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MEASURING AND REPORTING OF THE HEALTHCARE SYSTEMS PERFORMANCES

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Abstract. The health care system is one of the most important social systems of each country. That is the reason for considerable interest among the policy makers in obtaining information that indicates the performance of their health care systems. This information is needed to set up a fundament for monitoring the progress of the health care system over time as well as its comparison with other health care systems. Starting hypothesis of this paper is that there is a need of public disclosure of health care systems performance data in order to improve the accountability in the health care delivery. This would be of great benefit for the public, for the providers of health care services, for the health care policy makers, as well as for the funders of health care services. In this context, attempt is made to elaborate the problems encountered in the pursuit to improve the performance of health care systems. The purpose is to present the key areas of action directed towards improving the performance of health care systems that would have a double benefit: first, it will allow detection of contributors and noncontributors toward improving the performance, and second, it will provide the basis for developing evidence - based policy aimed at reforming the health care systems.

Keywords: *health care, performance measurement, responsibility.*

Introduction

Understanding what role performance indicators can have in improving the delivery and outcomes of the health care, requires consideration of the scope and magnitude of the problem of a health systems' performance. Additionally, careful use of performance indicators to anticipate the impact of desired changes requires an understanding of the evidence of the effectiveness and challenges of implementing specific strategies for transformation or triggers for change. Issues of effectiveness, efficiency, responsibility and fairness are equally involved in describing the key dimensions of performance of health care. This dimensions summarized the broad definitions of quality, defined as the degree to which health care services offered to individuals or entire populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge. For full actualization of this definition of quality, the principles of fairness and efficiency are inseparable with the health of the population; the effectiveness is essential to achieving results; while responsibility is an essential characteristic at the individual level.

Measurements of performance can vary depending on the methods and definitions. While there is a valid debate over techniques of measurement, there is no disagreement regarding the need for global performance improvement in health care systems. Despite evidence of significant gains in some indicators of health status, dramatic defects in the quality of health care protection can be observed, including improper care, safety problems and unjustified regional variations in the practice of health care. Through the eyes of doctors, patients and financiers, exist an open concerns over the erosion of health care systems performances. The surveys conducted on physicians in Australia, New Zealand, Canada, UK and U.S. report a significant reduction in the quality of health care in these countries. When they were asked whether their ability to provide quality health care had changed in recent years, the percentage of physicians who answered that the change was negative ranged between 50-60

percent, and only 1/4 of respondents, said that their ability to provide quality health protection had been improved in recent years.[1]

The results of anonymous public opinion surveys have stressed that the health care systems in various countries require fundamental change or complete re-examination. This assessment clearly highlights public mistrust of the health care and provides data that uncover the need to focus on issues of health care system performance. Public disclosure of performance data is intended to point the high priority given to systematically improving performance and increasing accountability. According to Hurst, the cycle of measuring and managing performance [2] begins with an explicit set of goals, reflected in the acceptance of specific indicators of performance, followed by analysis and reporting of data to the various participants. Then the systematic implementation of actions helps to create changes in multiple dimensions such as fairness, access, effectiveness, efficiency and social responsibility. Appropriate steps should be taken in order to improve performances.

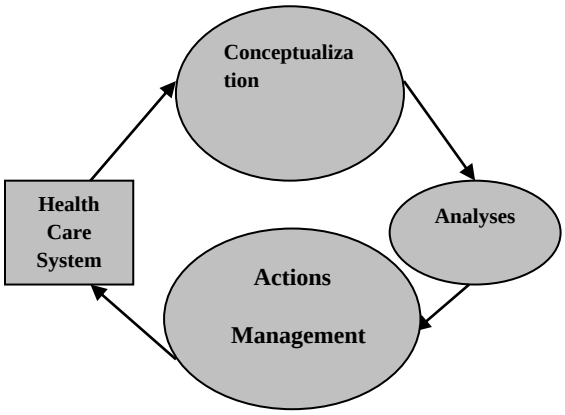

Figure 1: The cycle of measurement and performance management

(Source: Jeremy Hurst: Performance measurement and improvement in OECD health systems; overview of issues and challenges)

There are numerous methods and approaches for improving performance, but the evidence base for their selection is often insufficient and ambiguous. Furthermore, the causes for change vary between countries (and even within different health care systems of a country) depending on factors such as the basic cultural values, financial and organizational arrangements, professional culture and self-perceptive citizens as active and passive participants in interactions of health care. The selection of the intervention depends on who desires the goal of behavioral change, for example whether it is health care providers (individual or institutional, professional bodies, citizens or managers.

1. Problems in improving the performance of health care systems

In recent years, the World Health Organization (WHO has undertaken significant efforts to establish a common framework for the conceptual assessment of the health care systems performances, in order to accelerate the further development of the means to measure the components of health care systems and work together with the countries to apply these tools, calculations, and improvements in the performance of health care systems. Decision-makers in countries with low, middle and high income face five common problems in selecting appropriate alternatives to improve the performance of their health care systems. These problems, and the potential of WHO to contribute in overcoming them, according to J.L. Christopher, "are sufficient motivation to work on the health systems' performances."[3]

First, national and international debates often regard the complicated issue of the design

[1] Schneider E. and Epstein A: Use of public performance report. A servey of patients undergoing cardiac surgery, JAMA, Vol.279, No.20, p. 1639

[2] Jeremy Hurst: Performance measurement and improvement in OECD health systems; overview of issues and challenges, OECD 2002, p. 37

[3] Christopher J.L. Murray, David B. Evans: Health Systems Performance Assessment: Debates, Methods and Empiricism**,** World Health Organization, Webcom Ltd, Canada 2003, p.3

and reform of the health system as limited due to the lack of understanding of the basic and important goals of the health care systems. The national debate over the health policy is often focused on short-term or instrumental purposes such as maintenance of the costs, expansion of public infrastructure, reducing the waiting time and determination of the users' participation. Often, this dialogue misplaces the vision of the primary goal of the health system: to improve the people's health.

Second, if a decision maker often needs consultation on issues of design or reform of the health care system, the answer largely depends on which consultant or expert is consulted. Whenever a different approach in defining the inputs, processes, outputs and outcomes, and a different set of measurement methods is used, it is difficult to build a global database and knowledge. Therefore, a key objective of the engagement of WHO in terms of health care systems' performances is to contribute to the development of a strong global base of evidence about what works and what does not work within the health care system.

Third, in many countries the health systems are fragmented and often participants simultaneously consider only parts of a complex puzzle. Managers may feel responsible only for the resources and activities in their daily direct managerial control. Authorities note that the fulfillment of its role in control of the entire health system, must assume responsibility for the totality of the health system and its contribution to key social objectives, such as improved health of the population. It is very important to create a framework of accountability that can help managers understand the overall picture of the health care system.

Fourth, in many countries attention has focused on the delivery of certain proven technologies (methods) to improve health. An important dimension in health care policy is to improve health or reduce health care marginal use of those technologies or methods that are in line with costs - benefit principle. Also safety is the top priority and that new techniques and strategies for delivery of such technologies is rapidly incorporated into health care systems.

Finally, the complexity of issues related to health care and the use of special technical language, often limits the widespread participation in national debates related to the actual decision-making. In developing of a framework for assessing the health systems' performances it is very important to encourage the civic community and the whole public to become active participants in the formulation of national health policies.

From this set of broad strategic issues, specific goals arise that can be achieved by analyzing the performances. The first objective is to develop a framework for clarifying, analyzing and improving the health care systems' performances, which would be flexible enough to be used both in developing and developed countries. The second objective concerns the development of effective and available resources that would be beneficial to the national leaders in providing timely and relevant information about the performance of their systems. The third objective concerns the development of techniques for managers in a way that maximizes the potential for mutual learning between countries. The final goal is to achieve periodic assessments of the performance of health care systems and the obtained information to inform national decision-makers and global public health community.

It is of great significance to see the important techniques for observing the performance and the experience of applying some of these techniques. Still there is enough available information on national experiences regarding the application of these measurement methods, but the basis of such information is increasing. Some techniques, such as measurement methods to assess the availability of human resources and quality of health care services are still being actively developed.

2. Public disclosure of performance indicators and the usefulness for the stakeholders

Despite the growing trends in quality measurement and intervention efforts in the quality of health care, there is minimal evidence for the anticipated broad quality improvements. This fact coupled with the political trend towards greater transparency in government and public services, results in a movement aimed at greater accountability in the delivery of health care. Public reporting of performance data is one of the basic instruments, which is used in the realization of this responsibility.

Table1. Models and instruments of accountability

	Conception	**Patients' area**	**Mechanisms/Instruments of responsibility**
Professional	Recipient of professional services	Patient, physician, professional association	Licensing, certification, challenge
Economic	Consumer of the healthcare products	Market and regulation	Input and output
Political / Political	Citizen recipient of public good	Government reforms and actions taken	"Voice" and pressure of the authorities

Three models of responsibility in health care, in their various combinations, were described and applied in countries (Table1). All of them, to some degree, either explicitly or implicitly, rely on performance indicators. According to Emanuel those models are "economic, public and professional responsibility."[4] The model of professional responsibility, which was historically dominant in most health care systems, focus to a parallel responsibility for review, accreditation, licensing and dispute as instruments of coercion, observe doctors and patients connected as a couple. Economic model of responsibility, which are taken as an example the U.S., is set on the idea that the choice - and exit leaving the health care system are mechanisms to highlight the responsibility of the market. And third, the public model sees the citizen as consumer of public good with a role in the state to encourage responsibility through instruments of the "voice" and politics.

The four basic principles of public disclosure of the health systems' performances are summarized subsequently: 1) regulation including public liability, 2) adopting and implementing decisions, 3) facilitate the selection and choice of the consumer, and 4) a change in the behavior of provision the health care service. U.S. is considered a country with the most experience in public reporting of performance data on the health care system, creating a broad basis of data in the assessment of the role that public reporting can have in improving health care systems.

There are several studies that information regarding performance data has efficient use and is of critical need for stakeholders such as the public, health care providers, buyers or financiers and policy makers.

Publicity is a part of the performance data. Evidence from the U.S. shows that patients as consumers of health care services use minimal data performances, i.e. those when making decisions on health care to a significant extent base their decisions on verbal information. There are several reasons why this happens. Most data publicly posted is intended for other purposes and audiences, so they are not sufficiently comprehensive or immediately applicable for general decision-making. For example, it is just not realistic to expect that an

[4] Emanuel E.J: What is accounatability in health care?, Annals of Internal Medicine, 1996.Vol.124,p.230

average person would show an interest in data performances issues of the mortality rate in auto-coronary bridging the so called bypass operation, which is among the most published measures of performance, even though it might impact them during their lifetime. Consequently such information for performance remains unused and low quality of services goes even unnoticed by most of the public or even unpublished.

Despite the increasing erosion of public confidence in the health care system, most people still believe that their doctor is good, so they have little incentive to search through extensive performance data to interpret such a prospect. However, recently consumers have, justifiably, begun to perceive that there are serious problems in quality of health care services, which represent a potential risk for them. The design of performance data, through understanding the issues and needs of distinct forms of data can significantly affect the consumers' perceptions.

Health care providers, both institutional (hospitals) and individual providers (physicians), are the second key interest group in the health care system. Studies show that institutions pay attention and use performances data: to improve the appropriateness of care processes, to identify poor performances, as well as to accelerate processes and structures to be accountable to the patients.[5]

There are many examples of successful application of the indicators in the changing health system's performances. Such evidence provides the basis for use of these indicators in targeting health care providers and changes in the system. They support the use of published data on the performance impact of institutional behavior of the health services providers in support of such disclosure of data with additional incentives for change.

Purchasers of health care services. The third interest group of the health care system performance indicators is the customers or funders of health care services. The employers are dominant purchasers of health care in most countries, and they theoretically have the motive and the opportunity to buy health care or insurance policy based on performance indicators. Despite the considerable attention given to the market competitiveness as discipline toll for performance improvement, it can be seen that reality lag behind the rhetoric. There are significant initiatives of major employers and business associations, which understandably decide to purchase health care services on the basis of value, i.e. by balancing costs with benefits. However, a common practice when buying or commissioning services, that affects the prices of all other performance data, is to rely on buyers and payers to improve performance through the use of indicators as a basis for selection of proved sustainable strategy.

Decision–makers on the national and local level, which are responsible for regulation of the healthcare sector are the fourth interesting group of performance data. Policies can be significantly influenced by the performance indicators. For example, the decision of former Britain Prime Minister Tony Blair to invest significant new resources in the health sector was affected by data showing that Britons have the lowest share of health care costs in the total GDP compared to most northern states. Another example is the US, where some local decision - makers in health care system, under the influence of international comparative performance data, particularly from European countries, had to change the strategy of training and providing more specialists, to training more general practitioners. There are many initiatives by the authorities in many countries in terms of creation of national reports on the performance of health care systems based on calculated indicators.

3. Ways to improve performance

In attempts to identify reliable ways to improve the performances, it would be assumed that the first natural solution would be to invest

[5] Marshall M: What do we espect to gain from from the public release of performance data? A review of evidence, JAMA 2000, p.1878

more money and resources. But the case of the US is the most suitable in denial of this assumption. The US consumes about one trillion dollars a year on healthcare (13 % of the GDP) and is ranked by the WHO at 37 place, mainly because of low ratings in the area of equity.

Table2. Categorization of interventions to change the system and the behavior of people

External oversight	**Improving skills of the service providers**
- External examination / inspection	
- Accreditation, Licensing and confirmation	- Internal / guild and reviews feedback data
- Setting targets for performance	- Use the guides and rules
Encourage patients as consumers	**Encouraging**
- Providing consumers with information about the performance when choosing to make	- Financial (payment according to the shown performances)
- Adoption of legislation for rights of patients	- Nonfinancial
Regulation	
- Government regulation	
- Professional regulation	

Source: Organization for Economic Cooperation and Development: Measuring Up, Improving Health System Performance in OECD Countries, page.324

Even more amazing is the fact that despite the fact that US consistently having the highest health spending per capita and as a percentage of GDP, their relative performance indicators did not improve in more than 40 years, and they currently have the largest relative decline in life expectancy at birth in maternal and infant mortality.[6]

Despite the undeniable fact that the performance of health care systems are closely related to issues of funding on the macro and micro level, other applications of performance reflect changes in the system and the behavior of people. Possible approaches are grouped into five categories presented in Table 2.

External oversight, external review, supervision and inspection are fundamental for monitoring and accountability for performance. Accreditation, licensing and / or certification are the instruments used to ensure at least minimum standards of compliance and required expertise. All OECD member countries have built systems in achieving these functions through the simultaneous use of public and professional mechanisms. Member for linking indicators of compliance processes and outcomes in higher extent use clear performance indicators and expand the types of indicators beyond their traditional focus on structure.

Performance indicators can be used in order to achieve/target clear policy priorities in a way that would define expectations, facilitate accountability and resources should be focused. This can be achieved at two levels: first, by defining national priorities and secondly, by identifying specific goals of performance within these priorities.

Improving knowledge and skills, inefficiency in the performance achieved by healthcare workers, is a challenge to accurately diagnose the problem when selecting and implementing effective corrective action. Basically, it is important to know whether such behavior is inefficient due to the gap in motivation, skills or knowledge or it is a system problem. Those performance indicators can play

[6] McLoughlin V: Improving Performance Using Indicators, Recent Experiances in the United States, the United Kingdom and Australia, International Journal for Qality in Health Care, 2001, p.324

an important role in education and providing feedback information to health care providers.
Lack of knowledge can be best understood as a result of an inability to master new knowledge according to the speed and complexity with which they are created. Even highly motivated health workers must struggle with the volume of evidence/information that they are constantly becoming available. It's shown that the gap in knowledge, which results in delay of the application, involves temporal difference between identifying more efficient treatments and their incorporation into everyday practice.

Performance indicators, embedded in guidelines and protocols at a level that is applicable and understandable for the health care workers, are widely used in improving the process of making clinical decisions. Measurements of performance will be easily understood by clinicians if they are made in a simple format. Recent studies have encouraged the demonstration that practical guidelines incorporated in systems to support decisions based on computers have the potential, the use of the computer generated data shows effectiveness in improving preventive services and prescription drugs.

For doctors to be able to assume their leadership position in improving the performances, they have minimal need of data to be available and reliable daily. Also there is a need of better information regarding the strategies and methods for effective intervention and improvement, as well as assistance from experts in the implementation of organizational changes.

Commitment to patients in the past few years, the improvement of the patients' experience in terms of health care they receive, becomes obvious priority in many OECD countries. According Hibbart there are two applications of performance indicators for the level of citizen: the first concerns the role of the citizen as a potential consumer of health services, and the second citizen as a patient.[7]

The resources and incentives for encouraging citizen as consumer include providing daily information available, an electronic medical library that enables the consumer access to necessary medical information shared with professionals and public.

Different laws are endorsed to ensure increased patient access to emergency health care, simplifying the process of filing complaints in a situation of inadequate treatment, providing patients with continuous care and so on. Legislation and regulation encourages patients to seek information on the performance of health care providers, in a way that enables better informed consumers to be able to reduce risk exposure.

Financial and non-financial incentives, payment by performances, is a concept that attracts increasing interest in both publicly funded and privately funded health care systems. As a first basic task that is set here is designing and implementing financing mechanisms which could reduce suboptimal results, which are due for payment. There is evidence to suggest that certain payment mechanisms are associated with certain practices. Capitation associated with providing fewer services, while the fee / commission for services encourage more service delivery.

The second major task in the application of the performance indicators in the design of incentives is to overcome financial barriers to improve protection. Prudent use of financial incentives requires careful projections in the following two ways: encouraging positive performance through additional payments and remove mechanisms of payments that badly affect the desired performance.

Using the word motivation is usually equated with money or financial compensation. But there are other forms of motivators such as recognition, reducing errors, increasing reputation and increased professional satisfaction and institutional respect.

Countries worldwide face a challenge in balancing strengthens and weaknesses of the professional self-regulation to public regulation.

[7] Hibbard J.H: Will quality report cards help consumers, Health Affairs, Vol 16, p. 218

Until you recognize that the professionalism is probably the best assurance for quality of service that they have patients, there is a general recognition that the need for balancing is not considered excess and wastefulness. Both authorities and professionals in the health care sector share responsibility towards the public, because many countries have experimented with the design of their complementary roles and responsibilities.

Health care systems are restructured in ways that fundamentally alter the nature and scope of professionalism. In the US, there is tendency of the public to be cautious when mixing the authorities in changes of the health care system in an environment where the government is seen as a protector of the fundamental rights and driver responsibility. This is done by concentration of legislative and regulatory actions. Most of these actions are based on measures of performance included in the reporting requirements, accreditation and licensing. Even in Britain, where the health care system has long been positioned as a centralized system, with inherent regulation of the management structure, significant legislation was adopted for monitoring and inspection, as well as new systems and requirements for annual assessments and inspections (every five years) of physicians (based on explicit measures of performance).

4. Comparative approach between concepts

WHO conducted multiple research studies in collaboration with Member States (51 countries and 53,024 respondents), health care institutions and organizations. The results of the respondents provided an answer to two important questions. The first, concerns the extent to which people give more weight to health status, the ultimate goal of health care systems over the other two goals (the responsibility and fairness in financial contribution). The second, concerns the extent to which respondents focus on quality of health care services versus fairness in approach to health care services. The average levels of population health and responsibility reflect the quality of the system, while inequalities in health care, accountability and fairness in financial contribution are indicators of systemic injustice. All countries ranked population health as the most important system goals, and all rank responsibility of health care system as more significant in terms of fairness in financial contribution. All countries attach greater importance to the justice of the system, than the quality of the system.

The next step is to examine whether there are specific characteristics of countries that explain this variation. At the same time, it is important to identify whether different groups of people in each country have different values. Some personal characteristics indicate preference of enforcing health over the unhealthy themes, while others are more concerned about the quality of the system rather than its equity. For example, the education of the individuals is negatively related to the priority of health status compared with the unhealthy goals (the accountability and fairness in financial contribution), while with higher self-assessment of health status, more valuation is given to responsibility compared to health. The care for equity of the system versus its quality increases with the age. In general, older people are more concerned about health inequalities and less concerned about the level of responsibility than younger people. Men are also more concerned about the quality of the system than about the equity, which means it ranks higher level of health status and lower level of responsibility inequalities than women.

Similar conclusions can be drawn from the system characteristics that are tested. Interestingly, the average educational level of the old population and the dependency ratio is negatively related to the care about the justice of the system versus its quality. Countries in which each member of the active working population takes care of most of addicts (dependents) are more concerned about improving the quality of the system, rather than reducing inequalities. Conversely, in countries where the population

has an effective role in influencing the government actions is considered that reducing of inequality is more important than improving average levels of health status. The density of population and the percentage of health care costs provided by the public sector are negatively related to preferences for the unhealthy purposes versus healthy ones. On the other hand, countries with higher levels of GDP per capita and those with higher income inequality, are more likely to give higher weight to unhealthy purposes than healthy ones.

The importance given to the average level and distribution of health absorb most importance of the total surveyed population, but the objectives of accountability and fairness in financial contribution together are considered significant. This may seem surprising to many health practitioners, which are traditionally focused only on health as a key goal of health care systems. The importance given to unhealthy goals is constant among different kinds of surveyed population and in all countries and has significant implications not only for the development of policy, but for calculation and collection of data. This is realistic, only if the achievement of these goals are routinely measured and monitored, so that the performance of health care systems in areas that people value would be improved.

Table3. Inequality in the areas of responsibility

Source: Christopher J.L. Murray, David B. Evans, p. 659

	Authonomy		Choice		Communication		Confidientality		Dignity		Conviniences		Attention		Support	Whole
Country	Clinic	Hos	Clin	Hos	Clin	Hos	Clin	Hos	Clin	Hos	Clin	Hos*	Clin	Hos	Hospital	
Belgium	0.163	0.216	0.001	0.080	0.120	0.119	0.083	0.100	0.081	1.114	0.020	-	0.133	0.182	0.110	0.070
Canada	0.145	0.205	0.073	0.119	0.109	0.168	0.066	0.116	0.035	0.087	0.041	-	0.174	0.220	0.068	0.072
Finland	0.162	0.226	0.113	0.428	0.113	0.142	0.073	0.085	0.069	0.148	0.036	-	0.140	0.189	0.155	0.079
France	0.161	0.260	0.003	0.096	0.118	0.145	0.092	0.090	0.076	0.093	0.029	-	0.135	0.171	0.113	0.068
Germany	0.125	0.241	0.036	0.207	0.108	0.162	0.074	0.120	0.076	0.125	0.030	-	0.073	0.125	0.129	0.061
Greece	0.285	0.316	0.140	0.326	0.239	0.291	0.133	0.142	0.142	0.195	0.043	-	0.166	0.262	0.206	0.137
Ireland	0.182	0.301	0.055	0.235	0.121	0.199	0.078	0.112	0.061	0.134	0.054	-	0.116	0.231	0.142	0.084
Italy	0.211	0.328	0.020	0.189	0.149	0.258	0.125	0.135	0.121	0.205	0.025	-	0.173	0.228	0.213	0.095
Luksem.	0.158	0.228	0.044	0.207	0.186	0.156	0.100	0.085	0.096	0.117	0.035	-	0.178	0.203	0.083	0.089
Netherla.	0.140	0.180	0.042	0.193	0.116	0.149	0.071	0.071	0.074	0.129	0.024	-	0.117	0.121	0.055	0.064
N.Zeland	0.111	0.149	0.010	0.111	0.104	0.135	0.085	0.108	0.065	0.099	0.036	-	0.120	0.189	0.153	0.065
Portugal	0.171	0.232	0.077	0.228	0.170	0.209	0.124	0.108	0.146	0.166	0.014	-	0.172	0.241	0.206	0.105
Spain	0.221	0.277	0.025	0.212	0.115	0.119	0.102	0.112	0.088	0.081	0.035	-	0.164	0.231	0.136	0.080
Sweden	0.175	0.186	0.068	0.201	0.137	0.124	0.090	0.104	0.088	0.058	0.056	-	0.184	0.187	0.068	0.090
G.Britain	0.176	0.174	0.045	0.123	0.142	0.147	0.063	0.069	0.066	0.089	0.061	-	0.161	0.145	0.062	0.080
USA	0.145	0.198	0.028	0.118	0.117	0.171	0.095	0.150	0.038	0.085	0.053	-	0.110	0.182	0.123	0.068

* no data

Conclusion

Successful strategy implementation in health care systems assumes a need for quantification and reporting the performance data. In the process of public disclosure of the performance indicators problems can come up. Further on, ways for overcoming it can be found, meaning accepting and implementing the necessary changes to improve performances.

This information is beneficial for the stakeholders as the public, health care providers, financial agencies and health policy makers are, in order to create and realize policy decisions and appropriate actions.

Performance measuring will contribute towards health care system progress monitor over time and it will enable comparing to other health care systems.

This is important not only for balancing the health, accountability and fairness in the patient's financial burden, but for establishing an equilibrium between quality and fairness.

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