

Dragan Lončar

University of Belgrade
Faculty of Economics
Department of Business Economics and
Management

Filip Stojanović

University of Belgrade
Faculty of Economics
Department of Business Economics and
Management

GAP ANALYSIS OF THE HEALTH SYSTEM IN SERBIA COMPARED TO THE DEVELOPED HEALTH SYSTEMS IN EUROPE*

Gep analiza zdravstvenog sistema Srbije
u odnosu na razvijene zdravstvene sisteme Evrope

Abstract

Subjects of this analysis are the health system in Serbia and parameters of development of the health system in Serbia compared to the best practices in Europe. Special focus is placed on a gap analysis between the health system in Serbia and health systems in the Netherlands and Germany. This gap analysis shall be employed as the basis for defining a number of recommendations for improving the efficiency of public spending. The Netherlands, the first on the list with a total of 927 out of 1,000 points in the Euro Health Consumer Index, tops three subdisciplines, and really has no weak points. On the other hand, Germany holds the 7th place with 849 out of 1,000 points in the Euro Health Consumer Index. The aforementioned countries are prime examples for comparison, given that health systems in the Netherlands and Germany, as well as the health system in Serbia, apply the Bismarck model.

Keywords: *gap analysis, health system, best practice*

Sažetak

Predmet istraživanja je zdravstveni sistem Srbije i parametri razvoja zdravstvenog sistema Srbije u poređenju sa najboljom praksom Evrope. Poseban fokus je na gep analizi između zdravstvenog sistema Srbije i zdravstvenih sistema Holandije i Nemačke. Ova gep analiza predstavlja osnov definisanja preporuka za unapređenje efikasnosti trošenja budžetskih sredstava. Holandija, koja je prva na listi evropskog zdravstvenog indeksa sa ukupno 927 od 1.000 poena, prednjači u 3 pod-discipline i nema uočenih slabosti. Suprotno, Nemačka zauzima sedmu poziciju na listi sa 849 od 1.000 poena. Navedene zemlje predstavljaju veoma dobar primer za poređenje, naročito imajući u vidu da su zdravstveni sistemi u Holandiji i Nemačkoj istovetni zdravstvenom sistemu Srbije, i pripadaju grupi Bizmarkovog zdravstvenog modela.

Cljučne reči: *gep analiza, zdravstveni sistem, najbolja praksa*

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Introductory remarks

As mentioned in Serbia - Partnership Program Snapshot [15, pp. 8-9], recent trends in Serbia's health indicators suggest a continuous improvement. Health outcomes have improved significantly over the past decade, and Serbia now has an epidemiological pattern similar to the ones in most countries in Eastern Europe. Additionally, many indicators are equal to or better than those in the most recent EU Member States. Average life expectancy, for example, at 74.3 years is almost equal to averages in the new EU members. However, Serbia spends almost twice as much per capita than the comparable countries and has similar health outcomes, indicating that health sector efficiency is a concern.

Health financing reform and improving efficiency in health care delivery remain the main challenges in the sector. Despite many improvements over the recent years, the healthcare system still suffers from numerous inefficiencies and low productivity. The Ministry of Health and the National Health Insurance Fund initiated health financing reforms both at the primary and secondary level that will replace the input-based system of financing in the health sector. For primary care, the Government has opted for performance-based payment, a formula combining per capita payments, the number of services and preventive care services. Patients register and are treated by a doctor of their choosing as the primary point of contact, thus limiting the need for referrals. A portion of the salaries of primary healthcare providers is directly linked to the number of patients registered and the number of services

provided. In the secondary, i.e. hospital level of care, the Ministry of Health and the National Health Insurance Fund are moving toward a Diagnosis-Related Group (DRG) system. The DRG is a hospital payment system of care in which hospitals are paid on a per case basis, calculated based on an average cost of treating a patient during an entire episode. The DRG system creates an incentive to increase the number of treated cases, while at the same time minimizing costs. International experience shows that implementation of such reforms might generate substantial savings and increase productivity. The Government of Serbia has secured significant savings by introducing centralized procurement for pharmaceuticals, medical devices and supplies.

This paper deals with the health system in Serbia, from the perspective of the health status of the Serbian population and from the perspective of the identified gaps concerning best practices in healthcare in Europe. The analysis starts with similar health models which apply the best practices – the Netherlands and Germany. The main goal of the gap analysis is not to criticize the decision-makers in the health system in Serbia, but to point out the negative gaps in relation to best practices in the Netherlands and Germany. The Netherlands, the first on the list, with a total of 927 out of 1,000 points, tops three subdisciplines, and really has no weak points. The Netherlands is the only country that has consistently been among the top three in the total ranking of any European Index which the Health Consumer Powerhouse (HCP) has published since 2005. On the other hand, Germany holds the 7th place, with 849 out of 1,000 points in the Euro Health Consumer Index. The aforementioned states are prime examples for comparison, given that health systems in the Netherlands and Germany, as well as the health system in Serbia, form a part of the group of systems with compulsory health care where the entire population in a state is covered with health insurance (the so-called Bismarck model). Bismarck healthcare models dominate the top of the EHCI ranking. Those systems are based on social insurance, where there is a multitude of insurance institutions which are independent of the healthcare providers in terms of organization.

The detailed gap analysis is divided in three parts. The first part analyzes specific indicators of population health and the development of the healthcare system in Serbia from the perspective of the Euro Health Consumer Index – EHCI produced by the Health Consumer Powerhouse. The second part scans the current gaps between the health system in Serbia and health systems in the Netherlands and Germany. The final, third part offers important conclusions of the analysis.

Specific indicators of population health and the development of the health system in Serbia according to the Euro Health Consumer Index – EHCI

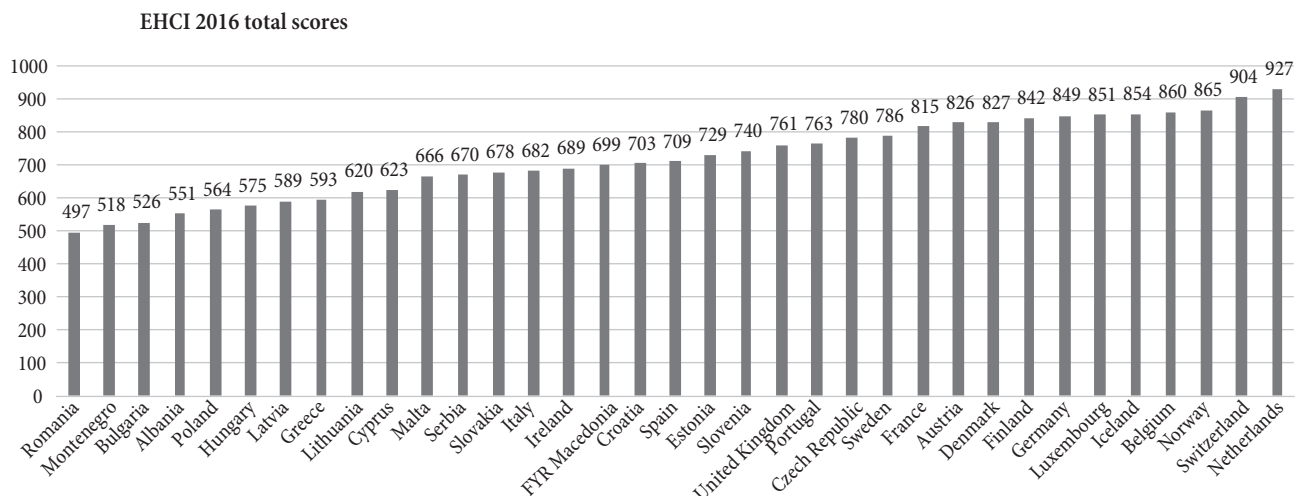
The EHCI, launched in 2005, is the leading comparison tool for assessing the performance of national healthcare systems in 35 countries. The EHCI analyzes national health care by using 48 indicators and looking into six areas: 1. Patient rights and information, 2. Accessibility (in terms of waiting times for treatment), 3. Outcomes, 4. Range and reach of services provided, 5. Prevention, and 6. Pharmaceuticals. The new 2016 Index ranks the countries on a scale from 0 to 1,000 points, with a minimum score being 497 points and the maximum score 927 points.

The aim of the analysis is not to provide a ranking of countries, but to identify gaps in the development of national health systems and to indicate possible ways of filling in the negative gaps. The report [4, p. 6] for 2016 points to several conclusions, according to the Health Consumer Powerhouse.

For the first time two countries – the Netherlands (927) and Switzerland (904) – break the 900-points barrier in the EHCI. This means that they are getting close to meeting all the criteria for good, consumer-friendly health care formulated by the Index in 2005. A notch behind are Norway (865), Belgium (860), Iceland (854), Luxembourg (851), Germany (849) and Finland (842).

Despite the general improvement in all national health systems, the gap remains observable between the top performers (Northwestern Europe plus Switzerland) and the least developed ones (former CEE and Southeastern Europe). The gap in the level of development of health

Figure 1: Euro Health Consumer Index ranking



Source: [4, p. 27].

systems in European countries is increasing, as evidenced by the chart below (Figure 1).

Among the winners in the six EHCI subdisciplines are the well-established national systems with good funding and health culture. Norway reaches a full score in the Patient rights and information subdiscipline. The same goes for Belgium, Macedonia and Switzerland in terms of Accessibility. Sweden and the Netherlands achieved a maximum score in Range and reach of services provided, as presented in the table below (Table 1).

The only exception in the abovementioned pattern is the FYR Macedonia. In 2014, the FYR Macedonia made the most remarkable advance in the EHCI scoring of any country in the history of the Index, advancing from the 27th to 16th place, more-or-less largely due to eliminating waiting lists by implementing their real-time and highly transparent application for online booking of medical appointments. It seems that this situation was sustainable also in 2016, with a small drop to the 20th place given that

other countries improved, as well. This being possible in a not-too-wealthy country challenges many conventional attitudes in health care.

The EHCI ranking of cost-efficient health care shows the relation between the money spent on public health care and the performance of healthcare systems. Some countries provide very good health care compared to the costs. Since the EHCI was launched, Estonia and the Czech Republic have offered good value for money, and Finland and Portugal have recently joined this group. At the other end of the ranking scale are countries that pay far too much for health care, given the poor performance. Romania and Bulgaria have a tradition of long hospital stays which they cannot afford. Poland and Hungary try to deny the need for radical reforms in their health systems [4, p. 33].

In 2015, Serbia held the 30th place, with a total of 554 out of 1,000 points, which is a three-rank and 81-point leap compared to 2014. In 2015, Serbia overtook Albania,

Table 1: The winners in the six EHCI subdisciplines

Subdiscipline	Top country/countries	Score	Maximum score
1. Patient rights and information	Norway	125	125
2. Accessibility	Belgium, FYR Macedonia, Switzerland	225	225
3. Outcomes	Finland, Iceland, Germany, the Netherlands, Norway, Switzerland	288	300
4. Range and reach of services provided	The Netherlands, Sweden	125	125
5. Prevention	Norway	119	125
6. Pharmaceuticals	France, Germany, Ireland, the Netherlands, Switzerland	86	100

Source: [4, p. 31].

Poland, Romania and Bulgaria. In 2016, Serbia occupied the 24th place, with a total score of 670 out of 1,000 points. This time Serbia outranked Latvia, Cyprus, Malta, Greece, Hungary and Lithuania.

With 670 out of 1,000 points, i.e. an advancement of 116 points in ranking compared to 2015, Serbia became “the climber of the year”. After Serbia’s first inclusion in the EHCI in 2012 (finishing last), there were some very strong reactions from the Ministry of Health in Belgrade, claiming that the scores were unfair. Interestingly, there were also reactions from organizations of medical professionals in Serbia claiming that Serbian scores were inflated and that the EHCI did not take corruption in healthcare systems seriously enough. The only direct corruption-related indicator is Informal payments to doctors, where Serbia does score in the red. The major part of the impressive climb was due to the effects produced on the A&E waiting times indicator by licensing and implementing the Macedonian IZIS system for direct booking of specialist appointments, plus ePrescriptions [4, p. 16].

Significant improvements in ranking are mainly evident in the following subdisciplines: Patient rights and information, Accessibility, Prevention and Pharmaceuticals. Great progress is achieved in the ERP penetration, Patients’ access to online booking of appointments, improving inadequate IT support (e.g. ePrescriptions), CT scan waiting time less than 7 days, HPV vaccination, decrease in traffic deaths, cutting time to subsidy in order to access new drugs and increasing the use of arthritis drugs.

The EHCI indicates several negative phenomena in the health system in Serbia. These are: poor access to the system of receiving treatment and long waiting times (especially poor results in Direct access to specialist, Major elective surgery less than 90 days and Cancer therapy less than 21 days indicators), adverse outcomes of treatment (infant deaths, cancer survival, stroke deaths, abortion rates), the overemphasis of hospital care (probably due to long waiting times by hospitalized patients for a check-up), poor prevention mechanisms (blood pressure, alcohol, physical activity), low range of services provided and pharmaceuticals (number of innovative drugs, e.g. novel cancer drugs deployment rate). A significant number of parameters in all subdiscipline categories are still in the

red, with the exception of Patient rights and information and Accessibility which left the red zone in 2016. For example, Long-term care for elderly does not actually exist as a system. One part of the system is regulated through cash benefits, another through institutional social care and community-based social services, while one part is just being established under the healthcare system. The linkages among these segments are not strong and there is insufficient awareness of the need to regard different parts of the system as being interdependent and interconnected. According to different surveys, home care is needed for the daily functioning of more than 80,000 elderly people, especially for around 27,000 of those who are completely immobile. More than 300,000 elderly persons have reported that they are in need of some type of self-care support. Traditionally, elderly people in Serbia primarily rely on family support. Also, the cancer survival rate is less than 50%. More broadly, the results for treatment outcome are particularly concerning (Outcomes category).

In general, there is much room for improvement of the health system, as evidenced by the following illustration of the position of Serbia (Table 2).

As a separate exercise, the EHCI 2016 has added a value-for-money adjusted score: the Bang-For-the-Buck adjusted score or “the BFB Score”. The performance of Serbia in 2016 shows that GDP per capita does not have to be a dominating factor [8].

Apart from the aforementioned Euro Health Consumer Index, there are several other indicators of development of health care in Serbia, such as the GCI and Bloomberg, IMS and Globocan report, and IPSOS report.

GCI and Bloomberg

The Global Competitiveness Index (GCI) measures the competitiveness of a national economy based on over 400 competitiveness factors which are included in the 12 pillars of competitiveness, which again comprises three sub-annexes which eventually provide a summary index value on a scale from 1 to 7 [17, pp. 20-21].

Based on the Global Competitiveness report for 2016-2017, according to the level of overall competitiveness Serbia holds the 90th place out of 138 countries in the sample, with

Table 2: The structure of the Euro Health Consumer Index (EHCI) of the Republic of Serbia for 2016

Subdiscipline	Indicator	Serbia
1. Patient rights and information	1.1. Healthcare law based on Patients' Rights	√
	1.2. Patient organizations involved in decision making	-
	1.3. No-fault malpractice insurance	-
	1.4. Right to second opinion	√
	1.5. Access to own medical record	√
	1.6. Registry of <i>bona fide</i> doctors	√
	1.7. Web or 24/7 telephone HC info with interactivity	√
	1.8. Cross-border care seeking financed from home	n/a
	1.9. Provider catalogue with quality ranking	-
	1.10. EPR penetration	√
	1.11. Patients' access to online booking of appointments?	√
	1.12. e-prescriptions	√
	Subdiscipline weighted score	111
2. Accessibility (waiting times for treatment)	2.1. Family doctor same day access	√
	2.2. Direct access to specialist	-
	2.3. Major elective surgery < 90 days	-
	2.4. Cancer therapy < 21 days	-
	2.5. CT scan < 7 days	√
	2.6. A&E waiting times	√
	Subdiscipline weighted score	188
3. Outcomes	3.1. Decrease of CVD deaths	x
	3.2. Decrease of stroke deaths	-
	3.3. Infant deaths	-
	3.4. Cancer survival	x
	3.5. Potential Years of Life Lost	-
	3.6. MRSA infections	x
	3.7. Abortion rates	-
	3.8. Depression	-
	3.x COPD mortality	x
	Subdiscipline weighted score	163
4. Range and reach of services provided	4.1. Equity of healthcare systems	x
	4.2. Cataract operations per 100,000 age 65+	x
	4.3. Kidney transplants per million pop.	x
	4.4. Is dental care included in the public healthcare offering?	-
	4.5. Informal payments to doctors	x
	4.6. Long-term care for the elderly	x
	4.7. % of dialysis done outside of clinic	-
	4.8. Caesarean sections	-
Subdiscipline weighted score	57	
5. Prevention	5.1. Infant 8-disease vaccination	-
	5.2. Blood pressure	x
	5.3. Smoking prevention	x
	5.4. Alcohol	-
	5.5. Physical activity	√
	5.6. HPV vaccination	√
	5.7. Traffic deaths	√
Subdiscipline weighted score	89	
6. Pharmaceuticals	6.1. Rx subsidy	x
	6.2. Layman-adapted pharmacopoeia?	√
	6.3. Novel cancer drugs deployment rate	x
	6.4. Access to new drugs (time to subsidy)	-
	6.5. Arthritis drugs	-
	6.6. Statin use	-
	6.7. Antibiotics/capita	-
Subdiscipline weighted score	62	
	Total score	670
	Ranking	24

Source: [4, p. 27]

a 3.97 score out of maximum 7. According to the pillars of health and primary education, Serbia occupies the 53rd place. In comparison to 2014, when Serbia was ranked as 68th, this suggests a major progress in this field. A more detailed description of the structure of competitiveness factors within the health and primary education pillar is presented in the following Table 3 [17, p. 5].

According to the Bloomberg survey [3, pp. 2-5], which is based on parameters similar to the ones employed by the World Economic Forum survey (the Global Competitiveness Index), Serbia is ranked as 74th out of 145 countries on the list of the healthiest countries in the world. To identify the healthiest countries in the world, Bloomberg Rankings created health scores and health-risk scores for countries with population of at least one million. The health scores are based on factors such as life expectancy at birth and infant mortality, causes of death, death rates by three age groups: under 14, 15-64 and 65+, and survival to 65 and life expectancy at 65, both gender-ratio weighted. The health-risk scores are based on factors such as percentage of population age 15+ that are smokers, total (reported and estimated) adult per capita consumption of alcohol and the percentage of population with elevated levels of total cholesterol.

The first place on the list of the healthiest countries is held by Singapore, followed by Italy, Australia, Switzerland and Japan. According to this ranking, Serbia takes place in the middle of the list. However, other countries from the region are better placed, so that Slovenia ranked as 25th, Bosnia and Herzegovina 34th, Croatia 36th and Macedonia 43rd.

IMS and Globocan report

The IMS report [5, p. 4] and WHO Globocan report [18] summarize the parameters of cancer incidence and cancer mortality for all the countries in the world. According to cancer incidence, Serbia is ranked 18th in Europe, with 270 incidences of cancer per 100,000 people. Even more alarming than this is cancer mortality, where Serbia is at the infamous second place in Europe, with 148 deaths per 100,000 people. Analysis of these two parameters leads to the conclusion that in the future we must devote much more attention to the treatment of cancer, given that the mortality rate is higher than 50%. This result is not only a consequence of an inadequate system of treating cancer, but also of the lack of health culture of the population of Serbia and irregular health scanning, as well as of poor primary care.

IPSOS report

The research was conducted with the main objective to obtain – by means of a survey of the population in Serbia, i.e. through self-assessment – detailed information on the health status of the population, both at the national level and at the level of four main statistical regions (Vojvodina, Belgrade, Šumadija and Western Serbia, Southern and Eastern Serbia) [17]. The basis of the research is the need to show how people perceive their health, the extent to which they use health care and how they take care of their health by adopting different lifestyles or relying on preventive and other health services. To successfully complete the research, the following objectives were

Table 3: The structure of the fourth pillar of the GCI index in Serbia 2016

4 th pillar: Health and primary education	Value	Ranking/138
4.01 Malaria incidence cases/100,000 pop.	Malaria Free	n/a
4.02 Business impact of malaria	N/Appl.	n/a
4.03. Tuberculosis incidence cases/100,000 pop.	24.0	53
4.04. Business impact of tuberculosis	6.4	31
4.05 HIV prevalence, % adult pop.	<0.1	1
4.06 Business impact of HIV/AIDS	6.5	15
4.07 Infant mortality, deaths/1,000 live births	5.9	43
4.08 Life expectancy, years	75.5	57
4.09 Quality of primary education	3.9	77
4.10 Primary education enrollment rate, net %	96.2	55

Source: [17, p. 15].

identified: identification of major health problems, the description of the health status and health needs of the population, estimate of the prevalence and distribution of health data, analysis of social inequalities in health and access to health services, study of the degree of utilization of health care and its determinants, as well as a forecast of possible trends in the health status of the population.

A large proportion of the Serbian population (57.8%) perceives their overall health as very good and good. 26.6% of the population would describe their health as average, while 15.6% stated that their health is poor or very poor. The highest positive health-level estimate comes from the residents of Belgrade (61.7%), while the lowest level is recorded among the residents of Southern and Eastern Serbia (52.5%). From the gender point of view, 64.5% of men rated their state of health as good or very good, while no more than 51.5% of women did the same. Not surprisingly, people's reported health status is highly associated with age: older people assessed their health as much worse than young people.

Two fifths of Serbian citizens reported a long-term illness or health problems. Among the citizens of the poorest categories, incidence of long-term diseases and health problems is greatest. Around half of the poorest citizens report the existence of the abovementioned symptoms, while people who live in more favorable financial circumstances experienced lower frequency of symptoms. From the geographical point of view, long-term health problems are more common among residents of Southern and Eastern Serbia (43.6%) and Vojvodina (40.8%), and less frequent among residents of Belgrade (36.9%). With respect to gender, women had higher incidence of long-term illnesses or health problems (45.1%) than men (34.6%).

In the domain of mental health of the people in Serbia, results show that somewhat more than one half of the adult population in Serbia was confronted with tension or stress in the period of four weeks before the survey. Pressure and stress on a daily basis were most often reported by people from 45 to 54 years of age (66.6%), females (61.5%), as well as residents of Southern and Eastern Serbia (62.9%). The majority of the Serbian population does not suffer from depression (95.9%), while symptoms of depression are

associated with the age of the citizens, with older people experiencing a higher number of symptoms [2].

The health culture of the population may be measured by the rate of preventive examinations. Only 3% of population was vaccinated against the flu. In the group of 65+ citizens, vaccination against the flu covered 8.7% of the population, with the highest frequency recorded in the subgroups of highly educated persons (16.3%) and citizens belonging to the wealthiest group (13%). In terms of blood pressure control, 12.7% of the population has not been to a medical check-up within the last five years, while some never had it checked by a doctor. Similar answers for cholesterol measurement were provided by 17.6% of the people, while 17.3% fell into the same category when it comes to measuring the level of blood glucose. Most of the men reported that they had never had their blood sugar level measured by a healthcare worker, or not in the last five years [1].

Availability of preventive health care to certain categories of the population became significantly limited due to the changes to the "Regulations on the content and scope of the right to health care" [12] adopted in December 2012. According to the Ordinance, people aged between 23 and 35 qualify for a routine physical examination at the expense of the National Health Insurance Fund only once in five years. In the 35+ category, which is considered to be a riskier one, citizens may request routine examinations every two years. Therefore, it is fairly easy to get the impression that only the sick and the risky groups can make full use of the system of (preventive) health care. Refusal to provide preventive examinations to the healthiest part of the population is a paradox of a kind, given that preventive treatment and regular check-ups are primarily meant for them and should be used in order to timely detect symptoms of diseases so that treatment would be as fast, efficient and as cheap as possible [10].

Health culture can also be measured by the amount in which citizens are (not) mindful of health risks. Among adults who are aware of their lack of exercise, lack of fruit and vegetables in their diet and of smoking being the cause of risk of getting heart and blood vessels illnesses, 91% practice undesirable behavior. In a population that is aware of the risk of developing lung diseases, most (71.4%)

are smokers and persons with expressed risk factors for developing lung diseases [10].

Best practices in Europe

The Netherlands

According to the Euro Health Consumer Index Report [4, p. 8] (available from 2006 onwards), the HCP has produced not only the generalist Index EHCI, but also specialist Indexes on Diabetes, Cardiac Care, HIV, Headache and Hepatitis. The Netherlands is unique as the only country consistently appearing among the top 3-4, regardless of the aspect of healthcare which is studied. This makes it very tempting to actually claim that the landslide winner of the EHCI 2016 could indeed be said to have “the best healthcare system in Europe”.

In 2012, the Netherlands’ score of 872 points was by far the highest ever seen in the HCP Index. The score of 927 points in 2016 was even more impressive and underlines that the EHCI 2017 will have to be more challenging in order to register differences. The Netherlands also scored 922 points in the Euro Diabetes Index 2014.

The Netherlands wins in three of the six subdisciplines of the Index (Outcomes, Range and reach of services provided and Pharmaceuticals), and the large victory margin seems to be essentially due to the fact that the Dutch healthcare system does not apparently have any actual weak spots, save for possibly some room for improvement regarding the waiting times indicators, where some other Central European countries excel.

So, what is it that the Dutch are doing right? It must be emphasized that the following discussion does contain a substantial amount of speculation outside of what can actually be derived from the EHCI scores: the Netherlands is characterized by a multitude of health insurance providers acting in competition, and being separate from healthcare providers/hospitals. In addition to this, the Netherlands probably has the best and most structured arrangement for patient organization involvement in healthcare decision-making and policymaking in Europe. Also, the Dutch healthcare system has addressed one of its few traditional weak spots, Accessibility, by setting up 160 primary care

centers which offer walk-in clinics 24 hours a day, 7 days a week. Given the small size of the country, this should put an walk-inclinic within easy reach for anybody. Here comes the speculation: one important net effect of the Dutch healthcare system structure would be that healthcare operative decisions are made, to an unusually high degree, by medical professionals, accompanied by patient involvement. Financing agencies and healthcare amateurs such as politicians and bureaucrats seem farther removed from operative healthcare decisions in the Netherlands than in almost any other European country. This in itself might be a major reason behind the Dutch victory in the EHCI 2008-2016.

So, what, if anything, are the Dutch doing wrong? The Netherlands scores well or very well in all subdisciplines, except possibly in Accessibility and Prevention, where the score is more mediocre. The “traditional” Dutch problem of mediocre scores for waiting times was to a great extent rectified in 2016. As observed by Siciliani&Hurst of the OECD in 2003/2004, and in the EHCI 2005-2016, waiting lists for specialist treatments, paradoxically, exist mainly in countries that apply “GP gatekeeping” (the requirement of a referral from a primary care physician to see a specialist). GP gatekeeping, “the cornerstone of the Dutch healthcare system” (said to the HCP by a former Dutch Minister of Health and repeated in the Dutch Parliament in November 2014) is widely believed to save costs, as well as to provide a continuum of care, which is certainly beneficial to the patient.

Germany

Germany holds the 7th place according to the EHCI 2016, with 849 out of 1,000 points. It has traditionally had what could be described as the most restriction-free and consumer-oriented healthcare system in Europe, with patients allowed to seek almost any type of care they wish whenever they want it (“stronger on quantity than on quality”).

Germany did join the limited ranks of countries (today seven) scoring in the green, according to Federal Office of Quality Assurance (BQS) [4, p. 11], which also provides information on the quality of the results of a

great number of German hospitals. This could possibly be a small part of the reason why German healthcare quality in 2016 is safely “in the green territory” (see above).

The traditional weakness of the German healthcare system: a large number of rather small general hospitals, insufficiently specialized, resulting in mediocre scores in quality of treatment, seems to be improving – a tendency which was even more prominent in 2016, when Germany was one of the six countries sharing the highest score in Outcomes. In a round of collecting feedback from national healthcare authorities, the response from the German Federal Ministry of Health (*Bundesministerium für Gesundheit* – BMG) offered an interesting reference to a study of waiting times in German primary care. The actual numbers in the respective study are irrelevant; the unit of time used to measure and analyze primary care accessibility was not months, weeks or days, but minutes.

An important finding of this gap analysis is that in EHCI categories where Serbia scores poor results and is in the red zone, the Netherlands and Germany record the best results of all 35 countries. As mentioned above, the Netherlands achieved the best result in the following subdisciplines: Outcomes, Range and reach of services provided and Pharmaceuticals. As for Germany, it scored the best results of all the countries in Outcomes and Pharmaceuticals. There are four out of six subdisciplines where Serbia is in the red score zone of the EHCI 2016: Outcomes, Range and reach of services provided, Prevention and Pharmaceuticals. As for Prevention, Norway boasts the best score in the said subdiscipline.

Conclusion

To summarize, with 670 out of 1,000, which is a 116-point leap in ranking compared to 2015, Serbia became “the climber of the year” according to the EHCI 2016.

Significant improvements in ranking are evident mainly in the following subdisciplines: Patient rights and information, Accessibility, Prevention and Pharmaceuticals. Great progress is achieved in terms of ERP penetration, Patients’ access to online booking of appointments, improving inadequate IT support (e.g. ePrescriptions), CT scan waiting time less than 7 days, HPV vaccination,

decrease in traffic deaths, cutting time to subsidy in order to access new drugs and increasing the use of arthritis drugs. A major part of the impressive results was achieved due to the effects produced on A&E waiting times indicator by licensing and implementing the Macedonian IZIS system for direct booking of specialist appointments, plus ePrescriptions.

The EHCI indicates several negative phenomena in the health system in Serbia. These are: poor access to the system of receiving treatment and long waiting times (especially poor results in Direct access to specialist, Major elective surgery less than 90 days and Cancer therapy less than 21 days indicators), adverse outcomes of treatment (infant deaths, cancer survival, stroke deaths, abortion rates), the overemphasis of hospital care (probably due to long waiting times by hospitalized patients for a check-up), poor prevention mechanisms (blood pressure, alcohol, physical activity), low range of services provided and Pharmaceuticals (number of innovative drugs, e.g. novel cancer drugs deployment rate).

A significant number of parameters in all subdiscipline categories are still in the red, with the exception of Patient rights and information and Accessibility which left the red zone in 2016. Essentially, the EHCI and other relevant sources indicate specific areas for necessary improvements of the healthcare system, and unfortunately, there are many such areas.

The research team of the Euro Health Consumer Index 2016 collected data on 48 healthcare performance indicators, structured within the framework of six subdisciplines. There are four out of six subdisciplines where Serbia is in the red score zone of the EHCI 2016: Outcomes, Range and reach of services provided, Prevention and Pharmaceuticals. It is important to follow the lead of countries that have proven to be the best in the abovementioned categories, the Netherlands and Germany. The Netherlands is characterized by a multitude of health insurance providers acting in competition, and being separate from hospitals. In addition, the Netherlands probably has the best and most structured arrangement for patient organization involvement in healthcare decision-making and policymaking in Europe. In addition, the Dutch healthcare system addressed one of its few traditional weak spots, Accessibility, by setting

up 160 primary care centers that operate walk-in clinics 24 hours a day, 7 days a week. Given the small size of the country, this should put an walk-in clinic within easy reach for anybody. The traditional weakness of the German healthcare system: a large number of rather small general hospitals, insufficient specialization, resulting in mediocre scores in the quality of treatment, seems to be improving – a tendency which is even more prominent in 2016, when Germany was one of the six countries sharing the highest score in Outcomes. In a study of waiting times in German primary care conducted by national healthcare authorities in Germany, the unit of time used to measure and analyze primary care accessibility was not months, weeks or days, but minutes. The main conclusion is that the countries with the best healthcare systems in Europe are working hard on spotting their weaknesses and overcoming them. Serbia should look up to this pattern of behavior.

Content of the indicators in the Outcomes category that are in the red zone for Serbia are discussed in more detail in the following sentences. Before the turn of the millennium, it was more or less regarded as axiomatic that cardiovascular diseases were the main cause of death in Europe. Unfortunately, Serbia did not make any improvement in terms of mortality from cardiovascular diseases and is still holding an alarming position in the red zone. As for the parameters of population health, the indicators are even more devastating. The IMS report and Globocan report summarize the parameters of cancer incidence and cancer mortality for all of the countries in the world. According to cancer incidence, Serbia is ranked 18th in Europe, with 270 incidences of cancer per 100,000 people. Even more alarming than this is cancer mortality indicator, in which Serbia is at the infamous second place in Europe. This disappointing result is not only an outcome of inadequate treatment system, but also of the absence of health culture among the Serbian population and of poor preventive care.

Concerning the content of the indicators in the Range and reach of services provided, Serbia is in the red score zone for almost every indicator in this subdiscipline. The simple indicator called “Public share of total health care cost” was introduced as a measure on Equity of healthcare systems. The total share of health care

costs in Serbia’s GDP is 10.6% and Serbia excels in this indicator, compared with the global average, as well as in comparison with the neighboring countries. Only 60% of total healthcare costs are related to public sources, while 40% of the cost of treatment and medicines are covered by private sources of money, which is significantly more than in any neighboring country. A vast majority of the population in Serbia has a public health insurance funded from compulsory health insurance. Another alarming Serbian red zone indicator is Cataract operations per 100,000 total population as a proxy of the generosity of the healthcare systems to provide non-lifesaving care aimed at improving the quality of life of the patients. Cataracts have been selected because they are relatively inexpensive and provide a significant improvement in the quality of life of the patient, thus being fairly independent on GDP per capita of a country. Kidney transplantations indicator that measures procedures per million population is also in the red zone. Furthermore, there were reactions from organizations of medical professionals in Serbia, claiming that the Serbian scores were inflated, and that the EHCI did not take corruption in healthcare systems seriously enough. The only direct corruption-related indicator is Informal payments to doctors, where Serbia does score in the red. The last indicator in this category which is in the EHCI red zone, is Long-term care for elderly people. According to different surveys, home care is needed for the daily functioning of more than 80,000 elderly people, especially for around 27,000 of those who are completely immobile. More than 300,000 elderly persons have reported that they are in need of some type of self-care support. Traditionally, elderly people in Serbia primarily rely on family support.

As for the content of indicators in the Prevention category that are in the red score zone for Serbia: Tobacco Control Scale (TCS) has been used as a measure of countries’ efforts on smoking prevention. Serbia is among the countries with the highest cigarette sales per capita. The concerning fact is that there is no ban for smoking in public places.

Some of the substantiated recommendations would be to make the collection of health insurance contributions more important, to invest more in innovative than in

generic medicines, to improve the list of services in the basic package of health insurance offered by the NHIF, to change the management model of the healthcare institutions, and to conduct a rationalization of non-medical staff. Other recommendations include improving the transparency of public procurement, introduction of an integrated IT system, larger investment in prevention and primary care, more active use of special contracts which would enable the NHIF to control spending of money for drugs in a simpler manner, restructuring of Galenika through high-quality strategic partnerships and the integration of private and public health systems.

The main problem is not that health spending is low. A far greater problem is that it is not optimized and that it is inadequate. For example, it is recommended that savings on generics spill over into the introduction of more new and innovative drugs, or to correct the Bismarck model of health insurance. An effective way to improve management of public funds in health care requires changing the model of managing healthcare institutions for the purpose of better control of public spending on health, and implementation of public procurement and rationalization of non-medical staff.

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Dragan Lončar

is Associate Professor at the Faculty of Economics in Belgrade in Project Management and Strategic Management and Associate Dean for Finance and Organisation at the same faculty. He graduated from the Faculty of Economics in 2001, completed Master course in Management Studies at the University of Cambridge (Judge Business School) in 2003, and acquired PhD title at the Faculty of Economics in 2007. He was awarded Fulbright scholarship (academic year 2008/2009) for postdoctoral research in financial management. The research was completed during 2009 at the University of Chicago (Booth Business School). He is the author of significant number of research papers and consulting projects. He possesses CFA certificate in the field of finance. He is a member of Fulbright and Cambridge Associations and an active member of Global Operations Research Project led by Bristol School of Business and Law. He is academic director of joint MBA program of Faculty of Economics Belgrade and Texas A&M University. He is a member of the Serbian Association of Economists and the Editorial Board of its journal "Ekonomika preduzeća". He is married and has two sons, Luka and Vuk.



Filip Stojanović

is Managing Director of Peterhof Consulting, a Belgrade-based consulting firm. He is currently teaching Strategic Management at the Faculty of Economics, University of Belgrade. He is a graduate of the Faculty of Economics, with focus on accounting, audit and financial management. In 2011, he defended his master's thesis in the field of strategic financial management. Filip is currently a PhD candidate conducting research in the field of business management. He was a member of various project teams that developed feasibility studies, business plans, business strategies, project evaluations, competition analyses and so forth. His fields of interest are: strategic management, corporate finance, project management, market competition and risk management.