the rate for men reached 70% or more around 1970 in only two countries (now ten, though they represent just 16% of the Region's adult male population); the rate for women reached 50% or more around 1970 in only two countries (now nine). The regional average adult literacy rate is currently 56% for men and 32% for women.

1.3 Health resources

Having realized the important role of health in development, Member States in the Region are endeavouring to allocate reasonable resources for health services. In the 13 countries for which data are available, an average of 5.2% of GNP is spent on health. Expenditures by the health ministry alone represent an average of 3% of GNP (or 2.4% of GDP). This indicates, first, that the health ministries in the Region account for more than 50% of national health expenditures and, second, that in some countries, the ministry resorts to external assistance for conducting certain health programmes or services.

In terms of proportion of the government's budget/expenditures, the present share of the health ministry is, on average, 6.9% for the regular (recurrent) budget and 4.7% for the total (including developmental) budget. This shows the very low share allocated to the health ministry in developmental budgets. Seven countries, which represent 66% of the population of the Region, spend less that US$10 per person per year through the health ministry; the regional average is US$30 for 21 countries for which data are available, an average of 42% of the national health expenditure is devoted to primary health care, this being the approach to achieving the goal of health for all by the year 2000 (HFA/2000).

With increased health expenditures, it is natural to note considerable improvements in terms of availability of trained personnel. At present, the ratio exceeds ten physicians per 10 000 of the population in ten countries (in contrast to just one country around 1970), though it is still below two per 10 000 in five countries that represent 21% of the Region's population. This is due partly to expansion of university-level medical education. Around 1970 there were 33 medical schools located in ten countries of the Region; now, 19 of the 22 Member States each has its own medical school(s), and the total number has increased to about 95. The increase is also due partly to the availability of more financial resources for employing the required numbers of expatriate medical and allied health personnel.

The increase in human resources has been observed also in other categories. For example, the ratio for nursing and midwifery personnel was less than 5 per 10 000 of the population in ten countries in about 1970 (now four countries, but they represent about 39% of the regional population) and was 25 or more per 10 000 in four (now eight) countries.

The present regional average per 10 000 of the population is 6.7 for physicians, 0.8 for dentists and 8.9 for nursing and midwifery personnel.

1.4 Health services

Almost all Member States in the Region have begun to prepare, or have updated, national policies and strategies for achieving the goal of health for all. The main directions of the policy have been spelled out, indicating priority health problems and objectives, targets, and approaches to alleviate those problems. Many countries have organized their health services so as to bring them into line with the primary health care (PHC) approach. They have undertaken country health programming exercises as a means of improving the planning and management of their health services. Many Member States have also begun to apply the managerial process for drawing up medium- and long-term national health plans as part of their socioeconomic development plans.

Inasmuch as sectors other than health have a role to play in health development, many countries have created interministerial coordinating bodies or mechanisms. The importance of involving individuals, families, and groups in self-care and self-reliance has necessitated establishing mechanisms for involving people in the implementation of the relevant strategies. To back up their commitment to the goal of health for all, governments have adopted a variety of legislative measures not only for restructuring health systems, but also for stimulating health activities in various areas.

The national strategies vary, depending on the level of the country's socioeconomic development and on its political orientation. All countries, however, are stressing the eight essential elements of PHC as major considerations in their strategies and plans of action.

1.5 Health care delivery

Health care in the EMR countries is generally provided through two main systems: a publicly owned and financed, centralized health service with universal access, and a privately owned sector that provides care for those who can afford to buy its services.

Health care delivery has traditionally been, and still is, based on hospital services in most countries. Many new hospitals have been built, particularly during the decades following the boom in oil prices. The availability of hospital beds has increased, reaching 20 or more beds per 10 000 of the population in 12 countries (compared with eight countries around 1970), but is still less than ten per 10 000 in five countries that represent 46% of the Region's population (nine countries around 1970).

With the adoption of the health-for-all strategy, however, countries are now paying particular attention to the expansion of PHC facilities, in their different forms, according to their national needs. The regional average is 1.2 units (range, 0.2 to 4.4 units) per 10 000 population. In other words, the proportion of the population for whom local health services are available within one hour's walk or travel is, on average, 83%, up from 69% around 1982. Nevertheless, such services are available to less than 50% of the population in two countries that account for a mere 6% of the Region's population. The corresponding proportion for the urban population (being less dispersed) is 97% compared with 73% for the rural population.

Health care in almost all EMR Member States is mainly provided through centralized health services, financed by government revenues (taxes), which allows access to all citizens irrespective of their individual income (i.e., universal access). In addition, private modern health services exist in varying sizes and quality, and provides health care to those who are willing and/or able to pay the required fees, i.e., purchase the services they need from the free health market. Health services are also provided by nongovernmental organizations (NGOs), including charitable organizations, at reduced or nominal fees. Traditional health care still exists besides modern health services and is provided by licensed and/or unlicensed traditional workers. The coexistence of these three types of services enables people to use them for acquiring the health care they need according to the nature of their health problems, social preferences and their ability to afford their cost.

In almost all the countries of the Region, government services provide 70% to 90% of health care for the majority (80% to 90%) of each country's population. The universal access to publicly financed health services has, in most countries, resulted in over-utilization, waste and abuse, as well as chronic financial problems, which, while they were tolerated by wealthy countries, have markedly contributed to the gradual deterioration of the quality of services rendered, and consequently led to gradual loss of confidence in the effectiveness of the provided care. This is especially evident in poor countries with high population growth rates.

1.6 Health status

The average crude birth rate in the Region is now 43.5 per 1000 population; it exceeds 45 per 1000 in five countries (16 countries around 1970). It is expected that this rate will demonstrate further reductions with improved general socioeconomic conditions and the expansion of family planning activities.

The use of recent advances in medicine and medical technology, the continuing increase in education, especially for females, the improvement in levels of health awareness, and the expansion of health services in the Region, have led to a dramatic reduction in mortality. Around 1970 the crude death rate was 20 or more per 1000 population in nine countries, but this is now the case in only two countries; at the other extreme, it was less than 10 per 1000 in four countries, but now is at that level in 15 countries.

The above changes are reflected in an increase in life span. Whereas around 1970 the life expectancy at birth was under 50 years in nine countries, the corresponding figure now is three countries, which account for 13% of the Region's population. At the other end, it is 60 years or more in 16 countries at present, compared with four countries around 1970. The regional average life expectancy at birth is 61.3 years for females and 59.8 years for males, giving an average of 60.5 years for both sexes.

Infant mortality rate (IMR) is lower than 50 per 1000 live births in 12 of the 22 countries of the Region. These countries account for less than a quarter of the life births in the Region, compared with two countries around 1970. The regional average IMR is now 80 per 1000 live births, compared with 111 as recently as about 1982.

Child mortality (age 1-4 years) has witnessed similar marked reductions. Data for about 1970 were available for ten countries in the Region; in only two countries was the rate less than 10 per 1000 children aged 1-4 years. The latest available data show 12 (out of 21) countries in this range.

The under-five mortality rate has recently been introduced as an indicator of the health status among children. The latest data indicate that this rate is less than 50 per 1000 live births in six countries of the Region, but they account for just 1.4% of the Region's live births. At the other extreme, the rate is above 150 in nine countries that account for 66% of the Region's live births. The weighted average for the Region is 154 per 1000 live births.

Two indicators are being used, globally, as measures of the nutritional status of children. One is the percentage of newborn infants with a birth weight of at least 2500 g. The recent regional average is 87% (range, 75-95%). The situation tends to be consistently better among urban than rural infants, as seen from the data for the seven countries that were able to provide that information. The second indicator is the percentage of children (aged under 5 years) who have a weight-for-age that corresponds to reference values. The regional average for 15 countries that provided relevant information is 75%. It must be admitted that, for many countries, the figures on these two indicators are based on the results of selected small-scale studies. Moreover, earlier data are not available to enable the identification of trends.

Maternal mortality rate data, around 1970, were available for 12 countries in the Region, and the rate was reported to be 10 or more per 10 000 live births in eight of these countries. The latest data indicate that range in ten of 20 countries, despite improvements in vital registration and in cause-of-death statistics during the past two decades. The regional weighted average maternal mortality rate at present is 27 per 10 000 live births.

2. The Impact of the Economic Crisis on Health Services

Unfortunately, following the Alma-Ata Conference in 1987, which launched primary health care (PHC) as a vehicle for achieving health for all by the year 2000, the world started to witness the early phase of an economic recession.

With the exception of the oil-exporting countries (welfare states), the rest of the EMR countries (indebted states) are suffering, to varying degrees, from external indebtedness, unfavourable exchange rates and export-earning deficiencies. Many countries have large trade deficits mainly due to sluggish export performance, increase in the value of imported goods, poor productive capacity, as well as idle capacity in the production sector. In some countries of the Region, the percentage of external debt to exports is more than 300%. Almost all governments of the Region, wealthy or poor (welfare or indebted), have found themselves unable to continue to carry alone the increasing economic burden of health care created by the increasing health needs of their populations and the rising health expectations.

The main factors that contribute to the present difficulties, triggered by the world economic crisis, and faced by the health services in the EMR countries, are:

- the unprecedented increases in demand on health care;
- the continuous escalation in prices of material inputs of health services;
- the uneconomic production and utilization of human resources for health;
- the continuous decline in public resources allocated to health services;
- the inefficient organization and management of health care delivery services;
- the adoption of inappropriate health policies, as well as the negative impacts of policies adopted by other sectors, e.g., agriculture, industry, labour, transportation, etc., on the functioning of the health services and the health status of the population.

Both groups of EMR Member States (welfare and indebted) have had to adopt stabilization and/or adjustment programmes. Stabilization programmes are intended to tackle short-term problems by effecting reductions in expenditure in order to adjust domestic demand to reduce the level of capital inflows.

Adjustment programmes are designed to deal with the long-term structural causes of problems; as such, they encompass changes in relative prices and reforms of public institutions aimed at making the economy more efficient in the use of productive resources, thereby promoting substantial growth.

The restructuring of public expenditure, as part of economic adjustment programmes, may affect health and nutrition primarily because of the vulnerability of the social sectors to cuts in government spending.

This practice, coupled with an increasing scarcity of resources, has led to chronic funding problems in the public health sector and has contributed to poor quality of services and failure to implement health improvement programmes. The poorest households are usually the ones that suffer most in terms of restricted access to the limited amounts of services offered, and that benefit least from subsidies included in the provision of public health care.

Governments started to look for ways and means to augment their continuously shrinking health resources by:

- Maximizing the services produced (outputs) by available resources and cost-containment through better resource allocation patterns, use of appropriate technology, and efficient organizational structures and managerial practices, e.g., decentralization, adoption of modern managerial techniques, establishing performance standards and introduction of cost-accounting.
- Mobilizing additional resources internally and/or externally, through effective intersectoral mechanisms and attraction of international assistance and bilateral aid.

- Finding suitable mechanisms through which individuals and communities could contribute to the cost of health services, e.g., cost recovery, user charges, community financing of health services and social security, etc.

3. The Search for Appropriate Solutions

Based on the above analysis, the EMR countries face the major challenge of how to maximize available (existing and potential) resources (i.e., efficiently and effectively) to expand coverage, improve quality of care, and enhance their impact on health status within the context of the countries' socioeconomic potential, development plans, and their commitment to health for all by the year 2000.

Meeting this challenge requires the use of economically sound interventions within the context of the specific political, social and cultural realities of each country.

In behavioural terms, the desired change in health care providers is to "economize" without negatively affecting the quality or equal access to health care. A variety of economically sound interventions/approaches have been developed and used in developed countries (Europe, United States) with different levels of success. It is important to emphasize that these approaches are, to a certain degree, culture-specific and that their transplantation to other cultures requires thorough adaptation. It should be emphasized that the required transition in EMR Member States from the so-called "free health services", with universal access, to a situation where users have to bear part of the cost to have access to the previously free health care, is fundamentally different from the challenges of the transition faced by developed countries whose people always paid, in some way or another, for their health care needs.

It is much easier to convince people who are used to buying their health care, to pay a little more, than to convince those who never paid to pay even very little for almost the same quality of care they used to get free. Some EMR Member States, including oil-exporting countries, have started to enforce "user charges" for acquiring certain health services from government health systems. The apparent purpose of imposing these charges is to curtail unnecessary utilization rather than to generate more revenue. In at least one EMR Member State where cost-recovery and fees for services are being seriously studied, upgrading of health facilities, as well as quality of care in those facilities, is a prerequisite for implementation of these schemes.

In their striving to find appropriate solutions, EMR Member States should never lose sight of two important criteria, i.e., efficiency and equity.

3.1 The criterion of economic efficiency

The need for efficiency arises from the fact that there will never be enough resources to satisfy human wants completely (scarcity of resources). The use of resources in a given beneficial activity inevitably involves a sacrifice, i.e., forgoes the opportunity to use the same resources in other beneficial activities. The economist considers the cost of a unit of a resource to be equal to the benefit that would be derived from using it in its best alternative use, i.e., opportunity cost. This contrasts with the strictly financial concept of costs which relates to

cash outlays for units of the resource. One of the main objectives of the economist is to derive the maximum total benefit from the resources at the community's disposal.

Health care alternatives can be appraised through the calculation of the amount by which the benefits generated exceeds the costs (sacrifices) incurred.

While economic appraisal of medical care alternatives can provide a wider framework for efficient choices than medical appraisal alone, economic appraisal should be applied only to medically sound alternatives.

Equity can prove to be a very "slippery" concept. In health care, one could have several notions of equity: equal access to care by geographical area, equal shares among client groups, equal access irrespective of income, and equal access for equal need.

Efficiency measures how well the health care machine works and at what cost (i.e., concerned with the process of care). Making medical care more efficient does not necessarily improve its quality. Improvement in quality has to be verified by the direct measurement of the improved health status of the individual and the population served.

4. The Present Health Economics Potential of EMR Countries

To find appropriate, scientifically-based solutions, the need to use "health economics" as a tool to rationalize decisions in management of "scarce resources" has become more urgent. Unfortunately, most of the ministries of health in EMR Member States are unwilling, reluctant or not equipped to institutionalize economic thinking, and to apply health economic principles and methods as an integral component of the decision-making process in the development of their health systems.

A few EMR Member States have introduced cost-accounting in their health systems, but have not fully utilized it in developing their health plans. Appropriate economic information is inadequate, scanty or nil. Planning units or departments of ministries of health very seldom have a trained economist among their staff, and even when one is available, he or she is not fully utilized. Many countries have established mechanisms for intersectoral cooperation, but most of them are not effective in mobilizing additional health-related resources.

5. Alternative Economic Approaches in the EMR

Since the early 1980s, many countries have started to search for alternative approaches to increase the efficiency of their health systems, as well as mechanisms to alleviate the economic burden of publicly-financed health services.

At present, a variety of alternative economic approaches are being studied or implemented (usually on a small scale) in a number of EMR countries. These mainly include:

- cost containment;
- cost-recovery schemes;
- user charges;
- social security;
- voluntary insurance;
- risk insurance;
- community financing.

Unfortunately, little information is available about either the studies or the limited trials, let alone the evaluation of the impact of these mechanisms on accessibility, utilization, quality of care and ultimately health status of various population groups, especially the poor. Collection, analysis and evaluation of such information can be of great value to other countries in the Region in making their choice among alternative financing mechanisms. Some countries in the Region are seriously considering more involvement of NGOs, as well as more privatization of health care, to reduce the demand on publicly-financed health care, and utilize the saved resources to increase access to those who cannot afford to pay the cost and/or to improve the quality of care.

In at least one country in the Region, where four systems of health care provide health services at different costs, consumer preferences for one system over the other is not necessarily based on cost differentials, but other physical, social and cultural factors were found to influence the decisions of health care consumers.

Consumers of health care do not rely primarily on any single health care system, rather they selectively use the system according to their health needs, given specific circumstances.

5.1 Cost containment

Cost containment deals with two main questions:

a) What is the right level and growth rate of health care costs? In welfare economics this is appropriately dealt with in terms of the value of the beneficial outcomes that health services produce in relation to the value of what is necessarily foregone (opportunity cost).

b) Given the available technology, what resources are necessary in order to produce any given level of outcome?

In microeconomic analysis, the focus is on cost-effectiveness, cost utility, and cost benefit analysis (Drummond, Stoddart, and Torrance, 1987). The aim is to make cross-programme comparisons of marginal costs and benefits in order to determine both the optimal mix of programmes and the payoff to increased spending (or the marginal cost-benefit of reduced spending).

Much of the concern commonly expressed about cost containment is more accurately represented as a concern about overall expenditure levels and, in particular, a concern about the share of health care expenditures, either in public expenditure or GDP.

At an aggregate level, there is no satisfactory measure, either of the aggregate outcome of health care expenditure (let alone their value), or of the aggregate health production function. Nonetheless, an aggregate analysis can help to identify some of the factors on which policy to control expenditure might be targeted and also identify areas where further, more detailed enquiry is needed.

Cost containment in itself is not a sensible objective. The ultimate objective of any system of health care is to promote the health and welfare of its clients. More precisely, the objective is to maximize health and welfare, subject to the resources available, and to adjust these resources so that, at the margin, they are neither more nor less

valuable in the health care sector than elsewhere. The practical difficulties entailed in making these judgements, whether one depends on markets or planning mechanisms, should never serve as an excuse for more cost cutting, regardless of its consequences.

5.2 Cost recovery

Cost-recovery schemes are usually based on demand analysis and projections using demand measuring techniques which have been developed mainly to inform pricing decisions, because of their relationship to total revenue, i.e., profitability. Even in a health care system pursuing vigorous cost-recovery objectives, efficiency in the consumption of health services necessitates a need/morbidity/capacity to benefit criterion being used to assess whether resources are being most cost-effectively developed and consumed, rather than simply a "willingness to pay" index and a total revenue objective.

The implementation of cost recovery requires the establishment of sound managerial and financial practices in the health system.

5.3 User charges

User charges have a potential contribution to improving the financial base of the health sector. They also deter those people whose health needs are greatest. Carefully discriminating fee systems are therefore necessary to ensure that revenue is provided only by those who can afford to pay, and that resulting income improves the quality and accessibility of health care targeted at the poor.

This entails means-testing of patients in a way that does not jeopardize their access, and redistributing the funds to primary health actions at the peripheral level. The most promising potential location for enforcing payments related to use would seem to be in the use of in-patient services in secondary or tertiary care facilities. Is it realistic to pursue such a selective revenue-raising system, expecting a transfer of revenue collected away from the hospitals which yield the bulk of the income, for quality improvements of the primary health care system? Administrative and political realities in poor countries argue against the successful operation of such a scheme, and of the consequent need to continue exploring alternative options. At the same time, the search for reliable evidence of successful fee collection and recycling schemes remains urgent.

The relatively limited potential of direct user-charges as a financing source in poor countries, and the question of inefficient cost structures, both point to the major issue of potential economies by rationalization of existing health care structures and processes. Wastage by under- or over-utilization of facilities, people, and health inputs, is an inadequately studied issue. The small number of careful assessments of the value of "wasted" resources, however, puts them as very large in the health systems of rich and poor countries alike. A study in Malawi suggested that 44% of non-salary recurrent budget expenditure of the principal hospital in that country could be saved by a series of simple management improvements. The study of Mali's financing options suggested potential savings by better management of pharmaceuticals of up to 40% of existing expenditures. In the United States, estimates of inappropriate use of hospital resources are between 6%-40% of admissions, and 20% of bed-days. Much bigger potential cash savings are argued to be available from the elimination of "useless medical practices". Overall savings of

some $20 000 million are thought possible. For the countries of the Americas as a whole, an estimated 25% of total health expenditure is wasted. Though fragmentary, the evidence is of huge potential economies by better resource use within the existing system. Such information is no secret, of course, and is one of the contributory reasons why the government health sector is such a weak party in the negotiation of financial support. Its own house is transparently not in order.

5.4 Social security (compulsory health insurance)

This is a widely used strategy for increasing the allocation of funds to the health sector. The funds are usually raised by new taxes on workers and employees with or without government contribution. This fact makes social security more acceptable to legislative bodies than other approaches which make further claims on the general revenues of the nation. Services provided for insured persons are generally superior in both quantity and quality to those available to the majority of the population. Aggravation of maldistribution of funds between urban and rural areas may be one of the undesirable consequences of the implementation of this approach on a small fraction of the total population (usually urban dwellers).

Other undesirable consequences are: more emphasis on curative activities (hospital-based), competition with government services for employment of skilled health personnel (physicians and nurses), more deprivation of the under-privileged categories of the population, especially in case the government subsidizes the system, leading to accentuation of existing inequity.

While the tendency to expand social security to cover all the population is a declared policy in most of the countries which implement this approach on a small scale, the potentiality for expansion may be severely limited if the cost per head of the programme is high in relation to the per capita income of the country.

On the positive side, social security can add to the nation's resources by bringing extra funds to the health sector and channelling them into organized services (mainly hospitals and health centres).

Some countries with social security programmes claim that they strengthen programmes of the ministries of health and allow them to devote more resources to the rural population.

In many countries the social security system suffers from different administrative weaknesses, similar to those of the ministries of health. Coordination between social security and the ministry of health is usually weak, which usually instigates negative attitudes in the clients. Planning social security as an integral component of the national health care system could maximize the potential for effective coordination between the two systems.

Expansion of social security to cover more or the whole population needs to be considered very carefully. Appropriate financing mechanisms for the rural population have to be developed; the impact on health personnel development (education and training), as well as remuneration of health personnel, should be carefully studied, etc. It should be emphasized that the pattern, quality and cost of services intended to be provided by compulsory insurance should not diverge too far from the pattern of care, which is ultimately intended to be provided for the whole programme.

A few EMR Member States are partially financing their health care systems through social security. These schemes are confined to persons with a regular cash income and cover a small proportion of the population (government workers and employees). Social security programmes are separate from ministries of health. More information is needed about the efficiency and effectiveness of the implementation of this approach in EMR Member States especially on their impact on utilization, health personnel development, resources directed to serve the health needs of the low-income population, development of PHC, expansion to cover the rural population, and health status.

5.5 Voluntary insurance

None of the EMR countries has tried this approach on a significant scale, although lately some private health providers have started to explore possibilities for introducing this type of insurance. "Grass-roots" insurance is used in some countries in other WHO regions to cover poor rural communities. This type of insurance is sometimes associated with agricultural cooperatives. EMR countries may be interested to study the feasibility of developing similar approaches to cover rural communities.

5.6 Risk insurance

This type of health insurance is widely practised in EMR countries and usually covers a percentage of the cost of medical care, death in accidents, or disabilities as agreed upon in the insurance policy bought by the individual. In EMR countries, risk insurance is mostly provided by public insurance companies, which are usually semi-government organizations and suffer from the same managerial ailments of the bureaucracy. In many countries, limited compulsory risk insurance is legally required for certain at-risk categories of the population, because of the nature of their jobs or personal activities. Private or public companies who employ more than a certain number of workers are legally required to provide general health and risk insurance for their workers.

5.7 Community financing

Contributions made to support part of the costs of health care by individuals, families or community groups, in kind or in labour, are viewed as community financing. In addition, community involvement in defining and negotiating the transactions regarding the supply and purchase of health care, albeit on a subsidized basis, can be an important component of the community financing approach.

Community financing has been employed in many documented cases to support either capital or operating costs of health activities, or both. Capital contributions, donated time, and purchases of raw materials by communities, have often produced "community-financed" health facilities, which governments have then been asked to staff and supply. The widespread and spontaneous investment by communities in such facilities has occasionally been an embarrassment to governments, for whom the recurrent budget of the health sector is frequently inadequate for the proper functioning of existing facilities and staff. There is widespread evidence, even in poor communities, of a willingness of communities to make sacrifices for the construction or upgrading of health posts or even hospitals.

In the EMR, community financing seems to be one of the oldest approaches used to support health care. Wealthy individuals and charitable religious organizations are still the two main sources for community financing. Donation of land and construction of health facilities and, to a lesser extent, donation of labour and provision of medical drugs, equipment and supplies, are the main forms of their contributions to the health care delivery system.

While the size of community financing in the EMR is thought to constitute a minor portion of the total investments and/or expenditures of health services, there is very little information available about the size of its contribution to health services, or impact on utilization and outcome of health care. In addition, it seems that the size of these contributions has decreased, to a large extent, in some EMR Member States more than others.

6. Major Areas for Application of Health Economics

Health services in EMR Member States suffer, to varying degrees, from:

- over-consumption and inappropriate utilization of medical drugs;
- unnecessary and over-utilization of diagnostic technologies, especially new sophisticated equipment;
- unbalanced deployment and utilization of various categories of health personnel, especially physicians and nurses.

The three areas combined consume around 85% of current expenditure on health services, and are amenable to economically sound interventions. They also represent a large potential for saving reasonable amounts of resources which could be used in increasing coverage and/or improving quality of care. Many EMR countries have already introduced efficiency measures to "economize" on drug consumption and utilization of diagnostic techniques. A fundamental and effective approach is the adoption of the "Essential Drugs" concept. In addition, cost recovery using user-charges and/or quality control are the two main methods used in most EMR countries. Since the demand in both areas is largely controlled by physicians, regulation of prescription/ request behaviour is crucial for the success in these areas. This should also be accompanied with an intensive health education programme to the general population, with special emphasis on users of health services. Bulk purchase by groups of EMR countries and local manufacturing of medical drugs are overall measures which help to reduce the cost of medical drugs and importation burdens, especially for countries with unprivileged rates of foreign exchange. More information is required about the experience of EMR countries in these two areas, especially with regard to the impact on utilization and quality of care, as well as the size and utilization of saved resources and administrative costs of implementation.

Naturally, the health personnel issue is much more complex and strongly influenced by political decisions, yet health economics can provide decision-makers with an economically sound basis to guide decisions in this area. Many EMR countries have tried to develop detailed job descriptions and performance standards to increase efficiency, based on Western developed and practiced models and norms, with varying degrees of success. In most EMR countries, health personnel planning is mainly based on projections of future requirements and supply is made, and any imbalances are rectified by appropriate action. Most of these projections

failed in EMR countries as well as other countries of the world, mainly because they did not take into consideration some of the main economic aspects of health personnel planning, e.g., projected GNP and GDP, total and per capita health expenditure, opportunity costs of alternative actions, substitution, elasticity of demand, income elasticity, productivity and production functions, depreciation, uncertainty, etc.

A realistic approach requires that health personnel plans should be established with some rational ordering of priorities. The economic concepts of supply, demand, opportunity cost, and cost-benefit suggest that the plans take the principles of rational resource allocation into account. National political decisions may discard these principles, but once the decisions have been made, the planner's task is to find the most efficient way of implementing them. What is more probable, however, is that planners who consciously strive towards a rational allocation of resources will be better able to influence national political decisions towards making the best use of the country's resources.

One of the major political decisions in wealthy oil-exporting countries is to replace expatriates by nationals. While the economics of this decision could be unfavourable in the short-term, long-term social and developmental gains may justify the relatively high cost of adopting this policy.

7. Institutionalization

The last few years have witnessed the use of managerial, legislative and financial measures in many EMR countries to adapt the functioning of their health services to the various effects of the world economic crisis on the national economies, and their impact on health resources. In many cases, the developed interventions are based on other countries' experiences and without serious study of their possible short- or long-term implications on accessibility, utilization, equity and health status. The main emphasis seems to be on generating revenues to increase the resources available to the health services, and sometimes even without any plans for appropriate distribution of the additional revenues. While explicit justifications to implement such policies are usually expansion of coverage and/or improvement of quality of care, there is not enough empirical evidence that this really happens. Apparently, a sizable proportion of these additional revenues is used as incentives for health service providers.

There is a general consensus, supported by available data, that in most EMR countries there is a need to increase the share of the ministry of health from public expenditure, yet there are also strong feelings that a significant percentage of available resources is wasted and, hence, additional resources may face the same fate. Ministry of health requests to ministries of finance to increase financial resources are seldom supported by strong economic justifications and, hence, their chance of success hangs only on political support.

The present challenges of severe shortage of resources can only be met by restructuring health services and managing them on a sound economic basis. Sporadic, piecemeal, uncoordinated, individually motivated activities in health economics are not sufficient to meet the present challenges. Institutionalization of health economic thinking and practice as an integral element of the decision-making process is the only practical and feasible approach to meet the present challenges. The

implementation of this approach requires both behavioural changes and technical inputs, which could be summarized as follows:

- A political and top managerial commitment to introduce modern managerial methods and techniques necessary for the application of health economic concepts, principles and techniques, e.g., cost accounting.

- Orientation of top and middle managers to use health economic principles, methods and techniques.

- Integration of relevant economic information in the regular health service information system.

- Training of a suitable number of ministry of health employees working in planning and financial management in health economics through intensive short courses or to obtain master degrees.

- Developing and supporting research, especially systems research activities in the field of health economics, e.g., cost-benefit and cost-effectiveness studies, to appraise various service approaches before and/or after implementation.

8. Research in Health Economics

Research in the areas of demand, supply and utilization is crucial for developing appropriate strategies, policies and plans, as well as organization management and evaluation of the health system. Apparently we know much more, but not enough, about factors which influence supply and utilization compared with our knowledge about factors that influence demand.

The study of factors that influence demand is important in evaluation of present policies, and development of future policies and plans based on predicted demand.

The identification of health needs as perceived by the people can be valuable in assessment of present demand and prediction of future demand.

Desires and aspirations of people as regards health services reflect the type of services people accept as satisfactory, which may not coincide with professional perceptions based on pure epidemiological studies.

On the supply side, a number of research areas seems to be of importance to EMR countries:

- The economics of human resource education and utilization is an area which should be given great attention, although solutions are not easy (political).

- Choice of appropriate technology (imported or developed). Many EMR countries need to drastically revise their implicit health policies in this area.

- Distribution of health resources in the light of equity is an important issue for research:

  - equal access to care by geographical area
  - equal shares between client groups
  - equal access irrespective of income
  - equal access for equal need.

- Economics of construction and utilization of health facilities, especially hospitals is an important area of research. Under-utilization of existing hospitals in some EMR countries is well known (bed occupancy between 40% and 60%). Research in this area can help develop more appropriate and country- (culturally) relevant hospitals (type-size). Ambulatory health facilities can greatly benefit from a study of their utilization.

- Factors that influence utilization of medical drugs, especially in a free-service health system. The share of resources allocated to purchase of drugs is continuously increasing, especially those that are imported.

9. Summary and Conclusions

9.1 All the countries of the Region have willingly adopted the Alma-Ata Declaration, and are committed to "health for all", which strongly reflects their concern with the health status of the population as a whole.

9.2 In all, the EMR countries' ministries of health are constitutionally responsible for the health of the people and usually provide health care through publicly financed health services, and contribute more than 50% to the national health expenditure.

9.3 In many countries of the Region, ministries of health receive international and/or bilateral assistance to conduct specific health programmes and/or to strengthen their infrastructure or overall technical and managerial capabilities.

9.4 The countries of the Region vary in the size and quality of their national health personnel, and the Region experiences both inter- and intra-country health personnel imbalances. While some countries of the Region are suffering from disguised unemployment of certain categories of health personnel, others greatly depend on expatriates to staff their health services (up to 85% or more in some categories).

9.5 Medical education has greatly expanded in the Region and at the present time 19 of 22 Member States of the Region have at least one medical school. There are marked differences in enrollment output and cost of medical education among the various countries of the Region.

9.6 Most EMR Member States are still highly dependent on importation of their medical drugs, equipment and supplies, although in a few countries, locally manufactured medical drugs, supplies and equipment are partially satisfying local needs of some items, and even export to other countries within or outside the Region.

9.7 The effects of the world economic crisis, with budget constraints in both "welfare" and "indebted" Member States, are showing its impact on public financing of health care systems. Both groups of countries adopted or intend to adopt new approaches for financing of health care systems, as well as measures to increase the efficiency and effectiveness of their available resources.

9.8 There is great concern that the implementation of new financial and economic measures may not help to rectify the existing inequalities between the "haves" and the "have nots", especially when the emphasis is put on curtailing the so-called unnecessary "demand" and generation of additional "revenues".

9.9 Analysis of demand on health services in EMR Member States is liable to show very high demand (mostly social rather than medical) in welfare states (e.g., oil-exporting countries in contrast with very low demand in poor and indebted states). The ratio may be in some cases more than 10 to 1. In addition, a lot of potential demand (felt or unfelt health needs) does not really materialize because of a variety of factors (economic, physical, social, ethical, political, etc.), which reduces accessibility to health facilities, let alone securing adequate treatment.

9.10 Apparently most of the alternative financing approaches that are developed for market economies are really geared to serve the middle income bracket rather than the poor. Even when these mechanisms generate additional revenue, most of it is used as incentives for health personnel and the little remaining is either used to improve health facilities, add new equipment and/or expand coverage. The "trickle-down" effect, which economists and policy-makers talk about, seldom happens.

9.11 There is a need to develop, or revive, a culturally relevant approach in facing present health service challenges. Both the concept of the *Agape* (sharing community) developed and practised in early Christianity, and *Altakaful Aligtima'i* (social mutual support institutionalized in Islam), seem to have more relevant answers to the dilemma faced by the health system and answer the question of who pays for what, and increases the accessibility of the poor to their health rights without humiliation of a "certificate of need".

9.12 While health economics plays a crucial role in development and selection of appropriate policies for health care delivery, health education, social and individual incentives and rules and regulations to change people's treatment-seeking behaviour and providers' attitudes and performance behaviours should not be minimized as a means to economize on resources at a given quality of care.

9.13 There is a need for extensive systems and economic research to develop appropriate policies and select appropriate economic and financial approaches. The understanding of the determinants and elasticity of demand in EMR Member States is of highest urgency and priority.

9.14 The need to institutionalize health economics in health systems is becoming more and more urgent. The present *ad hoc*, amateur approach will most probably do more harm than good. Both health professionals and health economists should exert more efforts to narrow the "communication gap" between them.

10. Recommendations

To Member States:

10.1 Institutionalize "health economics" concepts, principles and techniques in management of available and potential resources, in a way that increases efficiency and effectiveness of their health delivery systems, in order to expand coverage and reach the disadvantaged and/or deprived, and to improve the quality of services rendered.

10.2 Introduce cost-accounting to improve the financial management system and expand existing health information systems to include relevant information to the application of health economics and financing mechanisms (cost recovery, user charges, etc.).

10.3 Evaluate existing policies in the health sector as well as health-relevant policies in other sectors to eliminate contradictions, and minimize wastage.

10.4 Develop appropriate and effective intersectoral mechanisms, or activate existing ones, to augment health resources or direct them to better usage by other sectors.

10.5 Develop effective mechanisms for community participation in both management and financing of health services. Culturally relevant existing mechanisms should be supported and activated rather than imposing alien approaches.

10.6 Develop short-term training courses in health economics and in financing of health care systems to train reliable health services personnel.

10.7 Encourage the development of research activities in the area of health economics. The ministry of health can collaborate with universities in developing such a programme.

10.8 Introduce health economics as a component in medical curricula in the early years of medical education or in postgraduate curricula in public health, planning or management of health services, etc.

10.9 Develop policies which define the roles of the private sector and the nongovernmental organizations as collaborators rather than competitors.

To WHO

10.10 Continue to support health systems research in the area of health economics.

10.11 Develop health economics seminars for top decision-makers in health systems, as well as short training courses for middle managers.

10.12 Continue to encourage and support Member States to undertake analysis and appraisal of health and health-related policies in other sectors of the economy, e.g., agriculture, industry, social welfare.

10.13 Continue to encourage and support countries in studies concerning reorganization of health systems and community participation.

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HEALTH ECONOMICS

Summary of Recommendations

It is recommended that all Member States of the Eastern Mediterranean Region who strive to realize HFA/2000 should:

(1) institutionalize "health economics" concepts, principles and techniques in management of available and potential health resources, in a way that increases both efficiency and effectiveness of their health delivery system, in order to expand coverage and reach the disadvantaged and/or deprived, and to improve the quality of services rendered;

(2) modernize their financial management systems in order to apply relevant health economic approaches and financing mechanisms;

(3) evaluate existing policies in the health sector as well as health relevant policies in other sectors, in order to eliminate contradictions, and minimize wastage;

(4) develop appropriate and effective intersectoral mechanisms or strengthen existing ones in order to augment health resources or direct them to better usage;

(5) develop effective, culturally relevant mechanisms for community participation in both the management and financing of health services;

(6) develop short-term training courses in health economics and financing of health care systems to train relevant health services personnel;

(7) encourage the development of research activities in the area of health economics;

(8) introduce health economics in medical curricula.