Mitevska L, Stanculescu MS, Stikova E. Performance of the public health care sector in the Republic of Macedonia (Original research). SEEJPH 2016, posted: 15 April 2016. DOI 10.4119/UNIBI/SEEJPH-2016-104

ORIGINAL RESEARCH

Performance of the public health care sector in the Republic of Macedonia

Lolita Mitevska[1], Manuela Sofia Stanculescu[2], Elisaveta Stikova[3]

[1] National Institute of Transfusion Medicine-Skopje, R. Macedonia;

[2] Research Institute for Quality of Life, Romanian Academy of Science, Romania;

[3] University "Ss. Ciryl & Methodius", Medical Faculty, Institute of Public Health, Skopje, Republic of Macedonia.

Corresponding author: Prof. Elisaveta Stikova, University "Ss. Ciryl & Methodius", Medical Faculty, Institute of Public Health, Skopje, Republic of Macedonia;
Address: 50 Divizija No 6, 1000 Skopje, R of Macedonia;
Telephone: +38970230183; E-mail: estikova@ukim.edu.mk

Abstract

Aim: Healthcare authorities constantly search for new approaches of assessing the performance of the health sector. Comparative studies help for improvements in healthcare by learning from each-other. Our aim was to assess the performance of the public healthcare system in the Republic of Macedonia, through the analysis of preparedness of institutions to fulfill the population's healthcare needs and expectations.
Methods: This study had a regional character. The national research team interviewed 175 randomly selected participants from Macedonia. The research was performed in the period March 2012 – March 2013. For the research purposes there were used especially designed questionnaires for cancer, stroke, myocardial infarction, diabetes mellitus and injuries. For assessment of the performances, the appropriate techniques were developed.
Results: Macedonians consider public healthcare system as being medium-good in all aspects: accessibility, availability, quality of health care services and population's confidence. The knowledgeable observers (N=125) believe that state-of-the-art treatment exist all over the country ("yes": 33.6% and "rather yes": 44.8%). They believe that the services are accessible to everybody, free of major charges ("yes": 31.2% and "rather yes": 45.6%). The individual witnesses (N=50) argued toward lack of pharmacies and proper medicines in rural areas, with a gap between the availability and quality of services in rural vs. urban areas.
Conclusion: The future goals for Macedonia include better public healthcare financing, cost definition of health packages, improved disease prevention and effective human resources.

Keywords: assessment of services, availability, public healthcare system, quality of care.

Conflicts of interest: None.

Introduction

Health authorities are in constant search for systematic ways and new approaches of assessing the performance of the health sector at national, or cross-national level. Main arguments for the necessity of measurement include identification of the quality of healthcare service delivery, support for design of the health sector reforms, improvement of healthcare system and production of better outcomes for the patients and payers. The healthcare performance can be followed and measured by different indicators, such are: life expectancy, morbidity, or mortality. There are many determinants of health that have influence on the health status of the population, but are not considered as direct indicators (1).

The performance assessment can be defined as comparing or measuring deviations of observed clinical practice from recommended practice. This assessment may range from a formal in-depth evaluation process to a much less elaborate simple review of practice. The most common performance assessment methods are: (i) audits/audit groups, (ii) peer-review groups, and (iii) practice visits (2,3).

Noncommunicable diseases (NCD), principally cardiovascular diseases (CVD), diabetes mellitus (DM), cancer, and chronic respiratory diseases, are the most common diseases which have caused million deaths worldwide. The scientists predict an increased number of deaths from noncommunicable diseases that are projected to further 17% over the next 10 years (4).

Republic of Macedonia is not different in disease prevalence values compared with other European or neighboring countries. According to the data from the National Public Health Institute in the Republic of Macedonia, in the year 2011, the most frequent diseases for which the patients had received treatments at out-patient services were: cardiovascular diseases (23.6%), respiratory diseases (18.2%), diseases of the muscular-skeletal system (7.7%), diseases of digestive system (7.2%), and diseases of the endocrine system (7.1%), out of 2695233 registered cases (5).

For the same year, the total number of hospitalized patients was 253906 (6), out of which for: cancer 33836 (13.3%), endocrinology system diseases 6422 (2.5%) patients, musculoskeletal system diseases 11150 (4.4%), cardio-vascular diseases 38133 (15.0%) and for injuries 12955 (5.1%).

The Republic of Macedonia has a compulsory health insurance system that provides universal health coverage for the whole population. The goal of the health sector reform in Republic of Macedonia is the creation of a system that is aligned to the needs of the population, which can operate efficiently within the resources available.

The government and the Ministry of Health provide the legal framework for operation and stewardship and the Health Insurance Fund (HIF) is responsible for the collection of contributions, allocation of funds and the supervision and contracting of providers. In the year 2002, the HIF has started contracting the private primary health care facilities (family doctors or general practitioners-GPs), introducing a capitation-based payment system.

The medical examinations by the GPs are provided free of charge for all citizens. The population participates in covering the health expenditures by paying some amount of money which is calculated from HIF special scales and generally is 20% of the total costs of health services.

This practice was changed and even improved in the year 2012, by introduction of a law for health protection (7). Free-of-charge healthcare services receive all patients with monthly salary lower than the average official salary for the previous year.

From co-payments are excluded blood donors, children with special needs, persons under permanent social care, patients in mental institutions and mentally retired abandoned persons.

All citizens that do not have regular health insurance (for example: stateless persons and social care recipients), are subsidized by the state budget (8).
In the year 2010, general government expenditure on health as a percentage of total government expenditure was 12.9%. The total expenditure on health (PPP in US$) in the same year was 791 $ per capita, which increased from 423 $ in the year 1995.
The healthcare system in the Republic of Macedonia is organized at three levels: primary, secondary and tertiary level. Some of these services are part only of the public healthcare sector, whereas some other services are provided in public and private healthcare facilities. In the year 2011, there were 3375 at primary level and 386 at secondary level private healthcare practices that had contracts with HIF. The total number of hospital beds in 2012 was 9076, or 4.4 beds per 1000 inhabitants (9). The hospital services are organized in: 14 general hospitals, 13 special hospitals, 30 university clinics and 19 other clinical hospitals, centers and units (9).
In this framework, the objective of this study was to assess the performance of the public healthcare system in the Republic of Macedonia, through the analysis of the expected (state-of-art treatment) and actual public health care of the patients.

Methods

The performance of the public health care system in the Republic of Macedonia was analyzed trough assessment of the access of the population to health care services developed by Wismar et al. (10), where "the state-of-the-art" of the healthcare system is defined as: diagnosis, treatment and recovery, which are accessible to every citizen covered by a health insurance, free of major additional charges. Accessibility of the health care system is defined as "a measure of the proportion of the population that reaches appropriate health services".
The assessment of the expected and actual performances of public health care system was based on the data collected from 175 interviewed respondents: 125 knowledgeable observers (family physicians and medical specialists in hospitals or emergency centers), and 50 individual witnesses (patients or their family members who were diagnosed during the period between the 1st of January 2010 to the 31st of December 2011). The structured interviews were performed for those two groups of the study participants, using ten different questionnaires tailored according to the five selected health problems/diseases: cancer, stroke, myocardial infarction, diabetes mellitus (type II) and injuries. The selection of these health problems/diseases was due to the fact that they represent the major causes of death in the country and require different approaches in the health care response (emergency versus long-term monitoring and care). We combined two different sampling methods: selective expert sampling for knowledgeable observers and non-probability convenience sampling method for the individual witnesses. The field work was carried out in the period from March 2012 to March 2013.
The data obtained through interviews with knowledgeable observers and individual witnesses, for each of the five selected health problems, was organized and analyzed in relation to an adjusted 6-access-steps model based on the following sequence of themes: the extent to which the national benefit packages cover diagnostic, treatment, monitoring and rehabilitation in the specific health problem; the extent to which payments, co-payments, and out-of-pocket expenditure are involved and threaten equity of access; geographical access and availability of services; availability of public and private health-care providers; waiting lists and other aspects of system organization that can result in barriers to the health care access; and groups with limited access and risk factors related to the specific health problems.
The expected performance of the health care system was assessed by measurement of four dimensions of the health care system: accessibility, availability, quality of health-care

services and the population's confidence in the public health system, based on the opinion of the knowledgeable observers. Assessment for each dimension was made using the Likert scale from 1 ('very poor') to 5 ('very good'). Results were presented as the average of the scored values for each dimension.

For measurement of the general assessment of the health system, the opinions on the four dimensions were aggregated into a dominant opinion index, using the method basically developed by Hofstede in 1980 (11) and the formula: (P-N) * (T-NR)*100/T*T, where P – positive answers ('very good' or 'good'), N – negative ('very poor' or 'poor'), NR – neutral or non-response, and T – total number of variables. This type of index varies between -100 (generalized negative attitude) and 100 (generalized positive attitude toward the issue).

For assessment of the actual performance of the public health care system, the analysis of the opinions/experience of the individual witnesses and knowledgeable experts was made with a focus on the history of the health problem. The main focus was on the factors hampering the access to the health care system, as essential elements for the assessment of the actual performance of the public health care system.

Results

Health status of the population in Macedonia shows many different characteristics and tendency, caused by economic, political, socio-demographic changes, as well as health care reforms which have been in process in the past 20 years. Figure 1 presents the standardized death rate (SDR) of five health problems: malignant, cerebrovascular and ischemic heart diseases, diabetes and injuries in the period 1990-2010 (12).

SDR of malignant neoplasms shows higher rate and increasing trends in the Republic of Macedonia, compared with the EU and the European region countries. Hence, the SDRs of cerebrovascular diseases and diabetes are 3.5 times higher in Macedonia than in the EU countries and much higher than in the countries of the European region. SDR of cerebrovascular diseases follows the similar trend as in the other European countries, but the SDR of injuries is two times lower than in the European countries.

In the current research, all respondents were divided into two groups: individual witnesses (n=50) and knowledgeable observer (n=125). Their distribution is presented in Map 1.

The demographic characteristics of the individual witnesses that have participated in the study are presented in Table 1.

The dominant characteristics of the respondents from the group of the individual witnesses included: patients (64%) that live in a large urban residency (48%), pensioners (34%), with high school level of education (54%) and middle income (38%).

The characteristics of the knowledgeable observers are presented in Table 2.

According to demographic data, the dominant group of respondents from knowledgeable observers consisted of doctors (34.4% GPs and 31.2% specialists), males (58.4%) that live in a large urban residency (66.4%), with a mean age of 43.3 years.

The results of the assessment of the performance of public health care system in the country are presented in Table 3.

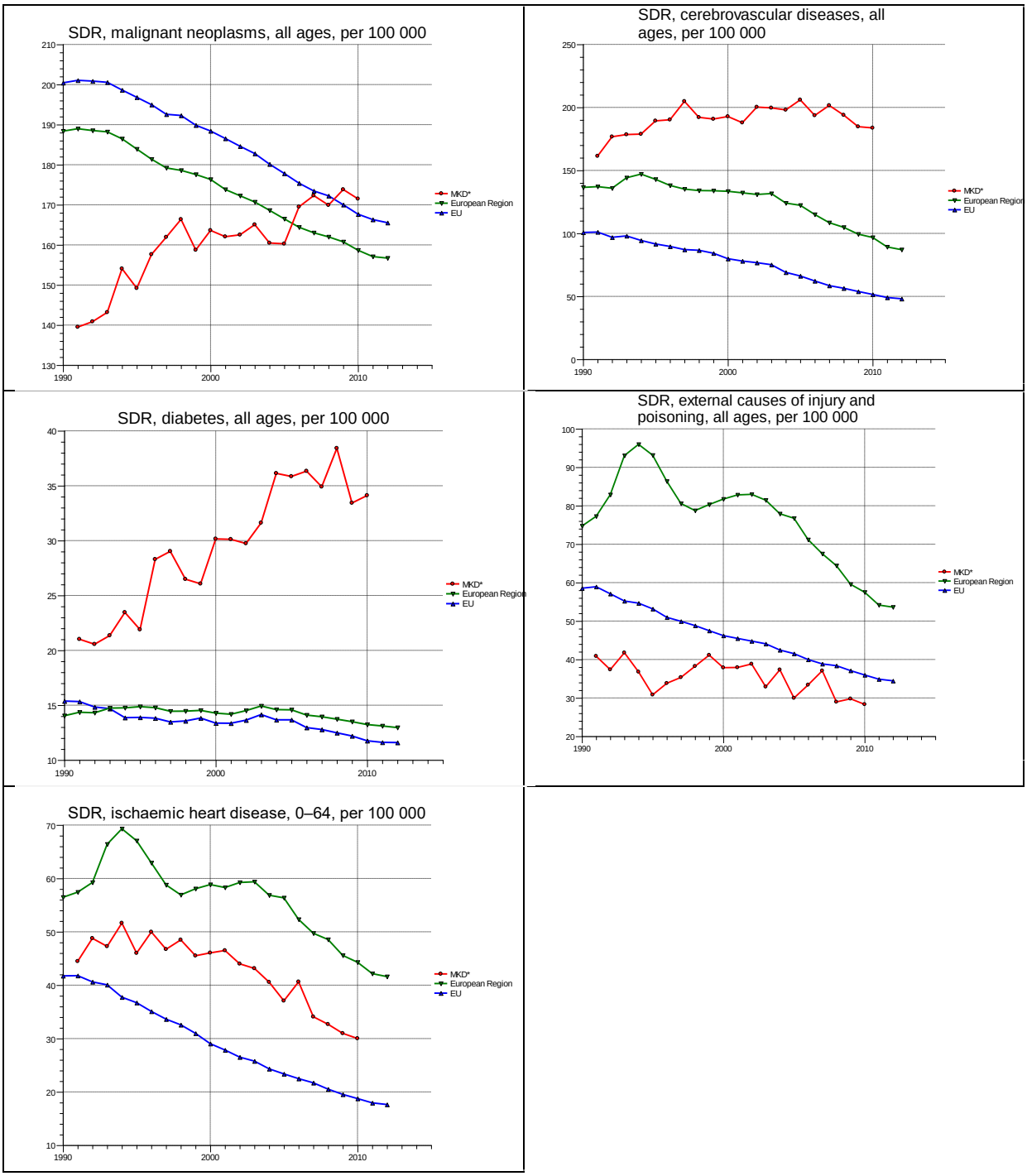
Knowledgeable observers consider the health system as being medium/good in all four dimensions: accessibility, availability, quality of healthcare service and the population's confidence in the public health system, with an average score of 3.5. The scores vary from 3.4 points for the population confidence to 3.7 points for the availability of the services.

The biggest part of respondents from the group of the knowledgeable observers believes that state-of-the-art treatment exists all over the country ("yes": 33.6% and "rather yes": 44.8%) and that they are accessible to everyone free of major charges ("yes": 31.2% and "rather yes":

45.6%). Yet, health professionals from rural areas tend to assess the system performance with lower remarks.

At the level of the overall sample, the dominant opinion index about the health care services showed an average value of 34 points in a scale from -100 to +100. This index had very little variations from 38 for diabetes mellitus, 37 for injuries, 35 for stroke and myocardial infarction, but it was significantly lowest for cancer, with only 23 points. These findings are shown in Figure 2.

Figure 1. SDR for selected diseases in the Republic of Macedonia during 1990-2010



Map 1. Distribution of respondents

X Knowledgeable observers
✓ Individual witnesses

Table 1. Demographic characteristic of individual witnesses

VARIABLE	CATEGORY	NUMBER	PERCENT
Type of respondent	Patients	32	64
	Family member	18	36
Residence	Large urban	24	48
	Small urban	14	28
	Rural	12	24
Ethnicity	Macedonian	37	74
	Albanian	11	22
	Other (Roma, Serbian)	2	4
Age (average)	Cancer	54.9	?
	Stroke	65.3	?
	AIM	53.8	?
	Injuries	43	?
	DM	61.6	?
Employment status	Manager	1	2
	Clerical staff	6	12
	Non-manual worker	5	10
	Manual worker	11	22
	Pensioner	17	34
	Student	3	6
	Housewife or inactive	7	14
Level of education	None	3	6
	Elementary	10	20
	High school	27	54
	College or more	10	20
Income	Low	10	20
	Middle low	13	26
	Middle	19	38
	Middle high	6	12
	High	2	4

Table 2. Demographic characteristic of knowledgeable observers

VARIABLE	CATEGORY	NUMBER	PERCENT
Type of respondent	General practitioners	43	34.4
	Specialist doctors	39	31.2
	Representatives of regional or national directions of public health	7	5.6
	Hospital representatives	11	8.8
	Emergency centers representatives,	3	2.4
	Representatives of NGOs active in the field	2	1.6
	Representatives of patient organizations	3	2.4
	Other	17	13.6
Residency	Large urban	83	66.4
	Small urban	32	25.6
	Rural	10	8
Age (average)		43.3 (min=24; max=67)	
Gender	Male	73	58.4
	Female	52	41.6

Figure 2. The value of the Dominant Opinion Index

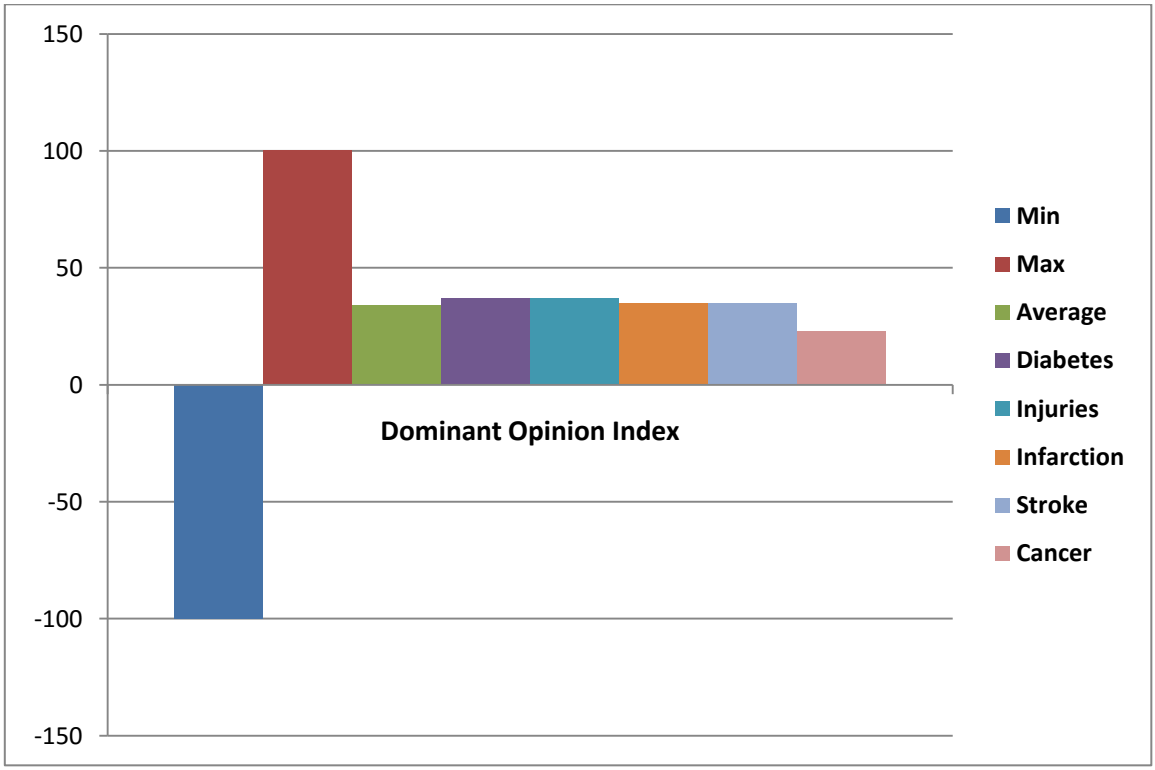


Table 3. Assessment of the performance of public health care system in the Republic of Macedonia

ASSESSMENT OF PUBLIC HEALTH PERFORMANCE	CATEGORY	NUMBER	PERCENT	SCORE (1-5)
Availability of health care services	Very poor	0		
	Poor	11	8.8	
	Medium	43	34.4	
	Good	48	38.4	
	Very good	23	18.4	
Average Score				3.7
Quality of health-care services	Very poor	1	0.8	
	Poor	11	8.8	
	Medium	52	41.6	
	Good	44	35.2	
	Very good	17	13.6	
Average Score				3.5
Population's confidence in the public health-care system	Very poor	3	2.4	
	Poor	14	11.2	
	Medium	52	41.6	
	Good	40	32	
	Very good	16	12.8	
Average Score				3.4
Health-care services are accessible to any person who needs them, regardless their economic situation	Very poor	8	6.4	
	Poor	16	12.8	
	Medium	32	25.6	
	Good	37	29.6	
	Very good	32	25.6	
Average Score				3.5
State-of-art treatment (of the respective health problem) is available?	Yes	42	33.6	
	Rather yes	56	44.8	
	no	6	4.8	
	Rather no	21	16.8	
Is the state-of-the-art treatment (including diagnostics, monitoring etc.) accessible to everybody, which means free of major charges?	Yes	39	31.2	
	Rather yes	57	45.6	
	No	6	4.8	
	Rather no	23	18.4	
Dominant opinion index (overall)				34

When analyzing which group of knowledgeable observers are most satisfied, it is remarkable to note that physicians (general practitioners and specialists) are the most satisfied observers, with a score on the dominant opinion index of 40 points, despite the NGO and representatives of the patients' organizations who are the least satisfied observers (approaching to the 0 point on the scale). However, it should be emphasized that the simple size and the profile of the observers influenced on the observed results of this research work.

Regarding the assessment of the actual performance of the public health care system, Table 4 provides descriptions about the main barriers of access to services in Macedonia.

Table 4. Main access barriers in public health care of the five selected health problems

ACCESS BARRIERS	1		2		3		4		5	
	IW	KO	IW	KO	IW	KO	IW	KO	IW	KO
Delayed first contact with a doctor		X		X	X				X	
Poor knowledge and low level of prevention and information of population		X		X	X				X	X
Doctor or medical services are not available in some areas		X		X	X		X	X		X
Diseases' related services are available only in some areas			X	X	X					
Rehabilitation units/ services are not available/enough in some areas				X				X		
Pharmacies are not available in some areas		X		X				X		
Emergency services are not available in some areas or are underdeveloped		X	X	X			X	X		
Transport services are underdeveloped or too costly					X					
The waiting time for being received by a specialist is very long		X			X	X				
The waiting time for getting medication is very long						X		X		
The waiting time for rehabilitation services is very long						X	X			
Lack of trust in doctors, nurses or medical staff					X	X	X			
Lack of interest or unprofessionalism of the doctor or medical staff						X	X	X		
Lack of humanness of the staff					X					
Lack of money to pay the doctor		X								
Lack of money to pay the needed tests										
Lack of money for out-of-pocket payments			X							
Low quality and effectiveness of medical services	X		X	X		X	X	X	X	X
High costs of medication	X	X	X	X		X	X		X	
Poor equipment of public clinics/hospitals		X			X	X	X		X	X
Lack of accessibility and continuity of care	X			X						
Specialists of certain subspecialties are missing or insufficient										

Legend: 1 = infarction; 2 = stroke; 3 = cancer; 4 = injuries; 5 = diabetes
IW = individual witnesses; KO = knowledgeable observers

There are four major aspects of the health care system that are major barriers in accessing state-of-the-art treatment, for all the selected health problems:

- low quality and effectiveness of medical services;

- high cost of medication;
- poor equipment of public health care clinics/hospitals, and;
- availability of doctors and medical services.

Additionally, the respondents gave high priority to the poor knowledge and the low level of information and the lack of preventive health-related behavior; availability of emergency services and lack of trust in medical staff and their unprofessionalism as possible barriers hampering state-of-the-art treatment of the patients.

The respondents in this study confirmed a delayed first contact with a doctor in four of the analyzed diseases (myocardial infarction and stroke from knowledgeable observers, cancer and diabetes from individual witnesses), as well as unavailability of healthcare services in some areas (for stroke and cancer) and long waiting time for specialized care (myocardial infarction and cancer).

More than 70% of participants in the study referred to a low quality of medical services, high cost of medication and poor equipment of public clinics and hospitals. Despite these remarks, Macedonian citizens showed a high level of trust in doctors. The trust in medical doctors or nurses in this study was pointed out for cancer (knowledgeable observers) and injuries (individual witnesses and knowledgeable observers).

Discussion

Considering the health challenges that are facing all countries in the Southeastern European (SEE) region, a comparative qualitative study about assessment of the performance of the public health care system was performed in 2013, with participation of eight countries. This paper is focused on the research results obtained in the Republic of Macedonia. The main idea was to compare the actual level of health care delivery in comparison with the highest, "state-of-the-art" diagnosis, treatment and recovery, related to five deadliest health problems in the country: myocardial infarctions, stroke, cancer, diabetes mellitus type 2 and injuries.

The results of the study showed that health professionals consider the Macedonian health care system as being "medium/good" with no significant variations in the accessibility, availability, quality of health care service and the population's confidence. The overall performance of the health care system was similarly assessed as "good" with no significant differences for different health care problems/diseases. Regarding the opinions of study participants, low quality and effectiveness of medical services, high cost of medication and uncommon preventive health related behavior were pointed out as the main barriers in delivery of the state-of-the-art health care treatment.

There is a lot of information about the risk factors for non-communicable diseases and preventive measures in the country, but apparently they do not reach the needs and expectation of the citizens, even though the GPs are obliged to make regular preventive examinations among the population, according to the national preventive programs.

The strategic objective to the Ministry of Health (2010-2014) aimed to provide healthcare services for the population with good quality, improved availability and accessibility, as well as better primary health care services for the population (13). There are a lot activities that are conducted to meet this goal (including provision of new equipment, education of medical staff, preventive programs and the like). In 2011, the Ministry of Health started a project for public procurement of new equipment. With a budget of 70 million Euros, there were provided over 609 new sophisticated medical devices.

The research that was performed in Macedonia (in May, 2012) with 531 respondents, showed that citizens expect better behavior of the medical staff, shorter waiting time for medical examination or diagnostic procedures and better hygiene (14).

In comparison with the results from the other seven countries included in the research comparative study, Macedonia shares the same situation as the other SEE countries, where poverty, financial and geographical barriers are major factors that lead to a lack of access. In most of the countries (especially in Moldova, Bulgaria and Kosovo), out-of-pocket payments constitute more than 40% of the total payments for health care services, in contrast with the responses from participants in Macedonia, where out-of-pocket payments as a barrier is mentioned only for cancer.

However, the performance of the public health care system in Macedonia has differences compared with other SEE countries, from the point of view of knowledgeable observers, because the knowledgeable observers from Croatia, Montenegro and Serbia tend to assess their health systems in positive terms. On the other side, representatives of Romania, Moldova and Kosovo are rather critical in evaluating their health systems. Bulgarians and Macedonians consider their health systems as being "medium-good" in all respects.

Macedonian citizens showed a high level of trust in doctors, similar to the results from the whole study, where from a total number of 845 respondents, 70.8% reported trust in doctors, 21.4 % did not, and the remaining 7.8% were neutral (15).

The future reforms in health policies in the Republic of Macedonia, as well as in other SEE countries should be oriented toward six major goals (15,16):

- *The need to better define, and evaluate the costs of benefit packages:*

All eight countries provide, by national laws, comprehensive packages of health-care services. None of the studied health systems has the capacity to ensure the universal provision of such services.

- *The need to develop prevention services:*

The community nursing system, considered to be the most powerful "equalizer" in the health system is still largely unutilized in most of SEE countries. Despite efforts to develop primary care, access to adequate and holistic community, health care remains a challenge for certain segments of the population (low-income groups, residents of rural areas and small towns, Rom, and the like).

- *The need to develop rehabilitation, palliative and long-term care services:*

Palliative, long-term and rehabilitation care are not sufficiently developed as parts of the healthcare systems in the region. Most long-term care is provided in the family, and there are few resources available for informal cares.

- *The need to improve the financing of the public health care systems:*

Public health-care systems in the region are under-financed, primarily as a result of fiscal constraints. Hence, political will is a major factor for improving the performance of public health care systems.

- *The need for an effective human resource policy in health:*

In nearly all countries included in this survey, the availability of all types of medical professionals is far below the European average. Shortages of some specialties and skills are also reported in the studied countries such as Croatia, Macedonia, Kosovo and Moldova, and are not necessarily related to health professional mobility.

- *The need to address informal payments in the public health care system:*

The study showed that informal payments still represent an access barrier to state-of-the-art treatment, in particular in relation to chronic diseases. Informal payments primarily represent a response to the poor capacity of the public health-care system to provide adequate access to basic services.

In conclusion, over the last ten years, many efforts have been undertaken to establish a common conceptual framework for health system performance assessment which is defined

as the way how the individuals/patients are treated encompassing the notion of the patients' experience. Measuring of the health care performances is a key tool in aiding decision makers to describe, analyze, compare and improve the delivery and outcomes achieved by health care systems (17). This study applied the method of measuring qualitative parameters received by structured interview to quantitative indicators. The results from the first research study performed in the country show that Macedonians consider their health systems as being "medium-good" in all respects. The research methodology used in this paper has the potential to extend the applied methods to the large population taking into consideration other socio-economic characteristics (income, education, cultural influences and the like). It would help to obtain stronger scientific evidence on health care system performances and to foster the development of measuring tools of its components**.**

References

1. Freeman T. Using performance indicators to improve health care quality in the public sector: a review of the literature. Health Serv Manage Res 2002;15:126-13.
2. Contencin P, Falcoff H, Doumenc M. Review of performance assessment and improvement in ambulatory medical care. Health Policy 2006;77:64-75.
3. Grol R, Baker R, Wensing M, Jacobs A. Quality assurance in general practice: the state of the art in Europe. Fam Pract 1994;11:460-7.
4. World Health Organization (WHO). 2008-2013 Action Plan for the Global Strategyfor the Prevention and Control of Noncommunicable Diseases. Geneva, Switzerland; 2008. http://www.who.int/nmh/publications/9789241597418/en/ (accessed: April 10, 2016).
5. Ckaleska D, et al. Ambulatory and dispensary morbidity in Macedonia, Institute of Public Health; 2011. http://iph.mk/images/stories/PDF%20statistika/APMB%202011.pdf (accessed: April 12, 2016).
6. Kjosevska E, et al. Analysis of hospital morbidity in the Republic of Macedonia 2012-2103, Institute of Public Health, 2011, http://iph.mk/wp-content/uploads/2015/03/ANALIZA-BM-2012_2013-so-CIP.pdf (accessed: April 10, 2016).
7. Ministry of Health. Law for Health protection, Official Gazette No 26/2012, www.moh.gov.mk (accessed: March 30, 2013).
8. Ministry of Health, Law for Health protection,Official Gazette N.4/2013 page 84.
9. Institute of Public Health, Health map in R. Macedonia for the year 2012, http://iph.mk/images/stories/PDF/PDF_2014/zk%20mk%20prv%20del%202012.pdf (accessed: September 5, 2015).
10. Wismar M, Palm W, Figueras J, Ernst K, Van Ginneken E. Cross-border health care in the European Union: mapping and analysing practices and policies. Cross-border health care in the European Union: mapping and analysing practices and policies; 2011.
11. Hofstede G. Motivation, Leadership, and Organization: Do American Theories Apply Abroad? Organizational Dynamics, AMA/AMACOM; 1980.
12. WHO, HFA indicators. http://data.euro.who.int/hfadb/linecharts/linechart.php?w=1366&h=768 (accessed: November 18, 2015).
13. Ministry of Health. Strategic plan 2012-2014. http://mz.gov.mk/wp-content/uploads/2013/01/strateski_plan2012-14.pdf (accessed: April 12, 2016).

14. Health grouper. Patients experiences-How to be better? www.healthgrouper.com/mk/page/Patients-experiences-2012 (accessed: April 12, 2016).
15. Stanculescu MS, Neculau G. The Performance of Public Health-care Systems in South East Europe, Friedrich Ebert Stiftung, Belgrade; 2014.
16. Stanculescu MS. Analysis of the financial literacy survey in Romania and recommendation. Comprehensive report prepared for World Bank. Institute for the study of the quality of life. Bucharest; 2010.
17. Murray CJ, Evans D. Health systems performance assessment. Office of Health Economics; 2006.
