SOCIOLÓGIA
SLOVAK SOCIOLOGICAL REVIEW
Časopis Sociologického ústavu
Slovenskej akadémie vied
Ročník 37, 2005, číslo 6

Issues in the Improvement of Healthcare Services in Five Countries of the European Union[1]

Kristína Zgodavová[2]
Technical University of Košice, Faculty of Economics, Košice, Slovakia
Peter Džupka[3]
Technical University of Košice, Faculty of Economics, Košice, Slovakia
Nora Klímová[4]
Louis Pasteur Faculty Hospital with Policlinic and University of Prešov, Faculty of Healthcare, Slovakia

Issues in the Improvement of Healthcare Services in Five Countries of the European Union. Quality of health care services is very sensitive theme, which is interesting not only for health care services providers, bud also for general public as a recipient of paid health care services, with purpose to protect the most important treasure of all of us – our health.

This paper presents, the theoretical and empirical research knowledge, critical factors of success, critical processes and objectives for improvement in health care organizations services in five EU countries.

The basis is the current theoretical and practical knowledge as to the improvement of the services of health care organizations gained from professional literature. The main body is comprised of questionnaire research from health care organizations and pertinent personal interviews with doctors and managers of selected organizations with primary and secondary care, and hospitals.

After a qualitative and quantitative processing of the questionnaire research, and from the results of the pertinent interviews, it was discovered that the critical factors of success are, despite the varied levels of services offered, the same in the participant states: legislation, system of management and creation of resources. Determining the concrete critical processes and objectives for improvement must be consistently individual, up to the level of the individual health care organizations and basic healthcare organizations social groups – healthcare microsystems. Accumulation and exploitation of digital health care capital: data, information, and the knowledge of medicinal, managerial, and facilitating processes can be considered as a significant potential for improvement of the quality, efficiency and effectiveness of health care organizations.

Sociológia 2005 Vol. 37 (No. 6: 487-507)

[1] Research reported here originates from the *Leonardo da Vinci project SK 03/B/F/PP – 177014 "IMPROHEALTH"* Improvement of the Quality, Effectiveness and Efficiency of Healthcare Services thought Vocational Education and Training.

[2] Address: Prof. Kristína Zgodavová, PhD., Technical University of Košice, Faculty of Economics, Letná 9, 042 00 Košice, Slovak Republic. Phone: +421 55 6023297, fax: +421 55 602 2264, e-mail: kristina.zgodavova@tuke.sk

[3] Address: Peter Džupka, Technical University of Košice, Faculty of Economics, Letná 9 Košice, Slovak Republic. Phone: +421 55 602 3295, fax: +421 55 602 2264, e-mail: peter.dzupka@tuke.sk

[4] Assoc. Prof. MUDr. Eleonora Klímová, PhD, Louis Pasteur Faculty Hospital with Policlinic and University of Prešov, Faculty of Healthcare, Partizánska 1, 080 01 Prešov, Slovak Republic. Phone: +421 51 7562401, fax: +421 55 51 7562400, e-mail: eklimova@stonline.sk

Introduction

Education alone can conduct us to that enjoyment, which is, at once, best quality and infinitive in quantity.
Horace Mann (1796 – 1859)

Over the past few years much time and publicly provided money have been devoted to the healthcare sector, in an effort to improve the quality, effectiveness, and efficiency in services and clinical treatments while reducing costs and maintaining patient satisfaction. Healthcare managers and other leaders, therefore, bear a responsibility to adopt practices that are supported by evidence or by well-formulated concepts that draw on well-tested theory and successful outcomes in other settings. However, it would be unrealistic to expect healthcare professionals on top of their professional knowledge base and workload to be lastingly familiar and knowledgeable of the latest practices and trends of management. What is needed above all in such situations is an expert resource, which managers and professionals may consult.

This comparative study shows the need and possibilities for improving of quality, efficiency and economic effectiveness in healthcare service in five selected Europe union countries. Two "new" European Union (EU) member countries (Slovakia and Czech Republic) and three "old" EU member countries (Sweden, Finland and Greece) were selected for this study. Country selection was made so that, it covers countries with the highest level of quality and countries with the average level. This study is based on expert evaluation of doctors and top managers of selected organization, which provide health care services. These organizations were selected to cover main types of health care services providers (Hospitals, Primary care and Secondary care).

The aim of this comparative study is to present equalities and differences in opinions on management of necessary changes in health care organizations, on management practices and needs, on human resources development and on methodology of managerial education in health care organizations. In submitted study are particularly highlighted differences between results obtained from Slovak health care organization and the other health care organizations.

Interpretation of the problem

Health is one of the crucial factors of social behaviour in social groups and behaviour of social groups together in their interactions and relationships.

Health is the result of various factors from the social, economic, living and working environments, and is the basic condition for the quality of life of the

individual. To this point, the most acknowledged integral indicator for the expression of quality of life was the Human Development Index (HDI).

According to HDI, following are four generally accessible and comparable indicators from the three most important areas of life.

Table1: **Indicators of the Human Development Index – HDI**

Dimension of life	Partial indicators of quality of life
Life expectancy index[5]	The life expectancy index measures the relative achievement of a country in life expectancy at birth.
Education index[6]	Adult literacy
	Combined gross enrolment
GDP index[7]	Gross domestic products per capita

In the report on human development from the year 2004, according to the HDI index, there exists the following situation in selected countries of the world: The first places as measured on a world scale are the countries Norway and Sweden. From the ten countries, which have recently entered the European Union, the best placement was achieved by Slovenia (29th place), then the Czech Republic (32nd place), and Slovakia was at 42nd place from the 173 countries, which were studied, meaning seventh place from the ten countries having just entered the European Union. Order of the countries included in this comparison study is presented in Table 2.

Illustration of the problem

At the beginning of the 1970`s, the work of Avedis Donabedian markedly influenced the health care paradigm for the definition and measurement of quality. In his early works he presented the dual nature of quality in medicine by describing the technical and interpersonal components of health care. Presented are also three possibilities of the components of quality, which assist in the measurement of quality:

- measuring the quality of structure,
- measuring the quality of processes,

[5] *Life expectancy (LEX)* is the average number of years of life that a person can expect to live if they experience the current mortality rate of the population at each age. (Internet source WHO, 2004 http://www3.who.int/)

[6] *Education index* measures a country's relative achievement in both adult literacy and combined primary, secondary and tertiary gross enrolment. (Internet source WHO, 2004 http://www3.who.int/)

[7] *Gross domestic product (GDP)* per capita is the per capita market value of the total final output of goods and services produced in a country over a specific period. The international dollar is a common currency unit that takes into account differences in the relative purchasing power of various currencies. Figures expressed in international dollars are calculated using purchasing power parities (PPP), which are rates of currency conversion constructed to account for differences in price level between countries. (Internet source WHO, 2004 http://www3.who.int/)

- measuring the quality of results.

Table 2: **Places the compared countries of the IMPROHEALTH project according to Reports of Human Development from the year 2004**[8] (online information received 29/09/04 http://hdr.undp.org/statistics/data/)
The marking ↑ means an improving trend, marking ↓ means a worsening trend, and marking → means the status is unchanged, marking * means unlisted

Ranking according to HDI	Country	Life expectancy index	Education index	GDP index	HDI
2.	Sweden	0,92	0,99	0,93	0,946→
13.	Finland	0,88	0,99	0,93	0,935↑
24.	Greece	0,89	0,95	0,87	0,902↑↑
32.	Czech Republic	0,84	0,92	0,84	0,868↑
42.	Slovakia	0,81	0,91	0,81	0,842*

According to Donabedian, (Donabedian, A., 1980) a process is the name for the groups of activities carried out by doctors and between doctors and patients. Individual parts of the process of health care indicate quality, meaning that they are of quality when they are directly connected to achieving the desired health status of the patient. Structure is the name for the elements of health care and the connections between them. This means the connection between a relatively stabile group of health care providers and the instruments and resources, which they have at their disposal, as well as the tangible and organizational environment in which they work. The structure significantly influences the quality, for it heightens or lowers the likelihood of achieving a good result. For describing changes in the current or future health status of the patient, which may be assigned to the health care, the word result or outcome is used.

The basic functioning relationship between these three components is shown in the following schematic outline:

Structure → Process → Outcomes

- By structure Donabedian means the relatively stable characteristics of the providers of care, of the tools and resources they have at their disposal and of the physical and organizational settings in which they work. Structure, therefore, is relevant to quality in that it increases or decreases the probability of good performance.

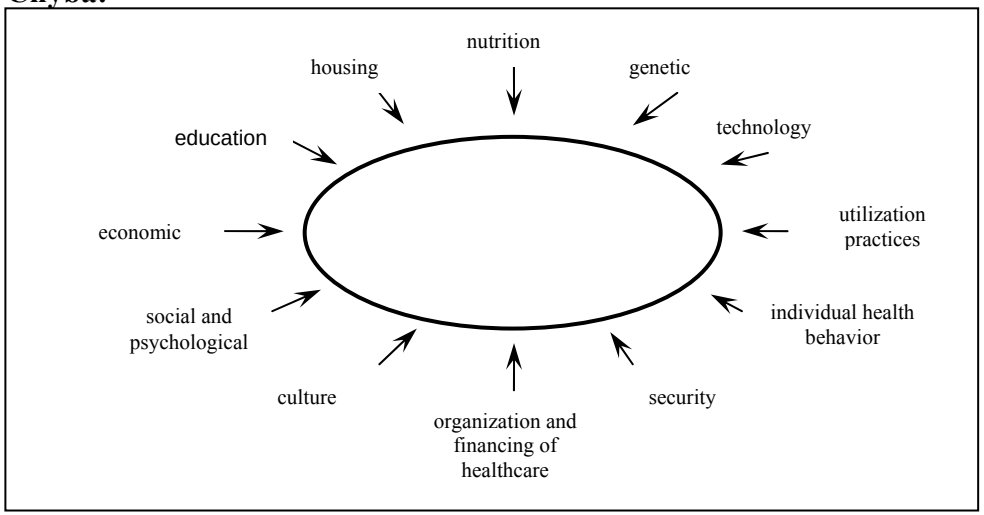
[8] Places the countries of the IMPROHEALTH project according to Reports of Human Development from the year 2004 (online information received 29/09/04 http://hdr.undp.org/statistics/data/)

- Process of care is a set of activities that go on within and between practitioners and patients. Elements of the process of care do not signify quality until their relationship to desirable health status has been established.
- Outcomes to mean a change in patient's current and future health status that can be attributed to antecedent healthcare. (Donabedian, A., 1980, pp. 79, 81-83)

Factors influencing health and lifespan of the individual may be illustrated as in Figure 1.

Figure 1: **Factors influencing the health and lifespan of the individual**

Chyba!

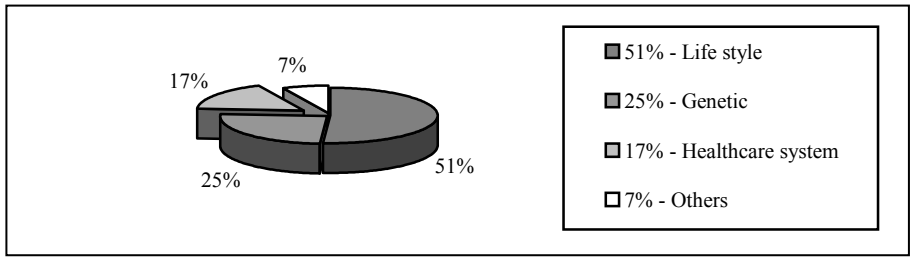


Source: National Human Development Report – Slovak Republic 2001-2002 http://www.cphr.sk/undp2002.htm
Author: (Southby, R. F., 1998)

An estimation as to the extent of influence of various factors on the heath status of the individual differs among domestic and foreign authors. According to numerous sources (Aday, L. A. – Begley, CH. R. – Lairson, D. R. – Slater, C. H., 1993; Ághová, Ľ., 1993; Laiferová, E., 1998[9]), decisive influence is found in: education, lifestyle and behaviour, environment, genetic and biological factors and the medical system. The medical system is to provide accountability for health and fair financing (Internet source WHO, 2003 http://www.who.int/health-systems-performance/docs/glossary.htm). The medical system is created by people, institutions (organizations) and resources.

According to (Dragula, M. – Kompiš, D., 2004), the share of the individual factors on the health of a person is approximately 10 to 20%, Figure 2.

Figure 2: **The share of individual factors on the health of a person** (Dragula, M. – Kompiš, D., 2004)



Research methodology of factors for improvement in the services of health care organizations

The aim of the research was to determine the critical factors of success, critical processes and objectives of improvement of quality, efficiency and effectiveness of services in health care organizations within the participating countries. The methodical framework of research was systematically modelled and subsequently the situation was ascertained by questionnaire in the health organizations of precipitating countries. We progressively created the following combined verbal and graphic models as shown at pictures 3 to 8:

Model of decomposition of service processes operating within the health care organization we allocated into core processes: value-creating processes[10], and subsidiary processes: managerial processes, learning, improvement and innovation processes, and other supportive processes are shown in Figure 4.

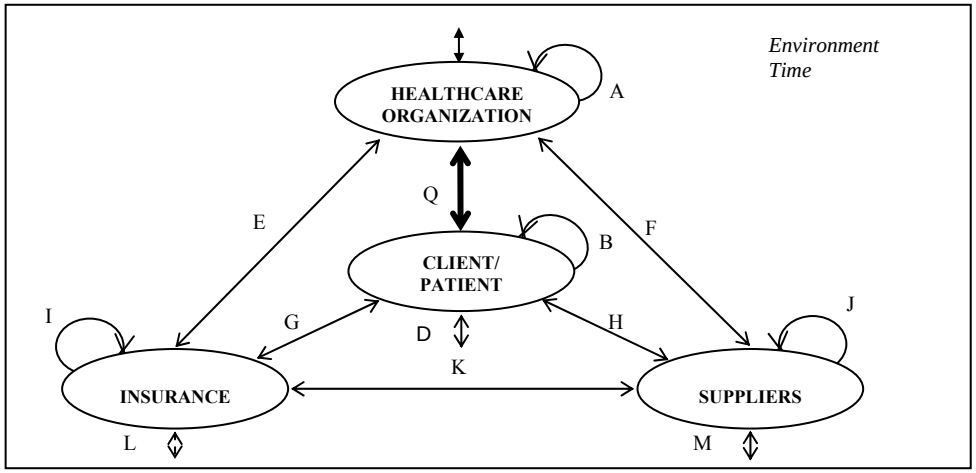
Some of the subsidiary processes may at some times be included among the main processes - value-creating, on the basis of which to what extent, according to the opinion of the leaders of the organization, do they share in the creation of additional value for the patient/client. For example, the acquisition of a patient/client can sometimes be considered to be a value-creating process.

[9] According to research of Eva Laiferová „Some Implication and Consequences of the Social Transformation process in Health Care in the Slovak Republic" the process of individualization and activation of the Slovak population involves a new approach toward health. The changes in the institutional and social system have evocated also the changes in citizens´ behavior in relation to health. The secondary analysis of some empiric indicators shows that decisive factors influencing attitudes of Slovak citizens to their health are education and living style.

[10] *Value-creating processes* – activities for which a client/patient would be willing to pay, if given the option. Effective end efficiency activities that contribute to continual improvement, prevention of errors and management of the organization. (ISO/IWA: 1/2001(E)

Achieving professional competency from the perspective of the requirements of the health care organization may also be considered to be a value-creating process.

Figure 3: **Model of simulation of quality, efficiency and effectiveness of health care organization services** (Zgodavová, K. – Slimák, I. et al, 2005)



Legend:
Q - quality provided by health care services, as a relationship between patient/client and the health care organization,
E, F, G, H, K - relationships between those participants with a share in the health care service
C, D, L, M - relationships of participants sharing in the health care service with the external environment
A, B, I, J - self-management and learning
C, D, L, M - relationship with the environment and the influence of time
Environment - the sum total of all significant properties
Time - both calendar and process

The process approach emerges from the assumption that the cause of unsatisfactory results in the quality, efficiency and effectiveness of the organization are unsuitable operating processes. Therefore it is necessary to always make processes more effective and eliminate those, which bring no additional value for the patient/client.

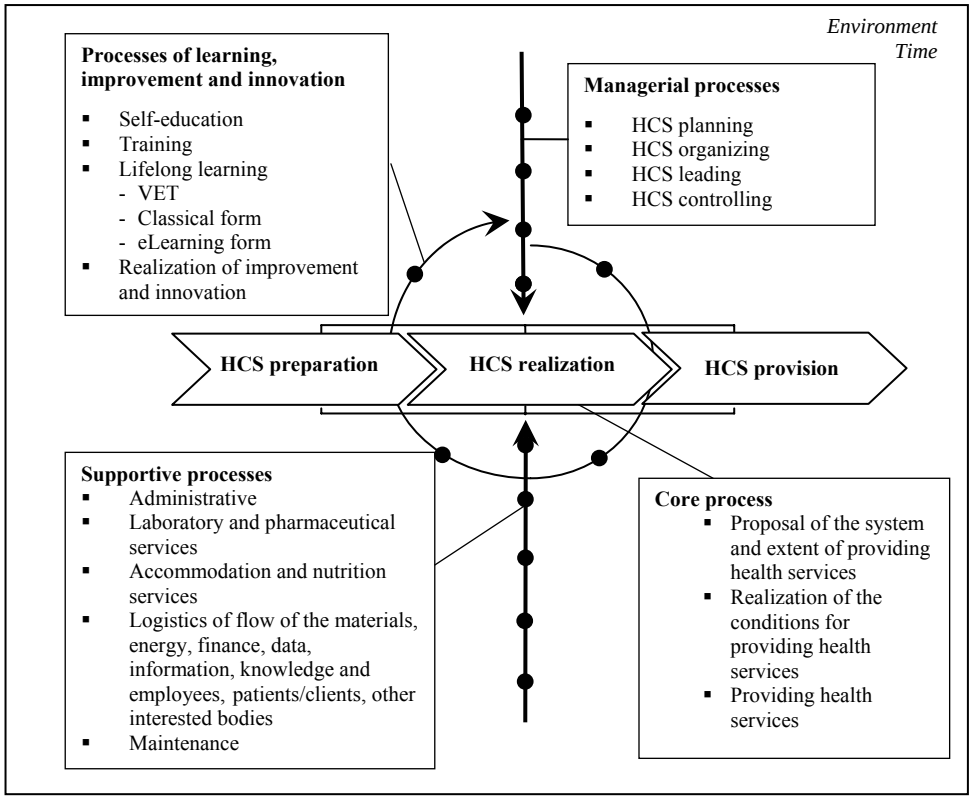
For creating a process model for the health care organization, it must arise from the following theses:

The article (Sabová-Hudáková, M., 1999[11]) inquires how the hospital environments influences the adaptation of aged people and attempts to provide a helpful feedback for improving quality of the healthcare system.

[11] Authors base the research on the standardized dialogue, asking patients the questions about the behavior of physicians and hospital personnel, amiability of the hospital environment and problems connected with their family relations. Statistical measurement of obtained data leads to the findings of how are the observed ratios interrelated. As the article indicates, the findings of the research shall appeal to general public to re-evaluate their attitudes toward ill and aged people.

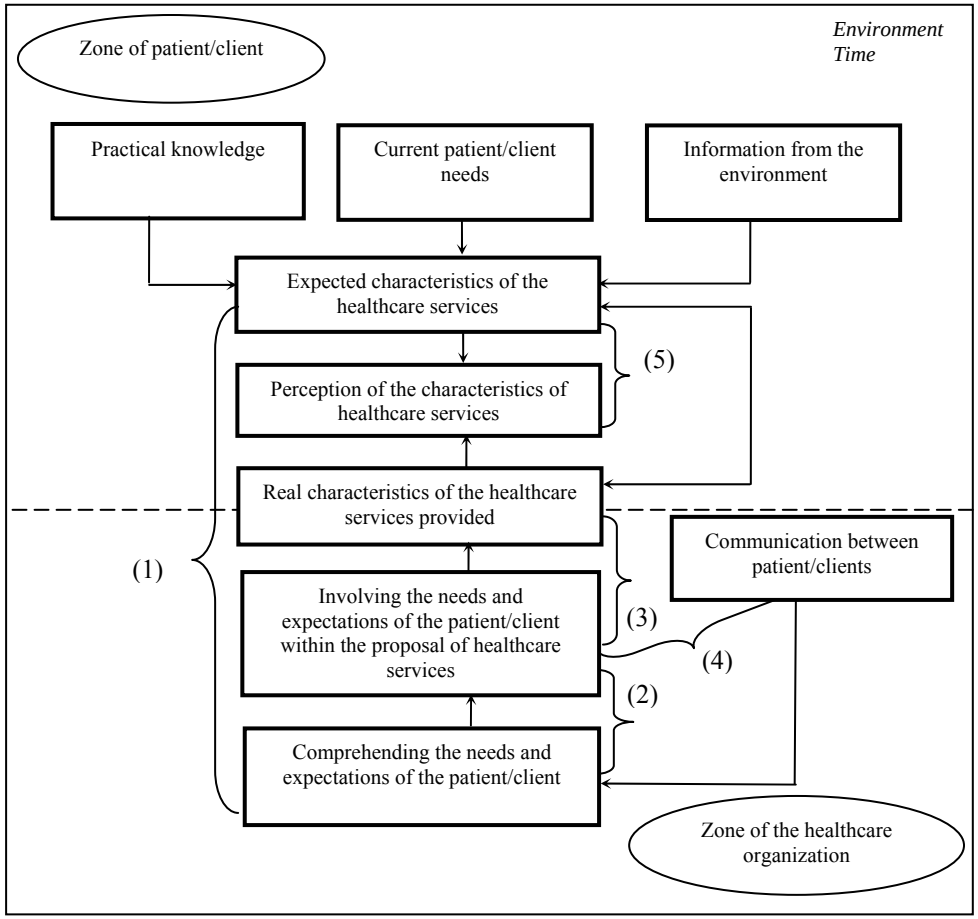
The approach of determining the critical factors, most critical processes, and objectives for the improvement of quality, efficiency and economic effectiveness of the health care organization used in the creation and processing of questionnaires Figure 6.

Figure 4: **Decomposition of processes operating within the health care organization**



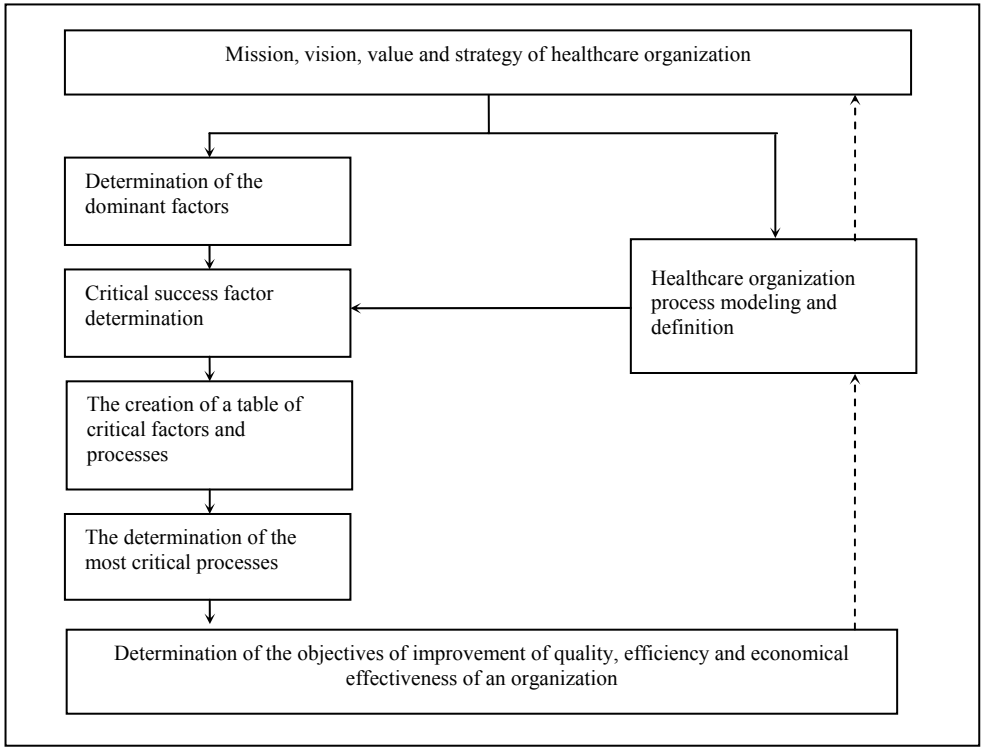
One serious question among the participants of the project was the need and possibility of intensive use of the Internet for the improvement of quality, efficiency and effectiveness of health services, as shown in Figure 8. An extensive accumulation of digital capital is expected in the form of data, information and knowledge within health services.

Figure 5: **Graphical and verbal model of possibility for improving the satisfaction of the patient/client with the health care service**



Legend:
(1) Better understanding of the expectations of the patient/client
(2) More consistent enforcement of the requirements and expectations of the patient/client in the health care service plan
(3) Better provision of health care services
(4) More intensive communication with the patient/client during the course of providing services
(5) More impressive presentation of the results of the service provided, including medical prognosis of the patient/client

Figure 6: **Model determining the critical factors, critical processes and objectives of improvement of quality, efficiency, and economic effectiveness of the health care organization**

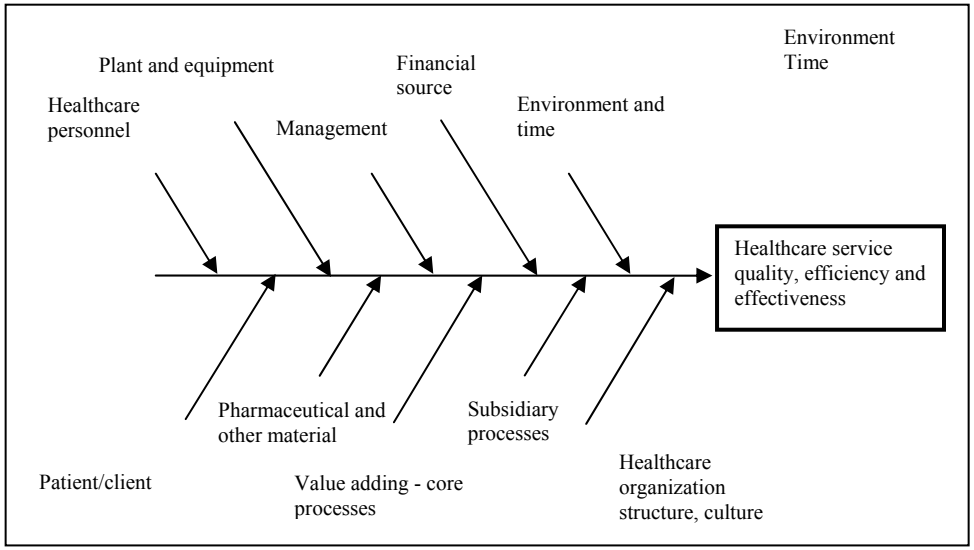


With the aid of graphical and verbal models we created the fifty main questions placed them within four groups:

- management of the necessary changes within health care organizations
- managerial practices and requirements within health care organizations
- development of human resources within health care organizations
- methodology of education within health care organizations

For a better overview, we have illustrated the factors of quality, efficiency and economical effectiveness of health services with the so-called Ishikawa diagram Figure 7.

Figure 7: **The Ishikawa diagram of factors of quality, efficiency and effectiveness of the health care organization**



The questions were worked into the form of questionnaires to which 61 respondents replied from the five participating countries. (Czech Republic + Greece + Sweden + Finland = 28; Slovakia = 33) as shown in tables 3, 4, 5, 6. Apart from this, several groups were created with secondary questions from these areas:

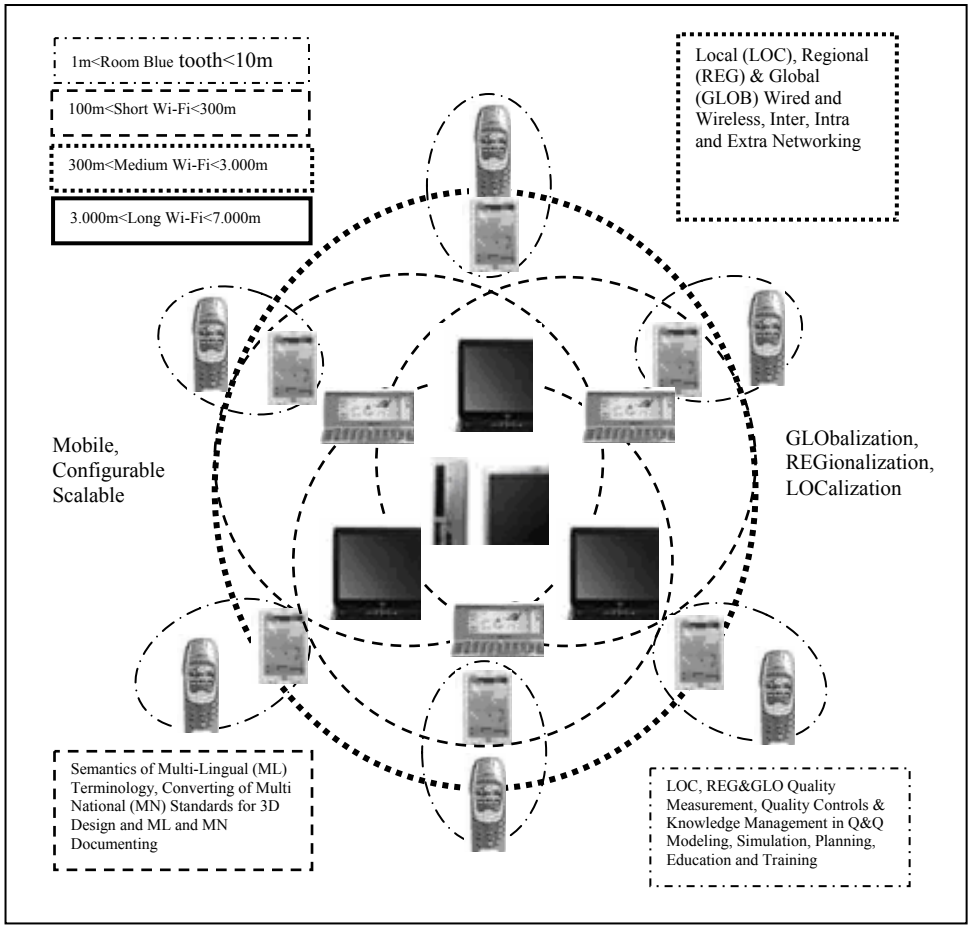
- the most important changes realized over the past three years
- priorities for the future development of ICT in health care organizations
- the current status of employing the electronic system of medical records
- self-evaluation of the provision of medical services by the managers of the health care organizations

Results of the research

The results of the research according to the 50-odd main questions are worked out in tab. 3, 4, 5, 6. For a better overview, the tables contain only average results for Slovakia, which are marked SK, and the average results from the answers of the other participants: Czech Republic, Finland, Greece, Sweden, marked .

The maximum and minimum answers from individual health care organizations for the same questions, on a scale of five, varied usually by ± 1 grade, but differences also appeared of ±2 grades.

Figure 8: **Model of utilizing ICT for the health services of the future** (Golemanov, L. A., 2004, Golemanov, L. A., 2005:)



Results of the research for the secondary questions are presented in such a way so as to show the differences between Slovakia (SK) and the average of the other participating countries.

Table 3: **Management of the necessary changes within health care organizations**

Please, mark the level of importance for each of the given critical success factors of the improvement of the performance management in your institution. If there is any critical factor missing please add it/them in the free lines and mark the level of importance for each of the new critical factors. (Two or more critical factors can have the same level of importance)					
Type of critical success factor	**Level of importance**				
	Most important	Very important	Important	Quite important	Not important
	5	4	3	2	1
Change of legislation and standards		SK			
Change in organizational management (planning, organization, leadership, controlling)			SK		
Change of therapeutic processes			SK		
Change in knowledge, skills and behaviour of managerial and administrative staff in health care sector			SK		
Change in ICT use level* in details in the optional part of questionnaire			SK		
Change in medical equipment, tools and instruments			SK		
Change in financial resources	SK				
Change in human resources			SK		

In case you have added any critical factors in the previous table, add them to the following table as well and evaluate and mark the performance maturity level of your healthcare institution, please. (We assume that you have your own opinion about the optimal level of performance maturity. For the needs of this questionnaire we will consider optimal level of performance maturity of health care institution equal 3 calculated as the idea of average level in EU countries.)					
Type of critical success factor	**Performance maturity level**				
	Below the optimal level ←		Agreed optimal level	→ Above the optimal level	
	1	2	3	4	5
Legislation and standards		SK			
Organizational management (planning, organization, leadership, controlling)			SK		
Therapeutic processes			SK		
Knowledge, skills and behaviour of managerial and administrative staff in health care sector			SK		
Information and Communication Technology use level		SK			
Medical equipment, tools and instruments		SK			
Financial resources	SK				
Human resources		SK			

Table 4: **Managerial practices and requirements within health care organizations**

How often do you implement any of the following for managing the performance of your health care institution?					
Question	**How often**				
	Always	Almost always	Usually	Sometimes	Not at all
	5	4	3	2	1
Designing performance plans or program for your health care institution			SK		
Developing performance indicators for your health care institution			SK		
Collecting data for measuring the performance of your health care institution			SK		
Comparing the performance of your institution with the performance of other institutions in your area or other areas of practice				SK	
Analysing and evaluating the performance results of your health care institution			SK		
Using performance results for designing improvement plans of your institution			SK		

How important is for you to learn how to implement best practices and tools for managing the performance of your health care institution on the following?					
Question	**Level of importance**				
	Most important	Very important	Important	Quite important	Not important
	5	4	3	2	1
Designing performance plans or programmes for your health care institution			SK		
Developing performance indicators for your health care institution		SK			
Collecting data for measuring the performance of your health care institution		SK			
Comparing the performance of your institution with the performance of other institutions in your area or other areas of practice			SK		
Analysing and evaluating the performance results of your health care institution		SK			
Using performance results for designing improvement plans of your institution		SK			

Table 5: **Development of human resources within health care organizations**

Question	Approval				
	← Agree strongly		Neutral	Disagree strongly →	
	5	4	3	2	1
We have human resources management (HRM) strategy derived from overall organization policy and strategy		SK			
Our organization has aligned quality objectives in the field of HRM with organizations quality objectives		SK			
We have determined the necessary competence for all personnel performing work affecting product quality		SK			
We have clear identification of employees responsibilities and authorities in the field of HRM		SK			
We make comprehensive people surveys regularly as from of employee feedback			SK		
Our training plans and programs fully satisfy all needs of people competence and knowledge			SK		
We measure effectiveness of training and analyse data obtained by this measurement to improve next training quality			SK		
We have special program for people rewarding, recognizing and motivation towards higher performance			SK		
Our management actively encourages and supports individual and team participation in improvement activities			SK		

Please, mark the level of importance for each of the given topics concerning the vocational education and training of your personnel that influences the performance of your institution. If there is any topic missing please add it/them in the free lines and mark the level of importance for each of them. (Two or more theme can have the same level of importance)

Type of critical success factor	Level of importance				
	Most important	Very important	Important	Quite important	Not important
	5	4	3	2	1
Quality management system according ISO 9000:2000	SK				
EFQM Excellence Model			SK		
Change of organizational culture and performance improvement according to the model Six Sigma			SK		
Activity Based Costing			SK		
Balanced Scorecard		SK			
Benchmarking			SK		

Table 6: **Methodology of education within health care organizations**

How convenient are for you the following methods for learning how to implement best practices and tools for managing the performance of your health care institution

Question	Availability				
	Not convenient	Quite convenient	Convenient	Very convenient	Strongly convenient
	1	2	3	4	5
Conventional training			SK		
eLearning			SK		
Consulting services			SK		
Combination of conventional training and e-learning			SK		
Combination of conventional training and consulting services			SK		
Combination of e-learning and consulting services			SK		
Combination of conventional training, e-learning and consulting services				SK	

The average results gained from the Slovak health care organizations, using the fifty-odd main questions, differed from the average of the health care organizations of the Czech Republic, Finland, Greece, and Sweden in only ten or so cases, i.e. 20%, and those are shown in table 7. From these differences it can be asserted that the Slovak health care organizations consider the greatest problem to be financial resources and having proper health care instruments, tools and means. Beneath the optimum level is also the evaluation of how the human resources are equipped, while the level of knowledge, experience and behaviour of the personnel was considered optimal. In general terms it may be stated that, while the Slovak health care organizations feel the greatest problem to be financial resources and medical equipment, the health care organizations of the other participating countries consider the greatest problem to be insufficient changes within the organizational management and in realizing new methods of operating.

Table 7: **Differences in the average results acquired from both Slovak and other health care organizations**

Question	Slovakia	Czech Republic, Greece, Finland, Sweden
Change within the organizational management	important	very important
Change of financial resources	the most important	very important
Level of legislation and standards	less than important	Optimal

Question	Slovakia	Czech Republic, Greece, Finland, Sweden
Level of knowledge, experience and conduct of staff	optimal	below the optimal
Health equipment, instruments and materials	less than optimal	Optimal
Financial resources	far bellow the optimal	Optimal
Human resources	below the optimal	Optimal
Utilizing plans of quality, effectiveness and efficiency	Usual	almost always
How significant is the use of ISO 9001:2000	very important	Always
How significant is the Six Sigma model	less important	Always

From the perspective of secondary questions the situation is presented in tables 8, 9, 10.

Table 8: **Comparing the five areas of the most important changes over the past three years**

Slovakia	Czech Republic, Greece, Finland, Sweden
Investing on new innovative medical equipment	Improving quality of care
Organizational structure changes	ICT infrastructure changes
Compliance with government regulations	Organizational structure changes
ICT infrastructure changes	Investing on new innovative medical equipment
Improving operational efficiency	Improving operational efficiency

Table 9: **Five priorities for the development of ICT in health care organizations**

Slovakia	Czech Republic, Greece, Finland, Sweden
Deploy Internet Technology	Train Personnel to Use Existing or New Installed Systems
Improvement of IS Departmental Services towards Cost Effectiveness & Efficiency	Investment on Implementing IT to reduce Medical Errors & promote patient safety
Replace/Upgrade/Install Electronic Healthcare Record Systems	Replace/Upgrade/Install Electronic Healthcare Record Systems
Recruit and retain high quality ITC staff	Improvement of IS Departmental Services towards Cost Effectiveness & Efficiency
Implement Enterprise Applications (e.g. ERP, MPI, EDI, Clinical IS, etc)	Deploy Internet Technology

Table 10: **The greatest obstacles in the implementation of ICT**

Slovakia	Czech Republic, Greece, Finland, Sweden
Lack of Financial Support	Lack of Financial Support

Slovakia	Czech Republic, Greece, Finland, Sweden
Lack of Strategic Plan / Failure to Execute the Implementation Plan	Difficulty in Achieving Personnel (End-user) Acceptance or Use
Vendor's Inability to Effectively Deliver Product and Achieve Integration	Lack of Staffing/Personnel Skills
Difficulty in Achieving Personnel (End-user) Acceptance or Use	Difficulty in Proving the Return on Investment (ROI) benefits
Difficulty in Proving the Return on Investment (ROI) benefits	Lack of Top Management Support towards IT

Table 11: **Using individual types of web technology**

Slovakia	Czech Republic, Greece, Finland, Sweden
e-mail	Email
Provide the consumer with information regarding the hospital (web-site) (5)	Provide the consumer with information regarding the hospital (web-site)
Online Medical Information (3)	Promote the Organization/Marketing

Table 12: **Self-evaluation of health care organizations from the perspective of the level of quality provided**

	Slovakia	Czech Republic, Greece, Finland, Sweden
We are very satisfied	-	1
We are satisfied	6	12
Neutral	24	10
We are dissatisfied	3	5
We are very dissatisfied	-	-

Healthcare imposes some of the most complex organizational structures in society. From Table 8 and 9 it is shown that hospitals throughout the participating countries are being confronted with major structural change issues and critical challenges, with many countries following quite different principles and solutions. As shown from the results healthcare administrators have sought to improve the quality of healthcare services by using technology oriented change as a number one lever (Vlachopoulou, M. – Kitsiou, S., 2004). The evolution of ICT has profoundly affected the operational methods and services provided in healthcare organizations toward improvements in quality, effectiveness and efficiency as well as cost reductions (Kitsiou, S., et al., 2004). Also, it becomes evident that the earlier decade focus of healthcare organizations has shifted from the mainly isolated administrative and financial functionality to the clinical perspective and the patient record, while becoming more open in a technological as well as an organizational sense. However, the results in Table 10 show that the advancement

and successful adoption of Information and Communication Technologies in most cases demands high user skills. Therefore, there is an apparent need for appropriate user training and education in information technologies. Lack of personnel skills and competencies has shown to be one of the top 5 obstacles in the participating countries toward the implementation of ICT in healthcare organizations as well as lack of financial support. The latter one possesses the greatest factor as to why healthcare systems as a societal element have been among the slowest to embrace and incorporate the use of information technology for its unique practical and strategic functionalities. Underinvestment, lack of user acceptance, and lack of available vendor solutions account for many of the frustrating experiences that healthcare organizations report regarding efforts to use computers more effectively in support of patient care and provider productivity.

Conclusion

The ongoing and continuous results of the theoretical and empirical research, within the five countries comparison in questions of quality improvement, efficiency and economical effectiveness of health care organization services, has brought forth in the area of identification of critical factors, critical processes and objectives of improvement.

In spite of the fact that the level of quality, efficiency and economic effectiveness of health care organizations services is varied among the participating countries, the critical factors of their further development are the same:

1. Legislative frameworks active on the health care organizations with an orientation toward quality improvement, efficiency, and economic effectiveness.
2. Competence of managers, doctors, nurses and other employees to improve the quality of their own work with the intended system of quality management of the health care organization.
3. Creation of the conditions for an improvement of quality, efficiency and effectiveness of the health care facility with the suitable creation of financial, material, and staff resources.

The concrete critical processes and objectives of quality improvement, efficiency and economic effectiveness must be determined consistently and individually, at the level of particular organizations in towns and cities.

A significant opportunity for improvement is considered to be the accumulation and exploitation of medical digital capital in the form of data, information and knowledge in the areas of medical, managerial, and support processes.

Kristína Zgodavová, *belongs to Slovak experts in the field of quality engineering and quality management. At the present she is a head of Department of Management and Marketing at Faculty of Economics at Technical University in Košice and also visiting professor at Vaasa University in Finland. In different foreign projects she has participated on developing of teaching plans and teaching texts for following courses: Quality management in services, Quality management for local governments, trainings for trainers of TQM, Quality management for secondary specialized schools and course for quality professionals. She is contractor and coordinator of Leonardo da Vinci Improhealth project.*

Peter Džupka, *is PhD. student at Technical University Faculty of Economics. At the present he also teaches at Department of Management of Marketing.*

Eleonora Klímová*, belongs to prominent Slovak neurologist. She is performing her professional practice of medicine at Neurological clinic of L. Pasteur teaching hospital, she also teaches at University of Prešov. She is clinic head physician for 12 years and she also has been assistant manager for 4 years. That is why she interests in quality management in healthcare. She is professional adviser in IMPROHEALTH project.*

BIBLIOGRAPHY

ADAY, L. A. – BEGLEY, CH. R. – LAIRSON, D. R. – SLATER, C. H., 1993: Evaluating Health Care Systems. Health Administration Press, Michigan.

ÁGHOVÁ, Ľ., 1993: Hygiena. Osveta, Martin.

DONABEDIAN, A., 1980: Explorations in Quality Assessment and Monitoring. Volume I.: The Definition of Quality and Approaches to its Assessment. Health Administration Press, Chicago.

DRAGULA, M. – KOMPIŠ, D., 2004: Vývoj kvality v slovenskom zdravotníctve – komplexný pohľad. In: Sborník kongresu: Řízená kvalita ve zdravotnictví a sociální sféře, s. A-18, DT Ostrava, ISBN 80-02-01660-2.

GOLEMANOV, L. A., 2004: On the Healthcare Quality and Global Digital Capital. In: Improhealth e-Journal, http://improhealth.ekf.tuke.sk/portal/download/optinet_2004-1.pdf (15.06.2004).

GOLEMANOV, L. A., 2005: Glossary, Managing Healthcare Organization. Technical University of Košice, ISBN 80-8073-391-0.

KITSIOU, S. – VLACHOPOULOU, M. – MANTHOU, V., 2004: Managing Technology Oriented Change in Healthcare Organizations. Proceeding of the 2nd International Conference on Information and Communication Technologies in Health. Samos, Greece. (also available in Improhealth e-Journal, http://improhealth.efk.tuke.sk/portal.download/).

LAIFEROVÁ, E., 1998: Some Implications and Consequences of the Social Transformation Process in Health Care in the Slovak Republic. Sociológia 1998 Vol. 30, No. 3, pp. 269-282.

Reports of Human Development, 2004 (Online information received 29/09/04 http://hdr.undp.org/statistics/data/)

SABOVÁ-HUDÁKOVÁ, M., 1999: Sociálne a etické aspekty hospitalizovaného starého človeka. Sociológia, Vol. 31, No. 4, pp. 359-374.

SOUTHBY, R. F., 1998: Why Study Other Healthcare Systems? Manuscript. George Washington University, Washington D.C.

VLACHOPOULOU, M. – KITSIOU, S., 2004: Managing Change in Healthcare Organizations. Technical University of Košice ISBN 80-73-389-9.

ZGODAVOVÁ, K. – SLIMÁK, I. et al, 2005: Managing Quality in Healthcare Organizations. Technical University of Košice, ISBN 80-8073-387-2.