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Review article ■

Measures for Improving the Quality of Health Care

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SUMMARY

Quality and safety in the health sector go “hand in hand”, which means that both components are inseparably linked - quality improvement will often affect more security. Good quality services will be successfully implemented in organizations that already have a “quality culture”, i.e., where the value system of employees is consistent with their commitment to providing high quality health services. The organization must have a clear strategic commitment to providing quality services at all levels of an organization. Quality and safety are not “an extra element in providing services, but make its ground. As such, the quality and safety must be built into the organization. Patient satisfaction, quality service and efficient management of resources become “holy trinity” of modern health care, strictly oriented towards the patient, aimed at reducing costs while increasing quality. Healthcare system worldwide try to develop new strategies, the implementation of which would lead to the end result - improvement of health care quality.

Key words: quality, health care quality, quality improvement, indicators, measures

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INTRODUCTION

The first decades of the 21st century represent a period of great changes in the healthcare system worldwide, which were followed by the introduction of innovations in organizational structures and developing new strategies, the implementation of which would lead to the end result - improvement of health care quality.

The results, even in advanced medical systems, point to the higher percentage of the patients who suffered some sort of damage or even were killed due to inadequate diagnostic or therapeutic procedures (1).

Patient satisfaction, quality service and efficient management of resources become "holy trinity" of modern health care, strictly oriented towards the patient, aimed at reducing costs while increasing quality.

Although the concept of quality is universal, it is important to remember that quality means different things to different people.

Definition of health care quality

When trying to define quality, all experts in this area have similar perspectives: Feigenbaum suggests that quality is about "meeting the expectations of customers"; Deming states that quality is "meeting the present and future needs of the consumer"; Crosby suggests that quality is "conformance to requirements"; Juran states more simply that quality is "fitness for purpose or use".

In the context of healthcare delivery and, when considering the provision of clinical care in particular, Donabedian (1980) posits:

"The quality of technical care consists of the application of medical science and technology in a way that maximizes its benefits to health without correspondingly increasing its risks. The degree of quality is, therefore, the extent to which the care provided is expected to achieve the most favorable balance of risks and benefits."

Models and methods for quality improvement

Methods for improving the quality can roughly be divided into external and internal. External improvements include the provision of health care quality by independent organizations (with and without coordination by the state) (2). Internal improvements, on the other hand, include implementing the health workers themselves in their facilities.

Donabedian's model

The Avedis Donabedian model is in the base of almost all modern models for improving the health care quality (3). This concept consists of improving the

quality of action in three fundamental parts of health care:

1. Structure - an environment in which health care is provided;
2. Process - a method of providing health care;
3. The outcome - a result of health care (Figure 1).

In the Donabedian's model STRUCTURE means the physical and organizational characteristics of health facilities where health care is provided. PROCESS includes the services and treatments that the patient receives, and OUTCOME is the result achieved by the treatment of patient (4). Such a model has significantly contributed to the safety of patients by opening a new chapter in health care. Among other things, the model has helped us to fully realize and understand that potential risks to the health of patients and final outcome of treatment may be a part of the structure of health care.

This model has certainly undergone some modifications over time, which makes it more efficient in some specific situations and constantly changing conditions prevailing in the modern health care. However, the backbone of the model has remained unchanged so far.

In the last thirty years, using the Donabedian's model as a paradigm, with the emphasis shifted to the outcome of patient treatment, we have come to the modern approach to health care called "The patient in focus" (5). "The patient in focus" is a great challenge to the health system that sets high goals including identifying the most effective strategies that allow the patient the best possible health care.

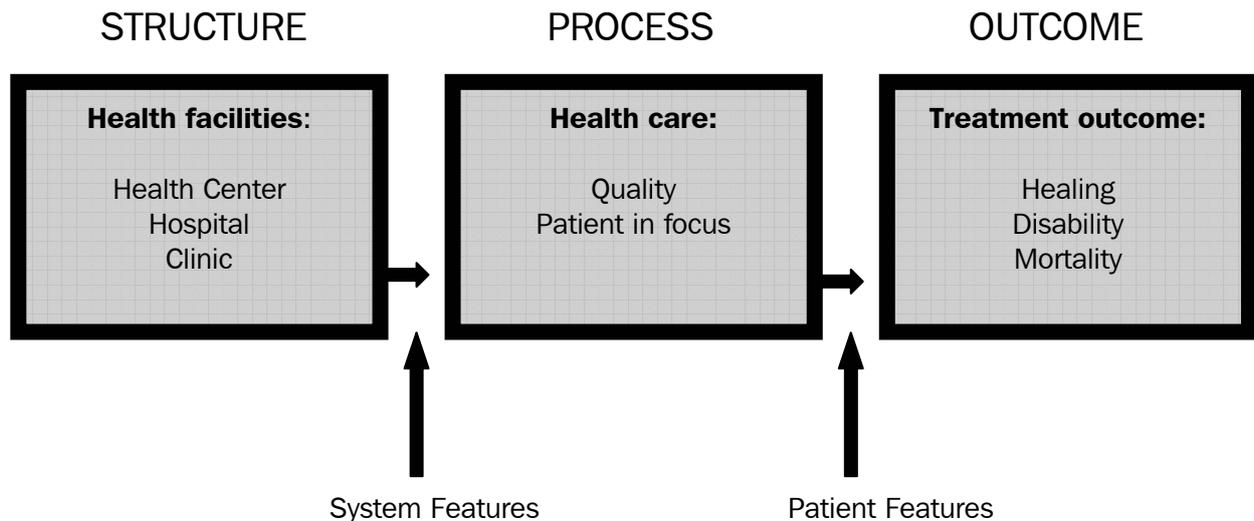


Figure 1. Fundamental parts of health care

Six Sigma and Total Quality Management (TQM) in health care

Using the Donabedian model as the basis of modern health care Six Sigma method was introduced as one of the latest methods for improving the quality of health care. Six Sigma is a rigorous set of processes and techniques for measuring, improving and controlling the quality of care and services based on the most important element for customer service, in this case, the patient (6). Essentially, this concept seeks the elimination or minimization of the defect in the process assuming that every defect leads to dissatisfaction of the patient. If we consider the processes of health care systems it is easy to conclude that many require just a zero tolerance for error or the so-called "zero defect".

Total Quality Management (TQM) is an integrative management philosophy for continuous improvement of the quality of products and processes (7). This approach, too, starts from the premise that anyone who is involved in the creation or consumption of products or services is responsible for the quality of these products and processes.

The main difference between these two methods is that the TQM approach is based on quality improvement through the alignment of internal demand, while the Sigma Six as new approach is based on improving quality by reducing the number of deficits.

Some authors believe that the integration of Six Sigma approach in the already implemented TQM models represents proper synergy that would lead to better work in health care facilities with fewer defects in the organization (8).

The model proposed by the Institute to improve health care quality

One of the models to improve the quality of health care proposed by the Institute (9) has proven highly efficient in many health care organizations and therefore most widely used globally. It represents very simple but powerful tool, not only for improving quality but for accelerating it as well (10, 11). This model comes as a sublimation of the most important previous ones and is composed of two main parts:

*Three fundamental questions that can be placed in any order:
What are we trying to achieve?*

Establishing unambiguous and clearly defined goals is a prerequisite for improvement in any organization, and certainly in health care systems. In defining the objectives several elements must be taken into account, the most important of which include measurable goals and temporal specificity. In addition, the elements that we must not leave out are specificities of the patients in healthcare organizations, as well as a consensus within the organization. The last element is not the least important, because no change will happen unless there is a strong intention to make it happen (1).

How do we know that the implemented change really implies improvement?

The only way to be sure that the changes we want to implement are essential to improve the organization is the introduction of the possibility of measuring results. In other words, by introducing changes in the organization without an effective system of measurement

we can never be sure whether the implemented changes in general lead to any improvements or perhaps poor results compared to those of the previous period.

What changes would lead to improvements?

A change does not necessarily lead to improvement, but every improvement requires change. There are no universal rules or universal model of proposed system changes that will certainly give precise guidelines which changes to implement in the health system, and that they invariably take us to progress and improve the organization. For these reasons it is suggested that changes be carefully selected first in accordance with the specific organization, and that the implementation be constantly tested and changed or abolished if needed, which of course leads us to the Deming PDSA cycle (Figure 2).

Deming PDSA Cycle

While carrying out a change in the original Plan-Do-Check-Act cycle, Walter A. Shewhart and W. Edwards Deming have come to most accepted model that contains four functions of quality management PDSA (Plan-Do-Study-Act). These are: the function of planning (Plan), the function of execution (Do), the function of consideration (Study) and the function of introduction (Act). After selecting the team that will implement the changes and develop appropriate measures for monitoring the adequacy of changes the next necessary step is to test the changes in real conditions. The PDSA cycle represents the best and most widely used scientific method for testing.

The function of planning (Plan) is based on the set of quality requirements to be met at certain levels of the organization and in certain parts of the organiza-

tional structure to improve quality. Planning of quality improvement should relate to all resources that could contribute to quality improvement. The function of execution (Do) should implement previously planned quality improvement by applying appropriate techniques. The function of consideration (Study) is to establish and analyze previously conducted quality using the methods of input, process and output quality control. The function of introduction (Act) has the task of evaluating the result considering the necessary decisions for implementation of quality improvement in the quality management process.

Such form of testing gets a dimension of repeated cyclical process, where each completed cycle represents the beginning of the next one. In this way the test turns into a life-long learning, because the organization acquires new knowledge that can be applied, verified and expanded in each subsequent cycle. In addition, this method allows testing of multiple changes simultaneously in real conditions. Substantial changes in the organization cannot be implemented by a single change but by a whole series of changes and by using multiple related PDSA cycles multiple changes can be tested at once.

This form of testing changes on a small scale (pilot) can also be applied on a wider scale or the entire organizational system.

Newly implemented changes in the system of the change will affect the whole organization, and in some cases even the aspects that are not directly related. However, the implementation itself also involves the application of PDSA cycles.

The application in other parts of the organization that were not primarily targeted will enable new teams in other parts of the organization to re-test any change through the PDSA cycle and thus learn and further improve the quality.

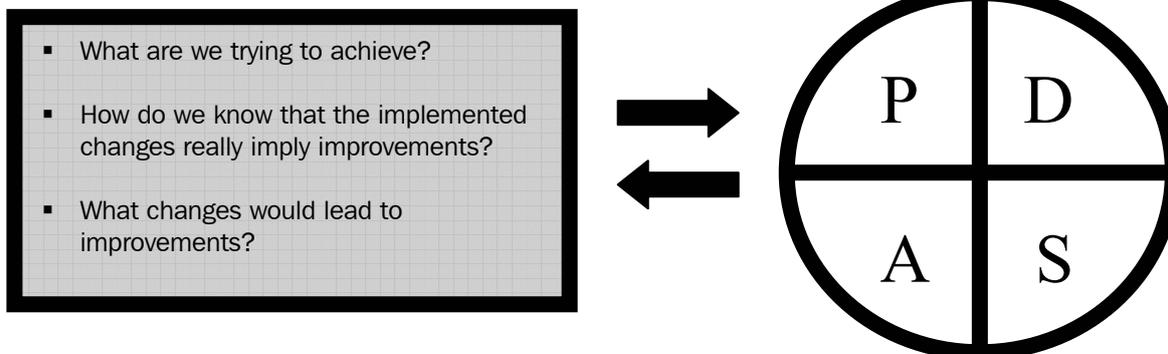


Figure 2. Three fundamental questions and PDSA cycle (model proposed by Institute for Healthcare Improvement)

Indicators

The measurement itself is one of the most critical parts of testing and implementation of change. Measurements give course of direction to an organization, enable introduction of new knowledge into everyday use allow us to be sure that the implemented changes lead to improvements.

All types of indicators can be divided into three major groups: external indicators (the voice of service users or patients), process indicators (the voice of employees in the health system) and balanced indicators (monitoring system from different angles).

While introducing the indicators it is important to observe the whole picture and bear in mind that indicators are testing the causal relationships at different levels (12).

The interdependence of these relationships can strengthen or weaken depending on what kind of quality we provide for each unit separately. The introduction of indicators consequently causes the strengthening of interdependence, but we must bear in mind that the indicators “do not see” the interdependence that has been developed to assess certain levels (estimated operations, patient satisfaction, employee satisfaction, etc). The influence of the results is often a substantial barrier to quality improvement, since the attention is focused either on outcome indicators or process indicators, whereas understanding of the relationships of interdependence and influence of the outcome on the process is neglected.

Organization of continuous quality improvement in health care in Serbia

Following the world trends, Serbia started the process of continuous improvement of health care based on best available recommendations and guidelines as well as on some of the abovementioned models. The first concrete progress relating to this issue was made in 2004 by the publication of “The Guidelines for work quality monitoring in health care institutions”. As soon as at the end of 2005 the new Law on Health Care introduced new concepts of health care quality, accreditation and licensing. After establishing the legal basis, all conditions for further progress in this area were fulfilled, and the first “Book of regulation of health care quality indicators associated with professional and methodological guidelines for data collection, calculation and reporting of indicators of health institutions in the health care system” was adopted in 2007.

However, there is one great obstacle relating to lack of genuine motivation and low level of awareness of the need and importance of continuous quality improvement among health care providers who find it di-

fficult to commit to this issue and perceive it as an additional administrative burden.

Our health system is largely based on state health care institutions without a serious and real competition, which inevitably leads to a lack of interest in monitoring the quality indicators and fully formalized approach.

The authors believe that it is necessary to give full consideration to the implementation of essential changes in the health care system without falling into the trap of complete formalization of the approach, which is possible to achieve only by a systemic action on each separate carrier of the health care system. This approach includes not only health care reforms, but reforms in the education system as well.

Recommended measures

According to the authors of the paper, the introduction of contemporary models and methods for health care improvement in the health system of Serbia must be followed by one basic prerequisite, that is, the introduction of competition.

The models described in this paper refer to the countries where they have already been designed and implemented in the health systems with the laws of free markets and competition. In such circumstances, all health care professionals are very much motivated to implement methods to continually improve the quality of health care. Such motivation does not exist in our health system because the private sector is still very far from being a real competition to the state sector.

Roughly speaking, we are trying to implement the models used in organizations that operate in accordance with the principles of market economy conditions in the health system. Therefore, our country should introduce the full competition and abolish the monopoly in these two critical areas:

- in the pharmacy sector, and
- the sector of health care services.

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MERE ZA POBOLJŠANJE KVALITETA ZDRAVSTVENE ZAŠTITE

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Sažetak

Kvalitet i bezbednost u zdravstvenom sektoru idu "ruku pod ruku", što bi značilo da su ove dve komponente neraskidivo povezane, te će unapređenje kvaliteta jako često dovesti i do povećane bezbednosti. Dobar kvalitet usluge biće uspešno implementiran u organizacijama koje već imaju "kulturu kvaliteta", to jest tamo gde je sistem vrednosti zaposlenih konzistentan sa njihovom posvećenošću pružanja visoko kvalitetne usluge. Organizacije moraju imati jasnu stratešku opredeljenost pružanju kvalitetne usluge na svim nivoima organizacije. Zadovoljstvo bolesnika, kvalitet usluge i efikasno upravljanje resursima postaju „sve-to trojstvo“ savremene zdravstvene zaštite, striktno orjentisane ka pacijentu, koje za cilj imaju redukciju troškova uz istovremeno povećanje kvaliteta. Zdravstveni sistemi širom sveta nastoje da razviju nove strategije čijom bi implementacijom kao krajnji rezultat trebalo da dobijemo - poboljšanje kvaliteta zdravstvene zaštite.

Ključne reči: kvalitet, kvalitet zdravstvene zaštite, unapređenje kvaliteta, mere