

# Conceptual framework for the assessment of the performance of the Brazilian Health System

Francisco Viacava, Célia Almeida, Rosângela Caetano, Márcia Fausto, James Macinko, Mônica Martins, José Carvalho de Noronha, Maria H Dutilh Novaes, Eliane dos Santos Oliveira, Silvia Marta Porto, Lígia M Vieira da Silva, Célia Landmann Szwarcwald.<sup>(\*\*)</sup>

## Introduction

Since the beginning of the 1980s managers of the health services have been facing challenges to reform both the organizational and the operational aspects of the health systems, due mainly to the reduction of resources assigned not only for the health sector but for all other social policies, as well. Add to this the uncontrollable increase of the expenses with medical care and the changes in the demographic and epidemiological profile of the populations. As a consequence, the search for more equitable alternatives that can ensure a better provision of high quality services have become peremptory, given the increasing social inequalities and the worsening in life and health conditions of the population. Although the reasons that lead to the health sector reforms have been different in each country where it occurred, the wave of change that swept all over the world followed a quite similar path.

---

(\*)Projeto financiado pela Financiadora de Estudos e Projetos-FINEP e realizado em parceria com profissionais de diversas instituições de pesquisa afiliadas à Associação Brasileira de Saúde Coletiva-ABRASCO, que constituíram a equipe de pesquisa: Francisco Viacava (Coordenador) (CICT/FIOCRUZ), Célia Maria de Almeida (ENSP/FIOCRUZ), Célia Landmann Szwarcwald (CICT/FIOCRUZ), Claudia Travassos (CICT/FIOCRUZ), Eliane dos Santos Oliveira (ENSP/FIOCRUZ), Hillegonda Maria Dutilh Novaes (FM/USP), Isabela Soares Santos (ENSP/FIOCRUZ), José Carvalho de Noronha (CICT/FIOCRUZ), Juan Yazzle Rocha (FMRP/USP), Lígia Maria Vieira da Silva (ISC/UFBA), Márcia Furquim de Almeida (FSP/USP), Márcia Fausto (IFF/FIOCRUZ), Marilisa Berti Barros (FCM/UNICAMP), Mônica Martins (ENSP/FIOCRUZ), Nelson Ibañes (FCM/Santa Casa de SãoPaulo), Maria Alicia Ugá (ENSP/FIOCRUZ), Rosângela Caetano (IMS/UERJ), Silvia Porto (ENSP/FIOCRUZ).

(\*\*) **Francisco Viacava**, MPH, Depto de Informações em Saúde (CICT/FIOCRUZ); **Celia Almeida**, Ph.D, Depto de Administração e Planejamento em Saúde (ENSP/FIOCRUZ); **Rosângela Caetano**, Ph.D, Instituto de Medicina Social (UERJ); **Marcia Fausto**, MPH, Instituto Fernandes Figueira (Fiocruz), **James Macinko**, Ph.D, pesquisador visitante do Depto de Administração e Planejamento em Saúde (ENSP/FIOCRUZ) e Assistant Professor da New York University; **Mônica Martins**, Ph.D, Depto de Administração e Planejamento em Saúde (ENSP/FIOCRUZ); **José Carvalho de Noronha**, Ph.D, Depto de Informações em Saúde (CICT/FIOCRUZ); **Maria Hillegonda Dutilh Novaes**, Ph.D, Depto de Medicina Preventiva (FM/USP); **Eliane dos Santos Oliveira**, MPH, Depto. de Administração e Planejamento em Saúde (ENSP/FIOCRUZ); **Silvia Marta Porto**, Ph.D, Depto.de Administração e Planejamento em Saúde

In general terms, the proposals of the health sector reform are tuned in with the global movement around the State Reform, that gave prominence to debates on the actual role of the State and strongly questioned the way in which the health systems are organized and carrying its functions. (ALMEIDA,1995). Both the universalism of access to health services as a right of the citizens, and the predominance of public financing of the health systems have been subjected to harsh criticism. More efficient and effective alternatives started being proposed along with the withdrawal of the State as a direct provider of health services, with reinforcement of its regulatory functions.

In a few words one may say that the core questions that have been guiding the health sector reform are: (i) contention of the costs of the medical care; (ii) the restructuring of the public/private mix, starting from the decentralization of activities and responsibilities (operational and financial), and encompassing the sub-national levels and the private sector, as well; and (iii) the increase of the consumer's participation in financing the utilization of services (public or private). Initially, the agenda of the reform was conservative in the sense that was limited to the individual medical care and to the restrictions of the expenses in that sub-sector.

Its ideological principles were clearly aimed to the attainment of certain goals: (i) circumscription of the debate within its technical boundaries, by removing or minimizing its political aspects; (ii) emphasis on the managers' performances regarding the clinical decision-making processes, by reducing the health professionals' roles (mainly that of the physicians) (iii) establishment of a new and more effective managerial set-up.

The reduction of the fiscal unbalance and the creation of more sustainable macroeconomic conditions were underlying the reform processes. Criticisms were focused on the supply of services, and emphasis was given to the importance of health systems in responding to the consumers' demand. The traditional bureaucratic hierarchical structures with its inherent rigidity derived from normative procedures were considered inefficient, ineffective and ultimately insensitive to the public interests. Reformers built their proposals based on the assumption that, as in any monopoly, state agencies tend to be innately inefficient and grow indefinitely, with the results being always that of a bad performance.

---

(ENSP/FIOCRUZ); **Ligia Maria Vieira da Silva**, Ph.D, Instituto de Saúde Coletiva da UFBA; **Célia Landmann Szwarcwald**, Ph.D, Depto de Informações em Saúde (CICT/FIOCRUZ).

The central analysis changed from focusing on the "products" of the government agencies (output) to the "results" of those activities (outcomes) (KETTL, 1996:38-41 *apud* ALMEIDA, 1999). Given that health services should forcefully be directed to the consumer, it would be expected that health systems should be construed taking this point into account. In this case, the performance assessment would become an important tool in the assessment of the functioning of these systems.

Anyway, all along these last 30 years the debates have mainly centered on whether to restrict the performance evaluation of health systems to cost-effective, outcome-based analysis or consider it in a broader sense, as affected by economic, educational and other social disparities (NAYLOR, 2002).

Not ignoring all the debate around ideological issues nor the conservative agenda of the health sector reform, the performance evaluation of health systems is nonetheless regarded as a desirable tool for the monitoring of health policies. Even so, some key tasks remain to be worked out, such as how to measure performance in terms of quality, efficiency and equity, and how to set up systems of managerial performances while trying to achieve better results through individual changes (HURST, 2002).

This presentation intends to share some of the concerns aroused by the project at its present stage and contribute with the discussion on the matter. Its first part deals with the conceptual aspects of performance evaluation of health systems; the second part reviews the fundamentals of some frameworks elaborated by international organizations directly involved in the proceedings, such as the World Health Organization/WHO, Organization for Economic Cooperation and Development/OECD and Pan-American Organization of Health/PAHO; its third part summarizes some of the main points found in alternative frameworks proposed by different countries for health system performance evaluation; the fourth part proposes a conceptual framework for performance assessment for the Brazilian health system, based in past and current experiences of other countries.

### **Health System Performance Evaluation: conceptual aspects**

It is safe to say that there is no agreement at all, among the authors, on the most appropriate comprehension of what is health system. Definitions, concepts and analytical categories used to define or to analyze health systems vary according to values, principles

and conceptions on what is health and which is the role of the State in relation to the health of populations. It may be said that the way health problems are perceived is crucial to determine what should be held as relevant or not.

According to Roemer (1991) a Health System is a combination of resources, organization, financing and administration that culminates in the health services offered to the population. However, these encompassing categories would not automatically lead to an understanding of the correct functioning neither of the Health Systems nor of its results, unless the prevalent relationships vis-a-vis each other are taken into consideration.

Field (1973) defines the systems of health as social mechanisms able to transform resources (or inputs) into specialized results, under the form of health services aimed to cope with the health problems of society. This often allows the empowerment of the system to the extent of modeling itself as a sort of monopoly free to cater health services in its own way, supported by both the statutory and regulatory laws of the political system. Other inputs to be considered are scientific and technological knowledge, notably those applied in the medicine of the XXth Century. Seen as crucial components of this setting, a great percentage of physicians and other professionals receive specialized training that enables them to be later hired by the system. Finally, economical resources are necessary to finance that structure (FIELD, 1973:763-785 *apud* HEIDEHEIMER, 1975).

The WHO defines health systems as a group of activities whose main purpose is to promote, restore and maintain the health of a population (WHO, 2000:5). In this sense, according to Mendes (2002:17) they are societal answers *intentionally* organized to attend the needs, demands and representations of the populations, in a certain society at a certain time.

The structure of Health Systems is quite complex. It is composed of a distinctive set of elements, according to the characteristics of each country. Thus, it can be said that the relationships between those elements tend to be dialectic rather than harmonious, given that the systems of health services operate in conflictive ways according to their own dynamics, in spite of the problems they may have in common. In general they stick together around a group of previously agreed upon objectives, in the hopes that this may ensure a certain direction (MENDES, 2001; 2002).

Theoretically, every society shares the belief that health has an intrinsic value for the people and thus health services are necessary to maintain life and relieve the suffering (MENDES, 2001:25). Even so the objectives of health systems vary from one country to another, and so do the conceptions within their respective systems of health services, although some underlying values are similar, such as the struggle for overcoming the inequalities and achieving well-being for the whole population. Actually, what is commonly observed is that, in spite of the explicitness of those values, both the structure and the operation of the systems do not present the minimum requirements of how to get to them. Besides, even when the objectives and values are maintained, the reformation proposals not always lead to positive, expected changes.

In short, there are different formulations about objectives and functions of health systems, due to given historical circumstances, the combination of proposals that characterize a specific health sector reform, and the analytical models it is based on.

In the Brazilian case, although the health system has its principles constitutionally defined, the discussion on the desired model of the health system follows its own path. There is, for instance, no consensus among the authors on such a major theme as the "*SUS that is wanted*". Several types of models are proposed - some alternative some experimental - that more often than not conflict with the reproductive trend within the hegemonic models, i.e., private medical assistance-based model, (emphasis on hospital care supported by diagnosis and therapeutic services) *versus* the preventive-based model (campaigns, special programs and epidemiological and health surveillance) (MENDES, 1993; PAIM, 1993). Attempts to articulate promotion, prevention, recovery and rehabilitation in both individual and collective dimensions, such as experienced in the municipal level, argue in favor of the possibility of setting up a model aimed to the quality of life (MARINHO DE SOUZA & KALIGHMAN, 1994) as proposed in the 10th National Conference of Health (CNS, 1996), in 1996 (TEIXEIRA et al, 1998) and maintained in the 11th and 12th Conferences, in 2000 and 2003, respectively.

In sum, as simple as may seem to say that the final target of all health systems is to improve the health of the population, we agree with Evans and Stoddart (1991) when they point out that the attainment of such a goal is a complex process that involves intermediate objectives and multi-sector actions. To provide services either at the individual or collective

level, as well as the management of multi-sector actions, are only a few of the countless ways of improving the health of the population. Factors linked to the socioeconomic situation, along with environmental, biological, genetic and behavioral factors strongly influence the health of individuals and populations. It is necessary to refine the knowledge of how those factors interact and the role they play in the fulfillment of the ultimate goal of health systems.

### **Performance assessment of health systems proposed by international agencies**

Although there is some disagreement about the concept of performance, it mostly refers to the degree attained by the health systems in fulfilling its objectives *vis a vis* expected ones (HURST & HUGHES, 2001). The methodological tools of performance evaluation will depend, therefore, on how precise are the principles, objectives and goals of the health systems under evaluation, which will ultimately determine the choice of the dimensions that should be object of the performance evaluation.

The World Health Report 2000 (WHO, 2000) had the merit of pointing out the performance assessment as a crucial subject in the contemporary debate of the health sector reforms, notwithstanding all the criticism aimed to it due to other equally significant aspects of its content. For the evaluation of health systems the WHO relied on a conceptual framework with the following characteristics:

- (i) adopts a wide-range definition of health system, with poorly defined objectives;
- (ii) considers all sort of resources, organizations and actors as part of the of health system, even those that only remotely accomplish or support a sanitary action (protection, promotion, health improvement), but chooses not to include education;
- (iii) selects three goals to be achieved by the health system: 1. improvement of health status; 2. responsiveness, understood as clientele satisfaction with non-medical aspects of care. 3. fairness in the financial contribution (FFC). The first two goals are measured through its mean and distribution, while the FFC only through its distribution;
- (iv) identifies four functions crucial to the fulfillment of those goals: 1. financing, including specific contributions, sector funds and direct purchase of services; 2. provision of health services, at the individual and collective levels; 3. generation of resources; 4. stewardship, seen as supervision and guidance of the whole system, public and private.

This framework lead us to conclude that: the decisions about allocation of the financial resources are external to the health sector; responsiveness is solely referred to the medical care; access is a determinant, not a component of responsiveness; efficiency is seen as the degree that the health system, given the available internal and external resources, is able to accomplish the maximum possible contribution to the social goals.

The performance evaluation proposed by the WHO Report (WHO, 2000) was received with countless criticisms, of different kinds. The main targets were the theoretical model of analysis (WILLIAMS 2001; NAVARRO 2000; BRAVERMAN et al, 2001) and the methodological approaches that were taken for measuring the overall health system performance (ALMEIDA et al, 2001)

As to the theoretical model, is worth mentioning:

- (i) the fact of WHO coming forward and assuming a definite political and ideological stance and somewhat induce toward a specific reform model, which is not an expected or desirable role;
- (ii) the Overall Health System Performance Indicator, although composed by several dimensions does not lead to the identification of priorities within the Health Systems;
- (iii) there is not enough evidence to state with certainty that changes in the health status, both in terms of average and distribution among individuals, predominantly reflect the way the health systems operate, when what they actually express are the social and economical conditions of societies;
- (iv) under the notion of "new universalism" the citizen becomes an abstract customer, and that doesn't help to go any further in the identification of the particularities of social inequalities in health.

As to the methodological problems, it was remarked:

- (i) the absence of data for many countries lead to the adoption of econometric methods to estimate data with little transparency, not appropriate for health managers to have an immediate and clear understanding of them;
- (ii) the methodology employed for obtaining the weights for the construction of the composed index is not clear and can only be inferred;
- (iii) the measured inequalities, considering each individual's position in relation to the mean, do not allow for the distinction of population groups. Besides this, with such

a methodology countries with few variations around low averages may find themselves in better situation than countries with larger inequalities but higher averages;

- (iv) the measures of fairness related to financial contribution assume that all individuals should commit the same percentage of the family income in expenses with health, what can not be considered a desirable or expected translation of the idea of equity in the financing of health services.

The OECD and the WHO guidelines for performance evaluation of health systems are very similar, except for a few points. Besides modifying the treatment given by WHO to the concept of efficiency, the OECD suggests:

- (i) the inclusion of indicators of results of the health services (outcomes) as an integral part of performance evaluation (microeconomic efficiency);
- (ii) the inclusion of access as a component of responsiveness, making possible the evaluation of equity;
- (iii) taking the level of sanitary expenses as a goal of the health systems (macroeconomic efficiency) disregarding weighting mechanisms for evaluation of goals;
- (iv) the performance evaluation should include several and different dimensions of the systems of health;
- (v) restricting performance evaluation exclusively to medical assistance as opposed to actions of public health.

As to the PAHO, it considers that since definitions and objectives of the health systems vary enormously among countries, rather than be an end itself or be treated as a purely academic exercise, performance evaluation should be construed to give support to development of policies, strategies and programs of health, centering on the quantitative and qualitative evaluation of the extent that its objectives are being accomplished. Therefore, the performance evaluation has to consider the different functions of the health system such as generation of resources, sources of financing, provision of services and stewardship. Besides, it should since the beginning take into account the several levels of analysis (national, regional and local) and the involvement of different social actors. Efficiency should be considered just one among other dimensions of the performance such as equity, effectiveness, acceptability, satisfaction etc. Methods and evaluation indicators



should be established by consensus and they require the measuring of different dimensions, like the general performance of the system (final or macro indicators) and about its multiple components (intermediate, instrumental or micro indicators) (PAHO, 2001).

An important PAHO recommendation is on the need of conceptual frameworks in order to include equity in the evaluation of health systems performance, in a *transverse perspective* to the other dimensions. In fact, this has already been proposed by some countries, such as Canada and Australia.

The literature review took us to adopt some authors whose conceptual considerations seemed more appropriate to the objectives of this project. Among them are Whitehead (1992), to whom inequities refer to the avoidable and unjust differences, the International Society for Equity in Health (ISEqH), according to which equity corresponds to the absence of potentially remediable, systematic differences among social, economical, demographic or geographically defined population sub-groups (MACINCKO & STARFIELD, 2002). So far, the people working in this project have agreed on a few points:

- (i) inequalities in health are socially produced and, therefore, avoidable, because they are caused by unjust policies;
- (ii) goods and services should be redistributed in a way to overcome those differences;
- (iii) the inequalities should be monitored in order to implement more equitable health policies

### **Other countries experience on performance evaluation of health systems**

Several country members of OECD are developing frameworks and indicators to evaluate the performance of health systems (COZZENS, 1995; HURST & JEE-HUGHES, 2000; AIHW, 2000; NHPC, 2000; CIHI, 2001; HURST, 2002; OR, 2002; SMEE, 2002; WOLFSON & ALVAREZ, 2002; GREEN, 2003). In general, they show some characteristics in common:

- (i) they define different frameworks (objectives and goals) and different performance dimensions (mostly in relation to quality and efficiency);
- (ii) they are more concerned with conceptual operativeness, while international organizations (OMS, OECD) show more interest in macro-level definitions;
- (iii) they put more weight to evaluations made at the level of structure and process dimensions as proxy of results;
- (iv) they don't include general measures of efficiency.

The elaboration of the frames of references is a long and hardworking process, that needs the participation of several institutions, countless meetings, consultations and seminars for establishing some degree of consensus. These processes are initiatives that come from federal levels of administrations and most of them are too recent and as of yet have achieved no conclusive results.

As for the dimensions and selected indicators, they are quite different amongst themselves, above all in relation to the subject of quality and efficiency. However, some common elements make it possible to identify which dimensions are being given privilege: a concentration was found on the evaluation of the improvement of health/outcomes and responsiveness, while there is scarce development in the area of evaluation of equity; and absence of indicators of macro-economic efficiency.

In relation to outcome indicators, they are referred to changes in the individuals' health condition and to population subgroups, through the action of systems of health services. Some difficulties are pointed out considering its operation, due to the difficulty presented by working with population-based indicators of results counting only with routine statistics. It is also hard to identify which outcomes may unquestionably be attributed to the impact of the action of the health services. Therefore, it is usual to rely on proxies of results, that is, health condition measures (morbidity and mortality due to conditions susceptible to health care measures), and also measures derived from the process of care (mostly utilization data, which are highly correlated to outcomes). In these countries, in a group of 13 more commonly used indicators of results, only 5 can be truly considered measures of results derived from actions of the services, all others being proxy (HURST & JEE-HUGHES, 2001).

The concept of responsiveness also presents great variety, according to the country, and so do the dimensions, but in general, variables that are usually related to satisfaction, acceptability and the patient's past experience are used. The first two – satisfaction and acceptability – are more subjective, related to the patient's expectations, while the third – users past experience – is seen as more objective and related to the characteristics of the provision of care, such as, "*free choice*" of treatment, for instance. The countries show a tendency to work with different dimensions and groups of responsiveness indicators. These indicators are more easily obtained through population surveys, and most difficulties lie on

the quality of the method employed to collect information – such as phrasing in questionnaires, sampling processes, etc

### **Some comments about international experiences on evaluation of performance of health systems**

There is a great diversity of models according to the country and its institutional arrangements, the public/private mix and type of management. In United Kingdom, Canada, and Australia it is based on public managerial control, and in USA on market incentives. They also can be centralized (United Kingdom), decentralized (USA), or mixed (Australia, Canada).

In all cases there is a predominance of physicians doing performance evaluation and conducting managerial processes, although a crescent concern on professional monopoly and self-regulation has been lately noticed, mainly in how it affects the technical quality of the evaluation of care. It is suggested that traditionally used mechanisms, such as peer review and medical auditing be complemented with external evaluations done by other professionals, such as managers, administrators etc. Yet, there are doubts regarding the content of this type of evaluation and to whom they should be addressed, if the providers of services or the public in general.

On the other hand, stakeholders and different actions need different groups of indicators of performance evaluation, and therefore the reports should contain global as well as more disaggregated indicators, so as to assist the different audiences and clientele.

How to establish benchmarks for the performance is another critical point and problems start emerging when one has to turn these data into public information, because they are of little effect for the consumers or "*buyers*" of services and, in general, work better when directed to the people in charge of organizing the provision of care (United Kingdom) or employers that pay private insurance for their employees (USA).

Finally, it is important to note that assessment of health systems is a long and permanent process, and one has to make allowances to successive and continuous adjustments. In addition, they should necessarily be nationally concerted, above all in the countries where health systems are decentralized and where prevails great regional disparities.

## **A proposal for evaluation of the performance of the Brazilian health system**

In Brazil, notwithstanding a number of initiatives directed to the consolidation of the Unified Health System (SUS), and the existence of projects designed to evaluate the innovations that have been implemented, there is no governmental initiatives related to evaluating the burden of those changes on the performance of the health system, as a whole. Furthermore, most of the existing evaluations are either focused on the decentralization process or on recent launched primary care programs, such as the Program of Community Health Agents (PACS) and the Family Health Program (PSF).

In this work we tried to develop a methodology wide enough to embrace the whole *spectrum* of dimensions of the evaluation of health systems based on what was found in the literature review. The efforts made by some countries to improve the performance of the health systems is based on frameworks composed by elements that may capture the health conditions, the non-medical determinants of health, the performance of the health services, the general characteristics of the health system and the community's resources. The approach, under the format of a dashboard, as proposed by Canada, was recommended by PAHO (2001) for application in the Region of the Americas, with some modifications. According to the PAHO's proposal, each country should develop indicators regarding the prevailing health care actions directed to the health problems considered as priorities. Countries are supposed to give special emphasis to the distribution of the health services to different social and demographic groups assuming equity as a transverse dimension.

Although the evaluation methodology here presented is based mainly on elements of the Canadian, Australian, English and PAHO proposals, important differences exist:

- (i) while in Canada the inclusion of the determinants of the health seems to have been made to enlarge the limits of the performance of the health system and its evaluation, in our case its inclusion is due to the assumption that the health conditions of the population suffer the impact of economical and environmental social factors, which can greatly interfere in the results of the performance of the system of health services; therefore, the evaluation model proposed is centered fundamentally in the performance of the health services;
- (ii) the structure of the health system, a dimension recommended by PAHO and also incorporated in this model, is not considered separately by the other countries;

- (iii) we have redefined some categories, like the *financing* of the health system, and introduced the category *resources*;
- (iv) the health system acquires its best composition when put against political, social and economical contexts. In Canada it is counted as one of the dimensions of performance evaluation, while in Australia it is a health determinant category;
- (v) in the Canadian model the monitoring of both, conditions of health and performance of the system of services, are two objectives to be pursued, while in the Australian case the focus is on the evaluation of the health system performance, which is also the major objective of our proposal;
- (vi) different from any other case, we chose not to place the dimensions on a panel without defined articulation among them. ***The main emphasis of the Brazilian proposal is on the performance of the health services***, understood as a contingency of the structure of the health system. Health demands must be paramount in the allotment of financial, material and human resources necessary to the adequate performance of the health services, which will be to some extent accountable for the improvement of people's health conditions and may also contribute to affect the health determinants .

In sum, as a first dimension, we propose that the performance of the Brazilian health system should be analyzed within the political, social and economical contexts that translate its historical and current structure, taking into consideration its objectives and priorities. Within that context it will be possible to identify the determinants of health that are associated to health problems, which of them are avoidable and which are susceptible to intervention. Its appreciation should be made considering its impact on different social groups.

The characterization of these health problems through morbidity, mortality, limitation of physical activity and quality of associated life, would constitute a **second dimension** of the evaluation, that would allow for a more accurate knowledge on the magnitude of the problems and its manifestations in different geographical areas and among diversified social groups. The morbidity-mortality profile would therefore express the health needs and should be used as a guideline for the structuring of the health system (stewardship, financing and resources). This **third dimension** is crucial to determine the conditions the associated to a better or worse performance of the health system, the main object of the evaluation (Figure 1).

With this framework in mind it seems more feasible to think of a set of analytical approaches to chart some inquiries about the quality of the supply of services, its variation according to social groups and geographical areas, the legal, technical or organizational instances that may improve the performance of the health system; its conformity to the legislation, and so on, in order to get a much more detailed and precise picture of its actual functioning (Figure 2).

After settling the main dimensions of the evaluation, the next step was tackling with the different concepts underlying each of them. The literature review, dealing either with more commonly used concepts or indicators, put emphasis on the importance of having a very clear conceptualization for each of the dimensions and their components or categories (Figure 3, 4). In some cases, an important conceptual diversity exists and should be indicated. In others, the definitions tend to be convergent, which turns the choice of the indicators easier. Indicators were also reviewed having in mind a selection that would preferentially agree with national existent indicators (Brazilian Basic Indicators of Health), followed by a definition of new indicators that could be obtained from other existent, reliable data such as: mortality data, demographic census, administrative data on in-patients, health supply surveys, and national household surveys, such as the World Health Survey (2003), the National Household Surveys (1998), which includes a health section, the Living Standards Survey (1996/1997), the Family Budget Survey (1996 and 2000), or data that are generally collected through household surveys or more specifically, from users of health services. Thinking on a frame of reference also helps to evidence where there is a lack of appropriate data, and hopefully strengthen the need to collect them through an organized way.

It is advisable that the technical note regarding each indicator points out to the inequality measure used for comparing population groups, so as to show the geographical and social inequalities. The analysis of the face validity of the indicators should be made using experts and potential users of this particular kind of monitoring system taking into account the above mentioned selection criteria.

It should not be forgotten that the proposed methodology also aims to the evaluation of regional systems of health and specific programs, as well. So, it should be taken into account the inequalities in the performance at state and local levels. Private segments of the

health system should be attended, too. It is also advisable take into account the actual possibilities of its execution, organizational sustainability and financial feasibility, because its continuity is crucial to the effectiveness of any proposal of performance evaluation of health systems

### **To conclude**

Although there is no consensus on how to measure the performance of the systems of health services, *performance* is always defined *vis a vis* the functions of the many organizations that compose the system and its outcomes, the only difference laying on what each country determines as its own issues and expected outcomes. The objectives and expected outcomes of a given health system being countless, likewise its dimensions of analysis, it is reasonable that no strict correspondence was found among the various local experiences, although the indicators (considering their contents) are the same in more than once instance.

Even so some particularities were evidenced: (i) an absence of temporal regularity that would permit measuring all that is subjacent to the indicators, which are not always specific; (ii) some indicators are routinely collected, as part of the administrative tasks (general and specific mortality; immunization; incidence and prevalence of certain diseases, etc). Other measures are obtained through specific surveys, some of which done in a regular, pre-scheduled basis (self-referred state of health; range of activity/chronic pain; past, current, passive smoking etc)

Other countries experiences show that to implement an effective performance evaluation is necessary a in-depth, solid, all-encompassing process of negotiation that take into account the purpose of the health system, its final composition, objectives, expected outcomes, and the involvement of different social actors, as well. So, managers, providers of services and clientele would be able to define – based on criteria of relevance, reliability, validity, discriminating capacity and feasibility - a minimum set of indicators to compose the framework guidelines to assess **all** different performance dimensions of the health system.

Finally, it would be desirable to establish an agenda concerning the period of implantation of the monitoring system, along with the indicators and definition of the

necessary mechanisms to periodically collect non-existing data. Methods and procedures applied to detect and discuss data should also be convened, in order to promote a gradual process of evaluation.

The national and international review of the models reveals that a possible route to be taken in the Brazilian case is to start with a wide process of discussion, as it was done in the United Kingdom, Canada and Australia. Hopefully, through this national debate it would be possible to define a conceptual framework and define the most appropriate performance indicators for the SUS. In this sense, this project may become the first step to unclench such a process.

## References

- AIHW/Australia Institute of Health and Welfare (2000). *The seventh biennial health report of the Australian Institute of Health and Welfare*. AIHW Canberra: Cat. N° 19:2000
- ALMEIDA, C. M. (1995). *As Reformas Sanitárias nos Anos 80: crise ou transição?* PhD thesis: ENSP/FIOCRUZ. Rio de Janeiro
- ALMEIDA, C. M. (1999). *Reforma do Estado e Reforma de Sistemas de Saúde: experiências internacionais de tendências de mudança*. *Ciência & Saúde Coletiva* 4:2:1999 (263-86)
- ALMEIDA C. M., BRAVEMAN P., GOLD M. R., SZWARCOWALD C. L., RIBEIRO J. M., MIGLIONICO A. et al. (2001). *Methodological concerns and recommendations on policy consequences of the World Health Report 2000*. *Lancet* 357:9269:2001 (1692-7)
- BRAVEMAN P., STARFIELD B., GEIGER J. H. (2001). *World Health Report 2000: how it removes equity from the agenda for public health monitoring and policy*. *Br. Med. J.* 323:22:Sept:2001, (678-68)
- CIHI/Canadian Institute of Health Information. (2001). *Health Care in Canada*. CIHI Canada <http://www.cihi.ca>
- COZZENS, S. (1995). *Performance Assessment and the National Science Foundation: Proposals for NSF's Response to the Government Performance and Results*. Act. NSF Discussion Paper, Arlington, VA
- EVANS R. G., STODDART G. L. (1994). *Producing health, consuming health care. Why are Some People Healthy and Others Not?* In *The determinants of health of populations*. Aldine de Gruyter, New York.
- HEIDHEIMER, A. *Health Care: Delivery Options and Policy Constraints* In: Heideheimer A., Hecló H. & Adams, C. T., *Comparative Public Policy-The Politics of Social Choice in Europe and America*. St. Martin's Press, New York
- HURST, J. & JEE-HUGHES M. (2001) *Performance Measurement and Performance Management in OECD Health Systems*. Disponível em [www1.oecd.org](http://www1.oecd.org). OECD Health Systems. Labour Market and Social Policy – Occasional Papers 47:2001 (1-60)
- HURST, J. (2002). *Performance Measurement and Improvement in OECD Health Systems: Overview of Issues and Challenges*. In *Measuring Up – Improving Health System Performance in OECD Countries*. Paris, OCDE Ed
- MACINKO J. & STARFIELD B. (2002). *Annotated Bibliography on Equity and Health, 1980-2001*. *Intern. J. for Equity in Health* 11:1:2002



- MARINHO de SOUZA, M. F., KALICHMAN A. (1994). *Vigilância à Saúde: Epidemiologia, Serviços e Qualidade de Vida*. In: Rouquayrol M Z & Almeida-Filho, N (orgs) *Epidemiologia e Saúde*. Rio de Janeiro, MEDSI 1994 (467-476)
- MENDES E. V. (1993). *O processo social de distritalização da Saúde*, (pag. 93-158). In: Mendes, E V (org.) *Distrito Sanitário: o processo social de mudança das práticas do Sistema Único de Saúde*. São Paulo, Hucitec/Abrasco
- MENDES, E. V. (2001). *Os grandes dilemas do SUS* (Tomo I). Salvador, Bahia:ISC/Casa da Saúde
- MENDES, E. V. (2002). *Os sistemas de serviços de saúde: o que os gestores deveriam saber sobre essas organizações complexas*. Escola de Saúde Pública do Ceará, Fortaleza
- NAVARRO, V. (2000) *Assessment of the World Health Report 2000*. Lancet 356:2000 (p.1598-1601)
- NHPC/National Health Performance Committee, (2002). *National Report on Health Sector Performance Indicators 2001*. Queensland Health, Brisbane
- OR, Z. (2002). *Improving the performance of health systems: from measures to action (a review of experiences in four countries)*. Labour Market and Social Policy – Occasional Papers N° 57, Paris, OECD Ed
- OPAS/Organización Panamericana de la Salud, (2001). *Health Systems Performance Assessment and Improvement in The Region of Americas*. (p.1-67).Washington, DC
- PAIM, J S.. (1993). *A Reorganização das Práticas de Saúde em Distritos Sanitários*. In Mendes, E V. (org.) *Distrito Sanitário: o Processo Social de Mudança das Práticas do Sistema Único de Saúde* (p.187-220). São Paulo, Hucitec/Abrasco
- ROEMER, M., (1991). *National Health Systems of the World*. (vol.1: The Countries). Oxford, Oxford University Press
- SMEE, C. H. (2002). *Improving Value for Money in the United Kingdom National Health Service: Performance Measurement and Improvement in a Centralised System*. In Measuring Up – Improving Health System Performance in OECD Countries. Paris, OEDC Ed
- TEIXEIRA C F., PAIM J S. & VILLASBÔAS A L., (1998). *SUS: Modelos Assistenciais e Vigilância da Saúde*. Informe Epidemiológico do SUS. VII:2 (p.7-28), COMED/ASPLAN/FNS, Brasília
- WHITEHEAD M.. (1992). *The concepts and principles of equity and health*. Intern. J. of Health Services 22:3:992 (p.429-445)
- WILLIAMS A. *Science or Marketing at WHO? A Commentary on 'World Health 2000'*. (2001). In Health Economics 10:2001 (p. 93–100)
- WOLFSON, M.. & ALVAREZ, R. (2002). *Towards Integrated and Coherent Health Information Systems for Performance Monitoring: The Canadian Experience*. In Measuring Up – Improving Health System Performance in OECD Countries. Paris, OEDC Ed
- WHO/World Health Organization, (2000). *The World Health Report: Health System: Improving Performance* (p.1-125). Geneva

## Annex

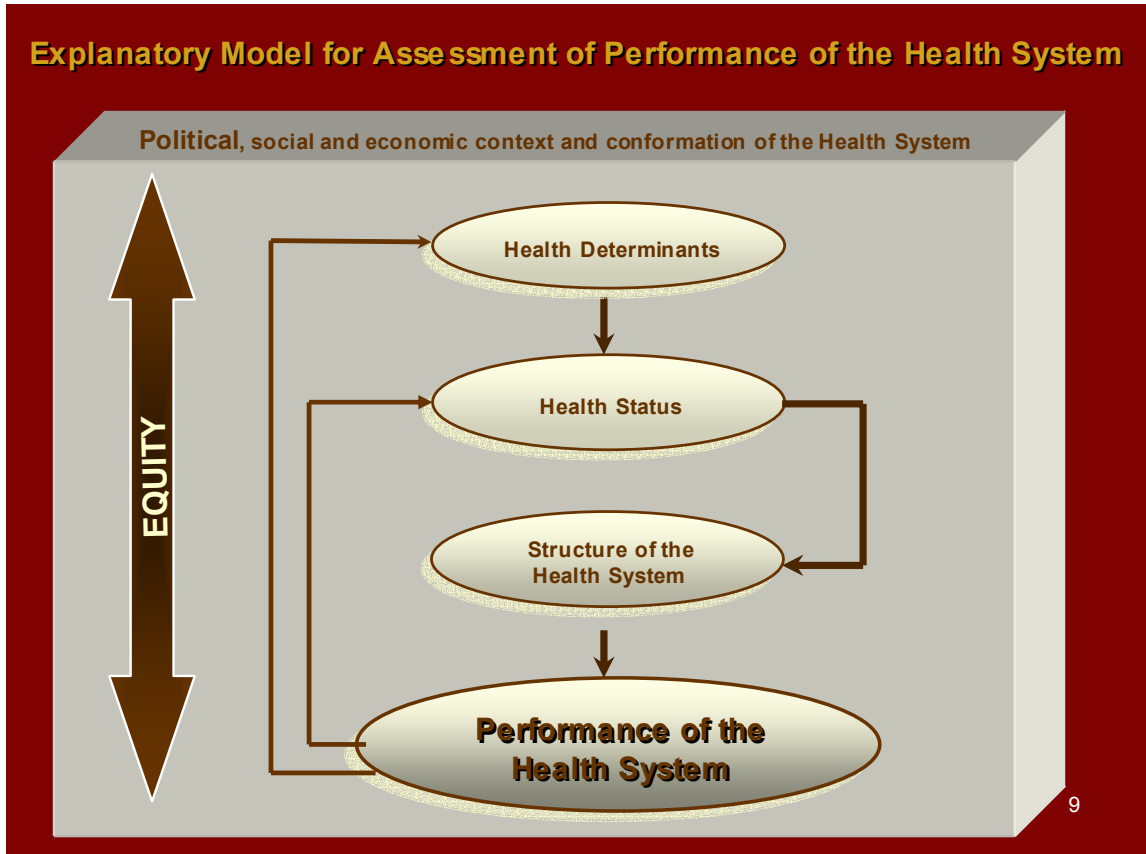


Figure 1

# Explanatory Model for Assessment of Performance of the Health System

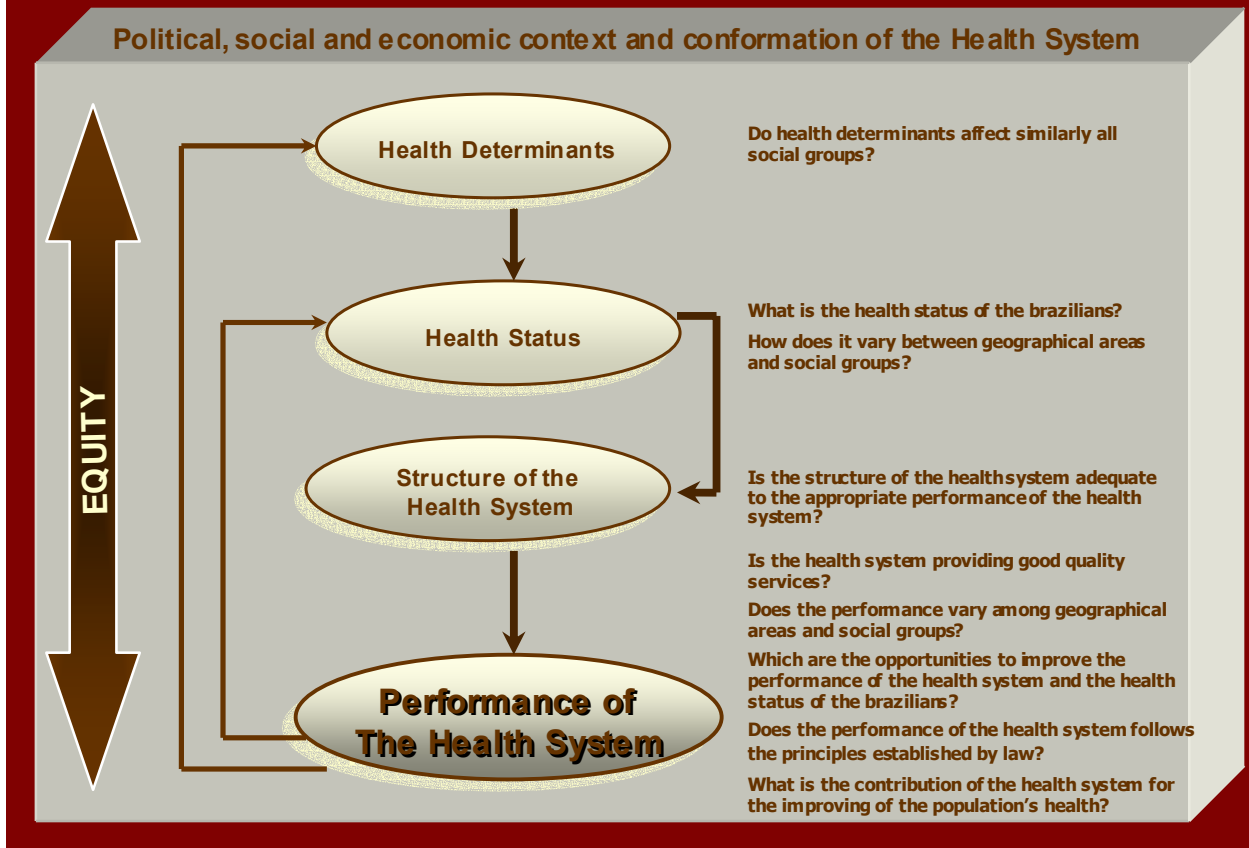


Figure 2

## Explanatory Model for Assessment of Performance of the Health System

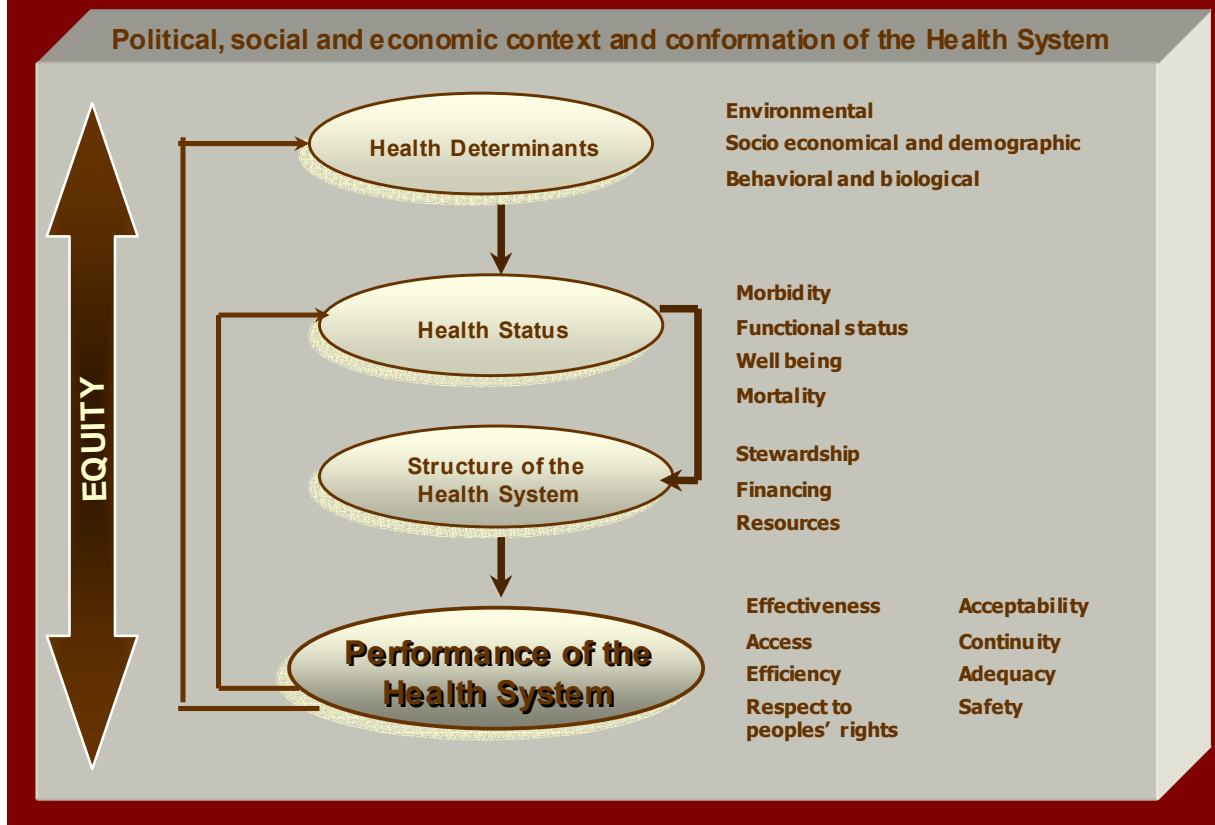


Figure 3

## DASHBOARD FOR THE ASSESSMENT OF THE BRAZILIAN HEALTH SYSTEM PERFORMANCE

### The Health System and the Socio-Political & Economical Context

Health Determinants			
Environmental	Socio-Economic and Demographic	Behavioral and Biological	
Environmental, physical, chemical and biological variables that affect the prevalent state of health	Societal & individual demographic & socio-economic variables related to the prevalent state of health	Attitudes, practices, beliefs, behavior and biological individual as well collective variables that affect the prevalent state of health	
Health Status			
Morbidity	Functional Condition	Well-Being	Mortality
Occurrence of symptoms, illnesses, traumas & deficiencies	Restriction or impediment in performing daily activities (functionality)	Quality of life associated to physical, mental & social well-being of the individuals	Patterns & trends in the occurrence of deaths in the population
Structure of the Health System			
Stewardship	Financing	Resources	
Administrative capacity to create & implement health policies accompanied by measures of monitoring, regulation, empowerment e responsibleness in its execution	Extent of financial resources and modes by which they are collected & allocated	Set of people, information, facilities, equipments and inputs incorporated for the operation of the health system	
Health System Performance			
Access	Acceptability	Respect to peoples' Rights	Continuity
Capacity of people to obtain the necessary services in adequate time and place	Extent of accordance between the health services and the prevalent values and expectations of users and the population as a whole	Capacity of the Health System to grant the due respect to individuals & communities in the services delivery	Capacity of the Health System to deliver coordinated and continuous services
Appropriateness	Safety	Effectiveness	Efficiency
Extent of scientific & technical-based knowledge applied in health caring and other sector interventions	Capacity of the Health System to identify, avoid or minimize potential risks inherent to interventions on health and environment	Extent of attained over expected outcomes regarding the performance of assistance, services & actions	Relation between the outcome & the amount of resources employed in the process of health intervention

**Note:** Equity is a transversal concept that cuts through all dimensions. Thus, all of them should be taken having this perspective in mind, while making use of the most appropriate variables and indicators.

Figure 4