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EUR/ICP/CARE 95 05/MT02
08935
ORIGINAL: ENGLISH

WHO – IGSF WORKSHOP ON
THE ASSESSMENT OF
PRODUCTIVITY,
EFFICIENCY,
EFFECTIVENESS AND
QUALITY OF HEALTH
SERVICES

Report on a WHO – IGSF Meeting

Kiel
22–25 November 1994

ABSTRACT

At a Workshop held by the WHO Regional Office for Europe and the Institute for Health Systems Research (IGSF) in Kiel, Germany, the concepts of productivity, efficiency, effectiveness and quality of health care systems were analysed in relation to health, health care, inputs and costs. There have been many attempts to assess these parameters, but so far a satisfactory system has not been developed. Nevertheless, changes in health care delivery should be monitored to determine whether the goals set were reached. As a result of extensive discussions and group work, including a simulation exercise, it was concluded that a health services knowledge base would need to be established under the WHO Regional Office for Europe. To get timely and accurate information, the set of indicators needs to be concise. A glossary of indicators would be necessary so that all Member States report according to the same rules. The main elements should include patients'/citizens' health status and risk factors, the financing of health care systems, human and material resources, and the satisfaction of patients/citizens and providers. The WHO Regional Office for Europe could act as a clearing-house for economic information, prepare guidelines for cost-effectiveness studies, develop standards and norms for indicators, prepare periodic country reports, focus on the use of data, set up a minimum package of indicators for health care system evaluation, and develop indicators to evaluate preventive health services and the quality of care.

Keywords

HEALTH SERVICES – trends
QUALITY OF HEALTH CARE
EVALUATION
EUROPE
CCEE
HUNGARY
POLAND

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INTRODUCTION

The Workshop was attended by 18 participants from 11 European Member States (Finland, France, Germany, Hungary, Kyrgyzstan, the Netherlands, Poland, the Russian Federation, Sweden, Switzerland and the United Kingdom), 1 representative of the German Ministry of Health, 3 staff members of the Institute for Health Systems Research (IGSF) in Kiel, and 5 staff members of the WHO Regional Office for Europe.

The Workshop was opened by Mr Ullrich Dietz, Administrative Adviser of the German Ministry of Health. Professor F. Beske was elected Chairperson and Dr V. Tchernjanskii, Vice-Chairperson. Professor P. Atteslander and Mr F.-M. Niemann were elected Rapporteurs. A list of the participants comprises Annex 2.

SCOPE AND PURPOSE

Deep political and social changes are taking place in all spheres of the countries of central and eastern Europe (CCEE). Many of the developed western European economies have been hit by an economic recession, which forces them into stringent cost-containment and cuts in the traditional welfare sectors. Health services, being one of the biggest consumers of public welfare funds, have been in the forefront of this debate. Even in countries that have avoided declines in their economies, health sector expenses are rising more quickly than the gross domestic product (GDP). All countries are therefore seeking to improve their health care systems. A key question is how to get the most health gain from the limited funds available. Some countries, particularly the CCEE, are undergoing revolutionary changes in health care delivery. Others, particularly the established western market economies, are experimenting with managed markets, quality development, purchasing/contracting, etc.

The health care reforms in Europe have a common weak point. The goals of reform are articulated in terms of health status and greater efficiency, freedom of choice, patient satisfaction and

economic savings, but how the outcomes will be monitored and assessed is seldom specified. The answer to this dilemma is clear: the indicators and methods for the evaluation of the process are not yet well developed. Outcome indicators, such as the health status of the population, sometimes change very slowly, so indicators are needed that could reflect the direction of the process. The general trend towards decentralization and less government regulation has sometimes made the situation worse, as centralized information may no longer be readily available.

The WHO Regional Office for Europe and IGSF have a long tradition of holding workshops on a timely topic related to the health care systems in Europe at regular intervals. The 1994 Workshop focused on the assessment of the productivity, efficiency, effectiveness and quality of health care systems. As the more traditional epidemiological indicators, such as those measuring progress towards health for all, are not suitable to assess the functional aspects of health care systems, the Workshop aimed to elucidate such issues as the quality of life, disease prevention, old age surgery, rehabilitation (including the elderly), and patients' waiting lists, comfort, free choice of doctor and satisfaction. The coverage of services should mean not only that all population groups are covered by a health insurance scheme, a national health service system, private sickness insurance or a combination of these but also that the varying needs of different groups receive appropriate attention.

This Workshop was an important step in the development of the WHO Regional Office for Europe as a European intelligence centre through establishing a health services database, which would gradually evolve into a knowledge base for health care reforms and networking with Member States and WHO collaborating centres. There would also be clear links with citizens' views on health care. The Workshop was expected to result in:

- a review and assessment of the health services database and its development into an interactive knowledge base for health services;

- a proposal for a basic package for the assessment of health care reforms with respect to the productivity, efficiency, effectiveness and quality of health care system; and
- the documentation of the findings in a report.

THEORETICAL REFERENCE FRAMEWORK

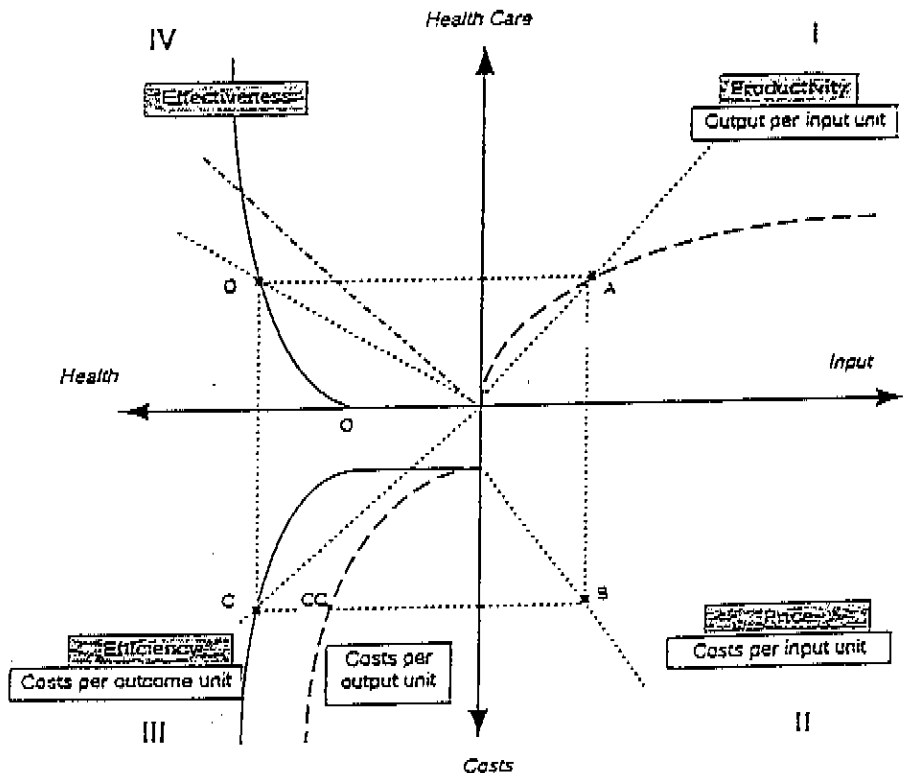
Economic indicators seem to have limited scope in evaluating health care outcomes. Countries dedicate different proportions of their GDP to health care, and some seem able to offer the same level of services even though their input per head to health care differs considerably. This leads to the labelling of health services in some countries as too expensive, and hence to political debate on cost-containment and financial cuts. Nevertheless, meaningful parameters for the assessment of health services, which would allow comparison beyond a very general level, are still lacking.

Even the richest nations of the world cannot afford to offer all the medical services that are theoretically available to all citizens. Without rationalization of service production, one must face a painful exercise in rationing. Societies must face the issue of the fair distribution of health services, and countries using their resources efficiently will be the winners in this difficult exercise. Efficiency and equity are not opposites; on the contrary, efficiency is the prerequisite for equity. Private entrepreneurship, competition and decentralization are commonly seen as automatically leading to efficiency. The nature of efficiency, however, remains a question. Paradoxically, the more freedom that is allowed, the more societal regulation is needed to guarantee health gain and not just the production of services. This is as true in countries with social health insurance as in those with tax-financed national health care systems.

Productivity, efficiency and effectiveness can be viewed as a field of four quadrants determined by health, health care, input and cost (see Fig. 1). The quest for health leads to the demand for health services. A rise in productivity, however, does not automatically mean more effectiveness, which can be seen as an attribute of

quality. Further, effectiveness is determined in its quadrant through health care as both process and product (outcome).

Fig. 1. Productivity, efficiency and effectiveness in health care



Markus Schneider
21.11.1994

When one discusses productivity (relationships between input and output), one must know what one produces. When one discusses effectiveness (relationships between output and health), one should finance only the health services known to have a health impact. When one discusses efficiency (relationships between health and cost), one often confuses efficiency and effectiveness.

Efficiency means doing things right. Effectiveness means doing the right things. It is not ethically right to ask for more resources unless existing resources are used efficiently. The problem with indicators is that the results usually come far too late. This leads to the dilemma in which people think they know what they ought to do, but do not know what they are doing. In many sectors of health care, agreeing on the definition of output is difficult. For example, what is the productivity/efficiency indicator of a mental hospital or an old people's home?

Material (technical) innovations seem to be adopted much faster than new ideological concepts. The issue of people's own responsibility is linked with the concept of solidarity, as people vary in their capacity to take responsibility. The lack of ethical principles makes it difficult to solve the problem of the equitable division of the financial burden among the citizens. The participants at the Workshop concluded that the assessment of the productivity, efficiency, effectiveness and quality of health care, and the development of useful indicators, are not goals in themselves, but ways to start a meaningful discussion on the ultimate purpose and goals of health care as a whole, and to focus limited resources on the right priorities.

COUNTRY VIEWS

In Hungary, three eras or revolutions in health care could be identified:

- the rapid expansion of scientific medicine and hospital technology;
- cost-containment; and
- assessment and accountability.

In the CCEE and the newly independent states (NIS) of the former USSR, the first revolution had an ideology of strengthening equity. The second revolution consisted of health care reform – the

era of the market approach, in which health depended on the behaviour of patients, health care on the behaviour of service providers and costs on the behaviour of health care financiers. The third revolution would take place through a value-oriented society beginning an era of quality and a holistic approach to health care. Even though the basic principle in health care policy was solidarity, it did not apply to services that were not essential, effective or appropriate.

The debate in Hungary addressed the issue of a basic package of health services. The basic package must fulfil four criteria. Services must be necessary, effective, efficient and beyond the individual's own responsibility to provide. Unfortunately, people's own sense of responsibility for their health was very underdeveloped in Hungary. The country needed better data on the outcome of selected medical procedures, and on activities and their costs. In quality development, Hungary aimed to focus on leadership, information and analysis, strategic quality planning, human resource management, quality assurance of products and services, and client satisfaction.

In Poland there is a general hospital discharge register. In the future, all 14 provinces would supply information for this register. Hospitals sent their information to the provincial medical statistical office, which provided data to the National Centre for Health Systems Management. Efficiency analyses could be made at all levels. This had not previously been possible, and only 10% of the discharge data from the provinces had been analysed. Information management would take place through the National Centre for Health Systems Management. The main obstacles to analysing effectiveness of the Polish health services were the following:

1. lack of influence of hospital managers on therapeutic decisions;
2. excessive influence of specialist elites on the objectives and priorities of assessment of effectiveness;
3. absence of a uniform system of clinical procedures and methods to determine costs;

4. absence of any requirements for effectiveness at the provincial or central levels of health care management;
5. insufficient deployment of informatics infrastructure in health care institutions; and
6. poor appreciation of the difference between effectiveness and efficiency.

In Sweden, the aims for health care services' productivity and effectiveness were:

- to avoid increases in taxes or premiums;
- appropriate income for health personnel including physicians; and
- to maintain and, it was hoped, increase access to and the quality of services.

The measurement of productivity and effectiveness was important to protect health care services from overambitious politicians. Cost-containment policies could be dangerous if driven too far, and the measurement of productivity, effectiveness and quality could help to clarify these limits. The definitions need clarification and health care workers, and physicians need to be better informed to avoid misunderstanding.

Measuring the growth in the productivity of health services raised major problems. It was complex; service delivery was immediate; quality had many attributes; there were no market prices; goals were complex, and the data on both input and output were insufficient. The most immediate problem was the lack of output data. The quality attributes could and should be included in any attempt to measure productivity on continuous basis. The links between productivity and quality of care must be identified. Further, the dynamic character of health care must be taken into account. New technology was introduced all the time, creating new possibilities to provide services. The separation of the effects of new technology from wrong incentives and mismanagement was important.

The measurement of effectiveness was even more difficult. It might be possible to select services with positive impact on health, but the real problems were linked with consumer preferences, both individual and collective. This was due to the fact that health care service providers were not used to seeing patients as consumers or clients.

In the Russian Federation, where the former state health system had started to move towards health insurance, more attention was paid to productivity, efficiency, effectiveness and the quality of care. In 1994, 1.8% of GDP was allocated to the health care sector. Administration accounted for more than half of this amount (1% of GDP). In this situation, health insurers had taken the responsibility to watch out for the interests of patients. This was especially important because the level of health services was not equal in different regions. The positive results of decentralization were that local administrations was closer to the problems of the patients and had more responsibility. One practical problem in the Russian Federation was the lack of generally accepted terminology in the public health sector; a glossary in Russian was urgently needed.

EXPERIENCE WITH AND PLANS FOR ASSESSMENT

The WHO Regional Office for Europe was developing a health services knowledge base, which could respond to some of the countries' information needs. One should distinguish between the concepts of a database and a knowledge base. The latter is designed with a clear vision of its purpose. Thus, the indicators used must focus on health outcome, and the links between activities, costs, effect and quality. Because obtaining reliable and standardized data from different countries was difficult, it was important to restrict the number of indicators, so that attention could be paid to the quality, validation and timeliness of the data. In limited areas, such as oral health, diabetes care and nosocomial infections, WHO had already made considerable progress in monitoring the quality of care.

At the international level, WHO and the European Community had collaborated to set up a telematic network of health indicators in several European countries, institutions and schools of public health. In this CARE I project, the problems of comparability and timeliness of data became clearly visible. As information on what could not be compared was important, a glossary of agreed indicators was urgently needed.

Governments wanted to decentralize and focus only on core issues, but this meant giving up control. When decisions on decentralization are made, sufficient mechanisms for necessary control, such as quality control, need to be put in place at the same time. Sometimes very few indicators could be sufficient. A network of centres needed to be created that could provide the data. Ministries of health should know who provided data, for example, to WHO.

The German experience with databases showed that the data and analysis tended to come too late, as more information would be needed when goals were set. In fact, the knowledge base should tell health policy-makers the answer to a single question: what is useful and what is not needed in a given time and situation. In other words, the data may be sufficient, but the capacity to interpret it is lacking.

DIFFERENT VIEWPOINTS ON ASSESSMENT

The needs of assessment vary according to the administrative level asking for the information. Policy-makers need different data than service managers or regional planners. This simple fact is often neglected when information needs are discussed.

At the national level, the input side – the allocation of money and staff, and the quality and training of professionals – is important. On the output side, the overall volume and general quality must be monitored. It is usually sufficient to assess effectiveness through changes in general morbidity and mortality. Efficiency indicators at the national level are poorly developed. Nevertheless, cost-benefit ratios, cost-utility ratios and cost-utility analysis can be applied to specific issues of high priority.

At the regional level, the first problem is how to define a region. In general, the information needs are rather similar to those at the national level. It is important to compare outcomes with those of similar regions in the country and with national averages. Often regions are not directly involved in the allocation of resources, and therefore the input side of the data may not be so important. The regions are closer to consumers and local management, however, so they should be particularly interested in the efficiency and quality of services, particularly as they frequently deal with complaints.

At the institutional level (hospitals, primary health care districts, etc.), efficiency and effectiveness are not separate words in many CCEE and NIS. The monitoring of costs at this level is important, although disliked by the providers of services. As there are no definitions for outputs, it is almost impossible to define and monitor unit prices.

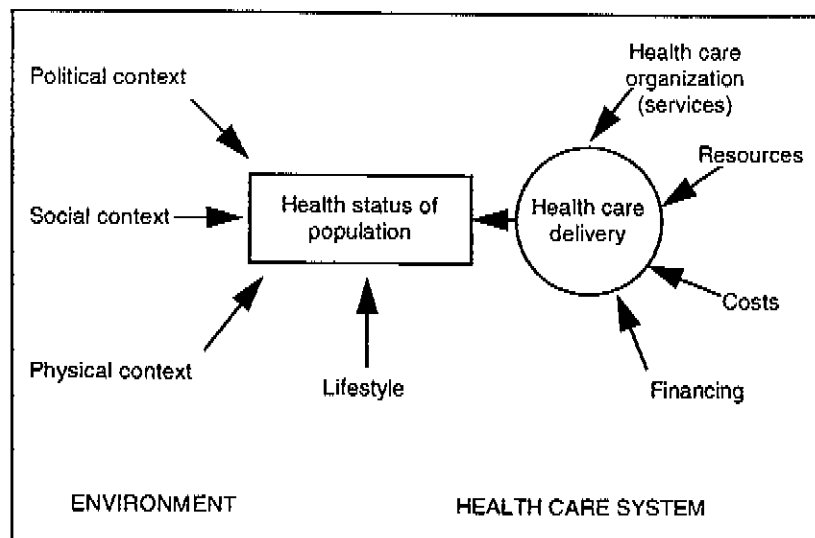
In general, the people's information needs are not considered. Nevertheless, people should know enough to be able to make informed choices about their own health care. Otherwise, the discussion of free choice is nonsense. It is important to develop criteria for good hospitals and good physicians. Only through relevant data can public debate take place and patients be educated to be responsible health care consumers. Nevertheless, service providers find openness very new and even frightening.

In conclusion, it is important to differentiate between the information needs of different target groups and levels, and to move from what is nice to know to what is necessary to know. The case-mix approach (pooling certain indicators) could be useful in evaluating outputs. This, however, can easily conflict with national legislation on data protection.

THE QUEST FOR BETTER INDICATORS

It is important to identify and measure the factors influencing the population's health status (Fig. 2).

Fig. 2. Factors influencing the health status of the population



Viewpoints on health care indicators may differ according to the health system and the circumstances in which the assessment is expected to take place. In general, health care systems in the European Region can be divided into established insurance-based (Bismarck) systems, established tax-based (Beveridge) systems, and systems that are in transition from a central administration and state ownership (Semashko) to a basis on insurance (Bismarck). The participants involved in each type of system highlighted aspects that they thought important in their circumstances. The findings of each group of participants, however, were by no means specific to one system alone. Annex 1 comprises a summary of the groups' views on potential indicators.

The Bismarck group (participants from France, Germany and the Netherlands) wanted to look at the issue from the viewpoint of

anomie¹, which means a general breaking down of established rules and norms leading to a loss of orientation. Anomic situations arise in times of accelerated social change. The sudden change or reform of established social institutions, especially concerning health services, may lead to anomie. Some of the indicators in Annex 1 are examples of anomic situations in health care systems. It is important to detect symptoms of anomie as early as possible, in order to look for reasons and remedies before it reduces effectiveness and leads to malfunction of health care.

The group identified how to measure the quality of life as an important but difficult issue. So far, attempts have been made to measure the quality of life indirectly, through the assessment of treatment or medical care. In other words, the question was whether the services aiming to restore health were timely, appropriate and successful. Measuring the quality of life as an existing, positive state of affairs is difficult, at least from the health point of view. Many of the new sociological indicators could, when seen from the viewpoint of anomie, be seen as early warning signals for the health care system.

The productivity of health care systems is commonly measured by utilization rates, but these have well known drawbacks. The product is more culturally dependent than characteristic of real differences. In addition, productivity should be reviewed from the viewpoint of patient satisfaction. One way of measuring it would be to look into the rate at which citizens change their family physician.

The Beveridge group (participants from Denmark, Finland, Sweden and the United Kingdom) wanted to approach the evaluation through an anticipated pathway recovery variance (APRV) indicator, whereby one can assess experienced quality by

¹ In an anomic situation there is a gap between the expectations set by the society and the possibilities to implement them: one does not get what was promised. Characteristic to this situation is above all the tension, which can be traced back to the fact that there is no balance between one's own endeavours, abilities and expectations on one hand, and the individually achieved results on the other. The result is a feeling of alienation and resignation. Anomic is not a trait of individuals - but rather a distinct social situation a person may endure. (E. Durkheim).

the deviance from expected quality: whether it is better, worse or equal.

The third group (participants from Hungary, Kyrgyzstan, Poland and the Russian Federation) concluded that demand and need should be differentiated, and the trends illustrated whenever possible. The development of general quality indicators is difficult, but one method could be to review the existence, quality and use of treatment protocols or clinical guidelines, and to compare these with current conditions.

Assessing the satisfaction of providers and consumers is important but difficult. One indicator could be compliance with drug therapy and the popularity of alternative treatments. It would also be important to find out, through population surveys, how common and how high are under-the-table payments in countries where these are common. Often these payments are used to bypass the regular referral channels, so it would be important to know the number of people who are moving through the system without proper referral.

A trend towards (or even a fashion for) inequity was mentioned in many countries that formerly had a Semashko system. To have private insurance and not to use the public system is an indicator of high status and wealth. Many people want to avoid contact with the poor, no matter how good the public system may be. An interesting indicator would be the number of health administrators and policy-makers who are responsible for planning the public system but have private health insurance.

In conclusion, each country should select from the indicator list presented in Annex 1 the parameters that are considered most pertinent and appropriate for further elaboration. A list of core indicators needs to be developed for Region-wide comparisons.

DIFFERENT INFORMATION USERS – DIFFERENT NEEDS

The Workshop participants reviewed the indicators for assessing the productivity, efficiency, effectiveness and quality of health care

systems through a simulation exercise, to focus on the information needs of different groups of users. In other words, the traditional approach of listing all possible indicators was abandoned in favour of providing a minimum package to meet the needs for information. This exercise was to test the validity of the indicators elaborated previously, and to get a realistic picture of the difficulties of reconciling the needs of different interest groups. Further, the exercise showed that certain groups do not want some information to become common knowledge, and led the participants to draw some conclusions.

The knowledge base should be able to be used in an interactive manner. Some comparisons between tax-based and insurance-based systems should be made. It should start small and expand later. Utilization rates, preventive practices, use of protocols, cost-effectiveness, use of technology and a consumer perspective must be included. Quality can be monitored by using certain core disease groups as indicators.

Budget restrictions force administrations to cut expenditure. All information collection that is not absolutely necessary should thus be stopped. Current information systems are inaccurate, inappropriate, ill designed, not timely, and have poor coverage. New systems need investment and international collaboration is paramount.

The medical profession felt that existing profiles do not reflect its efforts, number of operations and use of modern equipment. Dentists felt that preventive aspects in oral health are important and not reflected properly in present data. The nursing profession emphasizes the link between patient satisfaction and good nursing. Physicians are not so interested in this because they do not always understand the value of nursing. Minimal staffing standards need to be established and followed, and the staffing mix monitored. Process indicators, as well as outcome indicators, characterize service production better than health status indicators.

Industry could potentially finance information services, but its interest lies strictly in its own sphere: how to produce and sell more. Scientific institutes and research centres are eager partners, but tend to forget the difference between administrative needs and those of research. Administrators may be satisfied with proxies, which might

not meet scientific standards. Nevertheless, securing exact answers may take so long that the issue is no longer relevant.

CONCLUSIONS

Information systems must be accurate, timely and simple. The use of information and analyses requires advocacy and policy-makers must be reminded that cutting funds is not a long-term solution. Good information allows informed debate and transparent discussion. This is only possible if timely and accurate data are available. Morbidity and mortality data are too rough for use in assessing the quality of a health care system. Welfare indicators, patient/citizen satisfaction parameters and data on waiting times are therefore needed to fill out the picture.

Productivity, efficiency, effectiveness and quality comprise a many-faceted and difficult issue. Nevertheless, countries are willing to allocate surprisingly little for the evaluation of a sector that uses about 10% of GNP and even more of public expenditure. Standards are requested, but they can be a double-edged sword. It is probably not feasible to develop uniform health service standards throughout the European Region, because the countries differ widely in culture and stage of development.

The main elements in a knowledge base designed for the assessment of health care systems are:

1. patients'/citizens' health status or risk indicator status
2. the financing of health care systems
3. human and material resources
4. satisfaction of patients/citizens and service providers.

In selecting indicators, one must concentrate on what one needs to know. Finally, the roles and interests of different actors in information production should be made clear.

While in general economists have stopped using the term gross national product (GNP), it is nevertheless constantly used for financial purposes in health care systems. Other parameters, however,

can better illustrate changes in institutions, as well as characterizing their productivity. Such indicators are an essential element of the knowledge base, which could present a more complete picture of reality than quantitative databases.

An important challenge for WHO lies in determining how to evaluate and compare different health care systems. On the one hand, the acquired data must be comparable but, on the other hand, they must also reflect the essential cultural individuality of societies.

Development projects are only successful when they are accepted by the majority of the population. Similarly, efficiency in health care systems can be achieved in different ways in different cultures. An international clearing-house of information for use in health systems planning must address a key question: what country-specific information must be included or can be left out of in the name of the comparability and validity of data. By what rules will health data be interpreted?

The following three questions must be answered:

1. What is an appropriate indicator for the envisaged goal?
2. What will be measured and how?
3. How are the data understood, why is the indicator appropriate and why is it used; in short, is the indicator feasible?

The new and characteristic feature of the future-oriented knowledge base lies in basing the responsibility for and presentation of information on the answers to these three questions. This will make the information comprehensible to the user.

A central coordinator is needed. Telematic connections permit on-line data exchange, but an organization such as the WHO Regional Office for Europe is still needed to standardize, analyse and disseminate information. It is better to start small and build on success; good information spreads. In this respect the Regional Office for Europe could:

- act as a clearing-house for economic information;
- prepare guidelines for cost-effectiveness studies;

- develop standards and norms for indicators;
- develop indicators for the measurement of the quality of care;
- prepare periodic country reports with special attention to cultural differences;
- set up a minimum package of indicators for the evaluation of health care systems;
- focus on the use, quality and protection of data;
- develop indicators to evaluate preventive health services.

Annex 1

**POTENTIAL INDICATORS FOR THE EVALUATION OF
THE PRODUCTIVITY, EFFICIENCY, EFFECTIVENESS
AND QUALITY OF HEALTH CARE SYSTEMS**

Subject area	• Indicators
1. Political/ administrative content	<ul style="list-style-type: none"> • Political instability • Participation rate in elections • Riots
2. Social context	<ul style="list-style-type: none"> • Educational level • Birth rate • Average size of households • Divorce rate • Unemployment rate • Juvenile suicide • Crime • Homicide • Feeling of insecurity • Proportion of people living alone
3. Lifestyle	<ul style="list-style-type: none"> • Alcohol consumption/abuse • Drug consumption/abuse • Tobacco consumption^a
4. Environment	<ul style="list-style-type: none"> • Level of pollution (all categories) • Population • Age pyramid • Birth rate
5. General health status	<ul style="list-style-type: none"> • Levels of injury • Morbidity indicators • Health care delivery • Coping strategies (e.g. in dementia)

6. Citizens/ patients	<ul style="list-style-type: none"> • Number, age distribution, sex distribution, employment form, average income, level of education • Subgroups: pensioners, unemployed, age groups (0-15; 16-24; over 64, etc.), blue-collar/white-collar workers, agricultural groups, urban/rural groups, minority groups • Satisfaction of consumer groups/providers • Health status of different consumer groups (selected mortality, morbidity, incidence, prevalence) • Amount of revenue collected by the health insurance fund (and especially how much less than anticipated, i.e. how many employers do not pay as they should) • Health care expenditures in different groups • Avoided deaths through treatment, operations • Number of new selections of family physicians
7. Access to care	<ul style="list-style-type: none"> • Access by a particular category of people (immigrants, homeless) • Number/rate of people over 65 in nursing homes • Average amount of visits to physician per year • Average length of physician's consultation • Percentage of people who do not use the services • Percentage of people visiting dentist annually • Attitude of personnel/of patients to prevention • Average length of waiting times and waiting lists for selected common indications • Existence of exclusion criteria for certain treatments (e.g. according to old age)
8. Outcome	<ul style="list-style-type: none"> • Proportion of population with private health insurance^b • Waiting times • Percentage of preventable deaths (in people under 60)

9. Demand/ Need	<ul style="list-style-type: none"> • Quality of life aspect (health status is one component) • Utilization rates with respect to age, social groups, etc. • Hospital admissions per consultation
10. Resources	<ul style="list-style-type: none"> • Organization • Share of total labour force • Allocation of labour • Labour mix (physicians/nurses/ technicians, etc.) • Primary health/Secondary care • Prevention/Treatment • Drug consumption (using some indicator drugs as the use of sleeping pills, broad spectrum vs narrow spectrum antibiotics, psychotropic drugs, pain killers) • Investments/Other expenditures • Intake of medical and nursing students per year • Curricula of medical and nursing schools • Role and number of social workers employed by the health sector
11. Cost	<ul style="list-style-type: none"> • Fees as share of total expenditure • Percentage of total expenditure spent on people over 65 • Financing • Proportion of average income comprised by co-payment (in different population groups) • Number/Percentage of people unable to pay minimum insurance premium • Percentage of government funding to cover the insurance deficit • Amount of fraud in insurance claims
12. Satisfaction of providers	<ul style="list-style-type: none"> • Average income of providers (compared with average salary in the country) • Number of visits to different specialties • Outstanding claims of insurance funds

13. Complex indicator	<ul style="list-style-type: none">• Health care expenditure related to GNP related to patient satisfaction• Average expenditure of a household spent on health services (out of pocket)
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^a All tobacco use is considered abuse, as tobacco cannot be used safely or appropriately.

^b In some countries the practice of contracting private health insurance can be seen as an indication that the services offered through mandatory insurance are unsatisfactory or insufficient to the population's needs.

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