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# Health Care System of the Republic of Serbia in the Period 2004–2012

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**SUMMARY**

**Introduction** The backbone of Serbian health system forms the public healthcare provider network with 355 institutions and around 112,000 employees, owned and controlled by the Ministry of Health and financed mainly by the Republican Health Insurance Fund. The law recognizes private practice that was not included, till recently, in the public funding scheme. New Health Insurance Law (2005) decreased the number of entitlements in the basic health service package. It abolished the right to dental health care for adults (exceptions are: children, older than 65, pregnant women and emergency cases) as well as the right to compensate travel expenses. The aim of this study was to evaluate the effects of health care system of the Republic of Serbia and indicate parameters that determine the state of health of the population, on the ground of data obtained by the Institute of Public Health of Serbia.

**Results** In the period 2004–2012, cardiovascular diseases represented the main cause of illness in Serbia (50%). In 2012 digestive system diseases were on the second place. Neoplasm and nervous system diseases were on the third place. From 2007 to 2012 there was slight decline in the birth rate and number of deaths, but the death rate increased from 13.9 to 14.2. Health care system in Serbia is funded through the combination of public finances and private contributions. Primary care is provided in 158 health care centres and health care stations, secondary and tertiary care services are offered in general hospitals, specialized hospitals, clinics, clinico-hospital centers and clinical centres.

**Conclusion** A significant but not satisfactory progress has been achieved in the field of health status indicators as the most important outcome of the final performance of the health system. The transition of public health care system in Serbia since the communist period to present and slow integration with European Union is unfinished process.

**Keywords:** health system of the Republic of Serbia; the system of health insurance; financing system; health care reforms

## INTRODUCTION

Until the end of eighties, Serbia as the part of former Yugoslavia has followed global epidemiological trends. Health status of the population in Serbia in the mid–nineties was largely affected by political and economic isolation. The lack of basic medications and weakness of immuno-biological response of the organism as a result of cumulative effect of negative factors as well as inappropriate nutrition brought back almost forgotten infectious diseases.

The Ministry of Health (MH) is the owner of public health facilities and regularly monitors and controls their work as well as finances public health activities performed in Public health institutes. MH is responsible for developing and implementing national health policy, preventive programs, health promotion activities, special programs for some groups of citizens, Red Cross operations and non-government organization support, capital investments and health care for prisoners.

The backbone of Serbian health system forms the Public healthcare provider network, with 355 institutions and around 112,000 employees, owned and controlled by the Ministry of Health and financed mainly by the Republic Health Insurance Fund (RHIF) [1]. The law recognizes private practice which can be funded only by private payments. Until recently, private health care sector was not included in public funding scheme and as such does not offer any service to insurers.

The aim of this work was to evaluate the effects of the health care system of the Republic of Serbia and indicate parameters that determine health condition of the population, based on data of the Institute of Public Health of Serbia (IPH).

## HEALTH INSURANCE SYSTEM

Serbia has the health care system oriented towards securing availability of all health care services to the entire population. Insurance coverage is provided to all employed, retired and self-employed people and farmers who are contributor payers, including spouses and dependent children. Government transfers to the RHIF ia a guarantee that health insurance is also available to unemployed and refugees, as well as to people who belong to other sensitive categories. A special system of health insurance coverage is applied to the army, army civilians and retired and their family members and dependants. The RHIF offers

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a generous package of health services, including special services, such as medical treatment abroad and in military hospitals, or compensations for goods purchased on the private market. Besides, there are other categories of transferring healthcare-related funds, such as sick leave costs. New Health Insurance Law (2005) decreased the number of entitlements in the basic health service package. It stopped dental health care (with the exception of children, people over the age of 65, pregnant women and emergency cases), and travel expenses compensation. According to the new law, common-law partners get the right to insurance only after two years. Currently there is no additional private health insurance which could enrich the existing scarce financial resources of the system.

The number of private health care services, although limited, is increasing, particularly in certain areas such as dentistry and diagnostic services. However, it should be pointed out that private sector is insufficiently regulated mainly by employing consultants from public sector on temporary basis. The absence of private health insurance has created an unbalanced market system where private service providers, rather than powerful finance institutions, negotiate prices with individual beneficiaries (patients).

## HEALTH SYSTEM FINANCING

Health care system in Serbia is funded by the combination of public funds and private contributions. The most important source of financing is the RHIF. Funds from employees and employers are collected directly to the RHIF sub-account. Ministry of Finance also has access to that account; it is their sub-account as well. RHIF is financed also with supplementary financing from other budgetary sources, such as Pension Fund, Ministry of Finance unemployment fund etc. The appropriate compilation of these public financial flows provides not only the basis for the Serbian Health Account but also for analysis of financial stability of the system.

Health care funds for insured persons are provided by the RHIF, whereas funds for the health care of the uninsured citizens, health promotion, and prevention of illnesses, special programmes and health protection measures for the whole population are provided by the Republican budget. More than 90% of public costs are financed through the RHIF or inter-departmental transfers via the RHIF [2]. Similar coverage is envisaged for those who are entitled to health care services by military service providers. Due to absence of private health care insurance, private funding is more or less completely based on out-of-pocket payments and it is supplemented by contributions from a small number of large companies which offer health care services for their employees on their cost.

## HUMAN RESOURCES

The number of health care providers employed in public health sector was 112,587 in 2012 [1]. 26,967 of them had university education, 20,960 (78%) were doctors, 2,160 (8%) dentists, 2,130 (7.9%) pharmacists and 2,163 (8%) other professionals. Of all doctors in the Republic of Serbia 5,651 were non-specialists (27%) and 2,399 were involved in speciality training (11%). The total number of specialists was 15,309 (73%). The structure of employed doctors according to gender was: 35% were male and 65 % female doctors. Out of the total number of 2,160 dentists, 55% were specialists whereas out of 2,163 pharmacists 334 (15%) were specialists.

8,502 health workers had college education of whom 4,533 (53%) were nurses-medical technicians whereas 49,217 health workers and associates had high school education, 35,179 (71%) of them were nurses-medical technicians. Health care institutions employed a total of 27,533 non-medical staff, of whom 9,110 (33%) were administrative staff and 18,423 (67%) were technical staff.

## PROVIDING HEALTH CARE SERVICES

Primary health care is provided in 158 health care centres and health care stations throughout the country, according to the IPH. The primary health care is relatively decentralized and services for children and women are offered by paediatricians and gynaecologists along with general practitioners. Apart from primary health centers, primary health care is provided also at: institutes for emergency medical care, gerontology, dentistry, pulmonary diseases and tuberculosis (TB), and institute for skin and venereal diseases, as well as pharmacies which carry out pharmaceutical health care activity. General practice is a service within primary health centers and is the basic provider of health care for population over 19 years old.

The total number of diseases, conditions and injuries diagnosed in general practice in 2012 was 9,137,037. The most commonly recorded morbidities were: circulatory system diseases (18%), diseases of respiratory system (18%) and diseases of musculoskeletal system and connective tissue (9%). Gynecology provides specific health care to the female population over 15. Child health service provides primary health care to children age 0 to 6. School children and youth health service provides primary health care to children and youth between 7 and 19 years of age. Some health care centres offer speciality consultation in internal medicine, pneuomophtisiology, otorhinolaryngology, ophthalmology, psychiatry, physical medicine and general rehabilitation.

Secondary and tertiary health care services are offered to both inpatients and outpatients in a string of health institutions across the country, including general hospitals, specialized hospitals, clinics, clinico-hospital centers and clinical centres. Hospitals or stationary health care providers are health institutions that offer inpatient and specialist consulting health care activities as the continuation of diagnostics, treatment and rehabilitation commenced at the primary level, or when complexity and severity of diseases require special conditions in terms of staff, equipment and accommodation. According to the IPH, in 2012, inpatient (hospital) health care was provided by 1,267 health institutions in the Republic

of Serbia. These are: inpatient departments in primary health care centres (19), general hospitals (41), special hospitals (36), institutes (16), clinics (7), clinical-hospital centres (4) and clinical centres (4). In 2012, hospitals employed 8,128 doctors (of which 6,573 were specialists), 3,822 health staff with college education and 21,738 employees had high school education. The total number of beds in hospital institutions in 2012 was 41,268 i.e. 5.7 beds per 1,000 population. This number also includes day hospitals (1,625 beds), dialysis and neonatology. The total number of beds (excluding day hospitals) was distributed as follows: inpatient departments in primary health care centres – 432 (1.1%), general hospitals – 15,311 (38.6%), special hospitals – 8,747 (22.1%), institutes ("zavod") – 50 (0.1%), clinics – 1,057 (2.7%), institutes – 4,202 (10.6%), clinical-hospital centres – 2,442 (6.1%), clinical centres – 7,402 (18.7%). The total number of beds (excluding day hospitals) was distributed by purpose as follows: internal medicine – 12,283 (31%), surgery – 9,691 (24.4%), paediatrics – 2,735 (6.9%), gynaecology – 3,530 (8.9%), psychiatry 5,268 (13.3%), rehabilitation – 6,122 (15.5%).

Private sector included 1,220 medical offices and clinics, 1,227 dental offices, 1,835 pharmacies and 149 laboratories. However, there were 46 hospitals and 97 policlinics.

## EFFECTS OF HEALTH SYSTEM

In the period from 2004 to 2012, cardiovascular diseases represented the main cause of illness and the largest share of health funding all around the world including Serbia [3]. Unlike Serbia where infectious and parasitic diseases were the second largest cause of illness and expenditure in the period from 2004-2009, followed by diseases of digestive, nervous system and cancers, in Australia, Canada, France, Germany and Netherlands, nervous system diseases represented the second largest share of funding, followed by digestive, musculoskeletal system diseases and tumors [4]. In 2012, digestive system diseases were just after cardiovascular diseases with regards to the cost followed by malignant diseases and diseases of nervous system, which brings Serbia closer to world consumption trends. Life expectancy at birth is one of basic indicators of health status of the population and unfortunately it is still showing a significant gap between Serbian and EU population (Table 1). Another important indicator, Infant mortality rate is a significant and delicate indicator of both, health status and health care of the population, as well as socioeconomic status of the society (Table 2). Infant mortality rate increased in 90-ies of the 20th century. However, it dropped from 14.6 in 1991 to 6.2 in 2012, but is still higher than in EU 15 countries (4.6). The most frequent causes of infant death are respiratory distress and congenital anomalies.

**Table 1.** Life expectancy at birth
**Tabela 1.** Očekivani životni vek

| Variable<br>Varijabla | Serbia<br>Srbija | | EU<br>EU | |
|---|---|---|---|---|
| Year<br>Godina | 2005 | 2012 | 2005 | 2012 |
| Age (years)<br>Starost (godine) | 72.69 | 74.74 | 78.7 | 80.1 |

Source/izvor: Eurostat (http://epp.eurostat.ec.europa.eu)

The data from the IPH for the period 2007–2012 showed:

- The number of live births is decreasing in Serbia from 68,102 in 2007 to 67,257 in 2012, that is slight increase in the birth rate from 9.2 (2007) to 9.3 (2012) per thousand.
- The number of population is decreasing from -4.7 (2007) to -4.9 (2012) per thousand.
- Vital index (live births per 100 deaths) is declining from 66.2 (2007) to 65.7 (2012).
- The number of deaths slightly decreased from 102,805 (2007) to 102,400 (2012).
- The mortality rate per 1000 population increased from 13.9 (2007) to 14.2 (2012).

Cardio-vascular diseases are the cause of more than half of deaths. Neoplasm, mainly of respiratory tract and colon are the second leading cause of death. Violence and injuries are still lower compared to other European countries. Deaths from infectious and parasitic diseases account for less than 1% of deaths. Most common causes of death are non-communicable diseases as the result of unhealthy lifestyle, as indicated by the fact that 30 percent of adult population in the Republic of Serbia are smokers, which is one of the highest rates in Europe. The most common causes of death in 2012 are the following disease groups (according to ICD-10) [5]:

- Diseases of circulatory system 53.7% (men 48.8%, women 58.8%).
- Neoplasm 21.2% (men 23.8%, women 18.5%).
- Diseases of respiratory system 4.9% (men 5.7%, women 3.4%).
- Symptoms, signs and abnormal clinical and laboratory findings 4.5% (men 4.6%, women 4.4%).
- Diseases of digestive system 3.3% (men 3.7%, women 3.0%).

Although communicable diseases no longer represent major cause of death and deformities, some of them still pose an important social health issue, like illnesses caused

**Table 2.** Infant mortality rate (%)
**Tabela 2.** Stopa smrtnosti odojčadi (%)

| Year<br>Godina | 1991 | 1993 | 1995 | 1997 | 1999 | 2001 | 2003 | 2005 | 2007 | 2011 | 2012 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Rate<br>Stopa | 14.6 | 16.8 | 13.8 | 12.1 | 11 | 10.2 | 9.1 | 8 | 7.1 | 6.3 | 6.2 |

Source: Institute of Public Health of Serbia "Dr. Milan Jovanović Batut", Belgrade
Izvor: Institut za javno zdravlje Srbije „Dr Milan Jovanović Batut", Beograd

by hemolytic streptococcus. Fatal outcome in patients with diarrhea caused by *Clostridium difficile* showed more than double increase in 2012 compared to 2010. The incidence of pulmonary tuberculosis decreased from 27.2% in 2007 to 15.58% in 2012 per 100,000 populations. This is the consequence of organized control and treatment of patients through the project "Tuberculosis Control in Serbia", as well as the strategy of directly observed therapy. Although official statistics shows that the current AIDS rate in Serbia is low, Global Fund financial resources are used to solve this health problem.

## PRINCIPAL HEALTH REFORMS

In August 2002, representatives of Ministry of Health, RHIF and IPH of Serbia decided on overall health vision for the health sector in Serbia. Health care reform in the period between 2004 and 2012 aimed to reform and put the focus on primary health care service and preventive measures versus curative, in order to decrease rate of preventable diseases and also reduce health expenditures. It also aimed to reconfigure hospitals to more effectively respond patients' needs and develop new basic package of health services that will be in balance with available resources. Financing system was supposed to change money flow as so as it doesn't follow the existing structure and staff but patient's movement through the system. The capitation was chosen as an option for primary health care and the model of Diagnostic Related Groups for payments in secondary health care. RHIF is the principal payer of the public health providers. Every year RHIF contracts necessary funding to health care facilities based on the number of employees. The number of health staff is controlled based on the institutional plan.

Patients can choose general medical doctor, pediatrician, occupational health specialist, dentist and gynecologist and those doctors are paid according to the capitation. The application of capitation formulas in health, which includes performance-related pay, began in November 2012 in primary health care institutions in Serbia. Capitation is the formula by which the physician receives the salary established in October 2012 with four percent increase, based on the number and age of registered patients. All doctors in primary health care cannot be paid less than they were paid in October 2012; the only difference is the size of variable part, weight factor which leads to wage increase. Weight factor is calculated based on patients' age. The average age was obtained on the basis of live statistics, where it is anticipated that a person 65 years old visits a doctor three times a year, a person from 45 to 65 twice, and one from 25 to 45 years old only once. Variable portion is calculated based on the number of enrolled patients and performed preventive examinations; it has increased to 4% recently. Some problems have been noticed with capitation formula which is still in the process of adjusting. Problems have been detected in the application of capitation for elderly and chronically ill patients. Although these patients should provide physicians greater capitation weight, in practice due to the large number of prescriptions given to these patients, doctors are usually financially penalized and overlooked in the percentage of salary. All other specialist in ambulatory health care and hospitals are paid by salaries. One of important goals was also integration and better oversight over the provision of private health care services.

One of the biggest problems at the beginning of health reform was deficit of reliable data that would build the baseline and enable evidence-based policy making and monitoring within the health sector. Policy-makers have realized that if they wanted to develop policies to enhance the performance of their systems, they needed reliable information on the quality of financial resources used for health, their sources and the way they were used. As National health accounts (NHA) could produce evidence to help policy makers and health managers to understand their health systems and improve their performance, Serbian Government decided to implement NHA in Serbian health system. Work on development, implementation and institutionalization of NHA, as a tool to help policy makers to better manage their health resources started at the end of 2004 under Ministry of Health project called: "Serbia Health Project," financed by the World Bank. New department for NHA production in the Republican Institute of Public Health was formed after the project with WB was finished. NHA became an assigned programmatic job of MH, with new established financial line for NHA production. Significant reform accomplishment was achieved after the Agency for Accreditation was established in 2008 which formation was facilitated by joint forces of the World Bank, Ministry of Health and the European Union. In 2011 accreditation standards were adopted for institutions at all levels of health care and after obtaining the approval of the Assembly, great base for improving the quality of health care facilities was created.

## CONCLUSION

The analysis showed some but insufficient progress achieved in the area of health status indicators as the most important final outcome of the health system performance gratifying efforts and resources invested in this sector. Life expectancy of the population increased, infant mortality rate decreased, the incidence of pulmonary TB is more than halved, and the population was given the option of using private pharmaceutical sector. Mortality in patients with diarrhea caused by *Clostridium difficile* showed more than double increase in 2012 compared to 2010, which is worrying and puts into question the adequacy of basic hygiene measures. Regarding the main causes of death, differences between Serbia and the EU are still the same, however investing in prevention and changing lifestyles has to continue and improve. The transition of Serbia's public healthcare system from the communist period to the present-day and slow integration with the European Union is proving to be a very delicate process.

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# Stanje zdravstvenog sistema Republike Srbije u periodu 2004–2012. godine

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**KRATAK SADRŽAJ**

**Uvod** Osnovicu zdravstvenog sistema Republike Srbije čini zdravstvena mreža od 355 državnih zdravstvenih ustanova i oko 112.000 zaposlenih koji su pod kontrolom Ministarstva zdravlja, a finansiraju se preko Republičkog fonda zdravstvenog osiguranja. Zakon poznaje i privatni sektor, koji doskora nije bio uključen u shemu javnog finansiranja. Zakon o zdravstvenom osiguranju iz 2005. godine smanjio je prava u osnovnom zakonu zdravstvenih usluga i ukinuo pravo na stomatološku zdravstvenu zaštitu (s izuzetkom dece, osoba starijih od 65 godina, trudnica i hitnih slučajeva), odnosno pravo na naknadu putnih troškova u vezi s ostvarivanjem prava na zdravstvenu zaštitu. Cilj ovog rada je bio da se na osnovu podataka Instituta za javno zdravlje Srbije „Dr Milan Jovanović Batut" procene efekti zdravstvenog sistema Republike Srbije i ukaže na parametre ovoga sistema koji određuju stanje zdravlja stanovništva.
**Rezultati** Od 2004. do 2012. godine kardiovaskularne bolesti su bila najčešća oboljenja u Srbiji (50%). U 2012. godini bolesti digestivnog sistema bile su na drugom mestu. Na trećem mestu su maligne i bolesti nervnog sistema. U periodu 2007–2012. zabeležen je i blag pad nataliteta, smanjio se i broj smrtnih slučajeva, ali je stopa mortaliteta porasla sa 13,9 na 14,2. Sistem zdravstvene zaštite u Srbiji se finansira kroz kombinaciju državnih finansija i privatnih doprinosa. Primarna zdravstvena zaštita se odvija u 158 domova zdravlja, zdravstvenih stanica i ambulanti, a sekundarne i tercijarne službe rade u opštim i specijalnim bolnicama, institucijama, klinikama i kliničko-bolničkim centrima.
**Zaključak** Značajan, ali nedovoljan, napredak postignut je u oblasti pokazatelja zdravstvenog stanja, kao najvažnijeg konačnog ishoda učinka zdravstvenog sistema. Tranzicija državnog sistema zdravstvene zaštite u Srbiji od komunističkog perioda do danas i usporeno integrisanje s Evropskom Unijom je nedovršen proces.
**Ključne reči:** zdravstveni sistem Republike Srbije; sistem zdravstvenog osiguranja; sistem finansiranja; zdravstvene reforme

## UVOD

Do kraja osamdesetih godina dvadesetog veka Srbija je, kao deo bivše Jugoslavije, pratila svetske epidemiološke trendove. Zdravstveno stanje stanovništva u Republici Srbiji sredinom devedesetih godina bilo je u velikoj meri pod uticajem političke i ekonomske izolacije. Nedostatak osnovnih lekova i ukupna slabost imunobioloških sistema populacije, kao rezultat kumulativnog efekta negativnih faktora kojima je stanovništvo Srbije bilo izloženo u poslednjoj deceniji dvadesetog veka, kao i neprikladna ishrana, vratilo je skoro zaboravljene zarazne bolesti u centar zdravstvene problematike.

Pod okriljem Ministarstva zdravlja (MZ) su državne zdravstvene ustanove i MZ redovno prati i kontroliše njihov rad, pružanje zdravstvenih usluga i finansiranje zdravstvenih aktivnosti koje se obavljaju u ovim ustanovama. MZ je odgovorno za razvoj i primenu Nacionalne zdravstvene politike, preventivnih programa, aktivnosti promocije zdravlja, posebnih programa za posebne grupe građana, za pomaganje aktivnosti Crvenog krsta, nevladinih organizacija, za kapitalne investicije i zdravstvenu zaštitu zatvorenika.

Okosnicu zdravstvenog sistema Republike Srbije predstavlja zdravstvena mreža državnih zdravstvenih ustanova, koju čine 355 institucija i oko 112.000 zaposlenih, koje su u vlasništvu i pod kontrolom MZ, finansiranih uglavnom preko Republičkog fonda za zdravstveno osiguranje (RFZO) [1]. Zakon priznaje privatnu praksu, koja može biti formirana samo privatnim sredstvima. Donedavno čitav privatni sektor zdravstvene zaštite nije bio uključen u shemu državnog finansiranja i kao takav nije predstavljao dodatnu komponentu ovom sistemu, niti nudio osiguranicima mogućnost da ostvare prava iz obaveznog osiguranja.

Cilj ovog rada je bio da se na osnovu podataka Instituta za javno zdravlje Srbije „Dr Milan Jovanović Batut" (IZJZ „Batut") procene efekti zdravstvenog sistema Republike Srbije i ukaže na parametre ovoga sistema koji određuju stanje zdravlja stanovništva.

## SISTEM ZDRAVSTVENOG OSIGURANJA

Srbija je nasledila zdravstveni sistem orijentisan ka obezbeđivanju lake dostupnosti svih zdravstvenih usluga za čitav narod. U principu, osiguranje je obezbeđeno za sva zaposlena lica, penzionere i samozaposlene ljude i poljoprivrednike koji su obveznici plaćanja, uključujući supružnika i decu za koju postoji obaveza izdržavanja. Budžetski transferi za RFZO su garancija da zdravstveno osiguranje pruža mogućnost zaštite nezaposlenim osobama, interno-raseljenim licima i izbeglicama, kao i ljudima koji pripadaju ugroženim kategorijama stanovništva. Poseban sistem zdravstvenog osiguranja se primenjuje na vojsku, vojnim civilima i penzionerima oružanih snaga i članovima njihovih porodica. RFZO nudi velikodušan paket zdravstvenih usluga, uključujući i posebne usluge, kao što su lečenje u inostranstvu i vojnim bolnicama, ili kompenzacije za robu kupljenu na privatnom tržištu. Pored toga, postoje i druge kategorije prenosa zdravstvenovezanih sredstava, kao što su troškovi bolovanja. Zakon o zdravstvenom osiguranju iz 2005. smanjio je broj prava u osnovnom paketu zdravstvenih usluga. On ukida pravo na stomatološku zdravstvenu zaštitu (s izuzetkom dece, ljudi starijih od 65 godina, trudnica i hitnih slučajeva) i pravo na naknadu putnih troškova u vezi s ostvarivanjem prava na zdravstvenu zaštitu. Prema tom zakonu, vanbračni partneri stiču pravo na

osiguranje posle dve godine života u zajednici. U ovom trenutku u Republici Srbiji ne postoji dodatno, dopunsko, paralelno privatno zdravstveno osiguranje koje može da obogati postojeće oskudne finansijske resurse sistema.

Privatno pružanje zdravstvenih usluga, iako ograničeno, sve je češće, naročito u oblastima kao što su stomatologija i dijagnostičke usluge. Međutim, treba naglasiti da je privatni sektor nedovoljno regulisan i da uglavnom zapošljava konsultante iz državnog sektora na privremenoj osnovi. Izostanak tržišta privatnog zdravstvenog osiguranja stvorilo je neuravnotežen sistem tržišta, gde sistem privatnih pružalaca zdravstvenih usluga, pre nego moćne finansijske institucije osiguranja, pregovaraju cene s individualnim korisnicima (pacijentima).

## SISTEM FINANSIRANJA ZDRAVSTVENE ZAŠTITE

Sistem zdravstvene zaštite u Srbiji se finansira kroz kombinaciju državnih finansija i privatnih doprinosa. Najvažniji izvor finansiranja zdravstvene zaštite u Srbiji je RFZO. Sredstva od zaposlenih i poslodavaca se prikupljaju direktno na podračun RFZO. Ministarstvo finansija ima pristup tom nalogu, tako da je to njihov podračun takođe. RFZO se dopunski finansira iz različitih budžetskih izvora, kao što su Fond PIO, Ministarstvo finansija – Fond za nezaposlene itd. Odgovarajuća kompilacija ovih državnih finansijskih tokova pruža ne samo osnovu za izradu nacionalnog zdravstvenog računa, već i za analize finansijske stabilnosti sistema.

Sredstva za zdravstvenu zaštitu osiguranih lica su obezbeđena iz RFZO, a sredstva za zdravstvenu zaštitu neosiguranih građana, promociju zdravlja i prevenciju bolesti, posebne programe i mere zdravstvene zaštite za celu populaciju iz republičkog budžeta. Više od 90% državnih troškova finansira se preko RFZO [2]. Slična pokrivenost zdravstvenom zaštitom predviđena je za one koji imaju pravo na usluge zdravstvene zaštite vojnih pružalaca usluga. Zbog nepostojanja privatnog zdravstvenog osiguranja, privatno finansiranje je više ili manje potpuno zasnovano na plaćanju „iz džepa", osim finansiranja malog broja velikih kompanija koje same organizuju zdravstvenu zaštitu za svoje zaposlene.

## LJUDSKI RESURSI

Dana 31. decembra 2012. godine u zdravstvenom sektoru u Republici Srbiji bilo je zaposleno 112.587 osoba [1]. Zaposlenih s visokom stručnom spremom bilo je 26.967. Među njima 20.960 (78%) su bili lekari, 2.160 (8%) stomatolozi, 2.130 (7,9%) farmaceuti i 2.163 (8%) drugi stručnjaci. Od svih lekara u Republici Srbiji 5.651 je bio lekar nespecijalista (27%), dok je 2.399 bilo na specijalističkoj obuci (11%). Ukupan broj specijalista bio je 15.309 (73%). Struktura zaposlenih lekara prema polu pokazuje da je muškaraca bilo 35%. Od ukupnog broja 2.160 stomatologa, 55% su bili specijalisti. Zdravstvene ustanove su zapošljavale 2.163 farmaceuta, od kojih su 334 (15%) specijalisti.

Zabeležena su i 8.502 zdravstvena radnika i saradnika s visokim obrazovanjem u zdravstvenim ustanovama, od kojih su 4.533 (53%) bile medicinske sestre i medicinski tehničari. Srednju stručnu spremu imalo je 49.217 zdravstvenih radnika i saradnika, od kojih su 35.179 (71%) bili medicinske sestre i medicinski tehničari. Zdravstvene ustanove su zapošljavale ukupno 27.533 nemedicinska radnika, od kojih je 9.110 (33%) bilo administrativno osoblje, a 18.423 (67%) tehničko osoblje.

## PRUŽANJE USLUGA

Primarna zdravstvena zaštita je, prema podacima IZJZ „Batut", obezbeđena u 158 domova zdravlja, zdravstvenih stanica i ambulanti širom zemlje. Pružanje primarne zdravstvene zaštite stanovništvu u Srbiji je relativno decentralizovano, a usluge za decu i žene nude pedijatri i ginekolozi, kao i lekari opšte medicine. Pored domova zdravlja, aktivnosti na primarnom nivou obuhvataju zavode, zdravstvene ustanove koje pružaju usluge primarne zdravstvene zaštite za specifične grupe stanovništva, kao što su zavodi za hitnu medicinsku negu, gerontologiju, stomatologiju, plućne bolesti i tuberkulozu, zavod za kožne i venerične bolesti, te apoteke, koje obavljaju farmaceutsku delatnost zdravstvene zaštite. Opšta praksa se pruža u okviru primarnog zdravstvenog centra i osnovni je pružalac zdravstvene zaštite stanovnika starijih od 19 godina.

Ukupan broj utvrđenih oboljenja, stanja i povreda dijagnostikovan u opštoj praksi u 2012. godini bio je 9.137.037. Najčešće su zabeleženi: bolesti sistema krvotoka (18%), bolesti sistema za disanje (18%) i bolesti mišićno-koštanog sistema i vezivnog tkiva (9%). Ginekološka zdravstvena služba pruža zdravstvenu zaštitu devojkama starijim od 15 godina i ženama. Dečja zdravstvena služba pruža primarnu zdravstvenu zaštitu deci uzrasta do šest godina. Zdravstvena služba za decu školskog uzrasta i mlade pruža primarnu zdravstvenu zaštitu deci i omladini uzrasta 7–19 godina. Neki domovi zdravlja pružaju specijalističke konsultacije u oblasti interne medicine, pneumoftiziologije, otorinolaringologije, oftalmologije, psihijatrije, fizikalne medicine i rehabilitacije.

Službe sekundarne i tercijarne zdravstvene zaštite se nude i hospitalizovanim i bolesnicima koji se leče ambulantno u mnogim zdravstvenim ustanovama širom zemlje, kao što su opšte bolnice, specijalne bolnice, instituti, klinike, kliničko-bolnički i klinički centri. Bolnice ili stacionarne ustanove u državnom sektoru u Republici Srbiji su zdravstvene ustanove koje obavljaju bolničke i specijalističke aktivnosti zdravstvene zaštite kao nastavak dijagnostike, lečenja i rehabilitacije koja je počela na primarnom nivou, odnosno kada složenost i težina bolesti zahtevaju posebne uslove u pogledu kadra, opreme i smeštaja. Prema podacima IZJZ „Batut", u 2012. godini stacionarna (bolnička) zdravstvena zaštita obezbeđena je u 127 zdravstvenih ustanova u Republici Srbiji. To su: stacionarna odeljenja u domovima zdravlja (19), opšte bolnice (41), specijalne bolnice (36), instituti (16), klinike (7), kliničko-bolnički centri (4) i klinički centri (4). Bolnice u Srbiji su 2012. zapošljavale 8.128 lekara (6.573 specijaliste), 3.822 zdravstvena radnika s višom stručnom spremom i 21.738 sa srednjim obrazovanjem. Kreveta je u bolničkim ustanovama bilo 41.268, odnosno 5,7 postelja na 1.000 stanovnika. Ovaj broj uključuje i dnevne bolnice za dijalizu i neonatologiju (1.625 ležaja). Ukupan broj ležajeva (osim dnevne bolnice) distribuiran je na sledeći način: stacionarna odeljenja u domovima zdravlja 432 (1,1%), opšte bolnice 15.311 (38,6%), specijalne bolnice 8.747 (22,1%), zavodi 50 (0,1%), klinike 1.057 (2,7%), instituti 4.202 (10,6%), kliničko-bolnički centri 2.442 (6,1%), klinički centri 7.402 (18,7%). Ukupan broj

ležaja (osim dnevnih bolnica), prema nameni, raspoređen je na sledeći način: interna medicina 12.283 (31%), hirurgija 9.691 (24,4%), pedijatrija 2.735 (6,9%), ginekologija 3.530 (8,9%), psihijatrija 5.268 (13,3%) i rehabilitacija 6.122 (15,5%).

Privatni sektor obuhvata 1.220 medicinskih kancelarija i klinika, 1.227 ordinacija opšte stomatologije, 1.835 apoteka i 149 laboratorija. U privatnom sektoru postoji 46 bolnica i 97 poliklinika.

## EFEKTI ZDRAVSTVENOG SISTEMA

Od 2004. do 2012. godine kardiovaskularna oboljenja su bila glavni uzroci bolesti i najveći deo troškova za lečenje obolelih ljudi širom sveta, uključujući i Srbiju [3]. Za razliku od Srbije, gde su zarazne i parazitske bolesti drugi najveći uzroci rashoda u periodu 2004–2009, praćene bolestima digestivnog sistema, nervnog sistema i malignih oboljenja, u Australiji, Kanadi, Francuskoj, Nemačkoj i Holandiji bolesti nervnog sistema su na drugom mestu po udelu finansiranja, zatim bolesti digestivnog sistema, bolesti mišićno-skeletnog sistema i maligna oboljenja [4]. U 2012. godini bolesti digestivnog sistema nalaze se na drugom mestu (posle kardiovaskularnih bolesti) po troškovima za lečenje bolesti u Srbiji, a prate ih maligne i bolesti nervnog sistema, što približava Srbiju svetskim trendovima potrošnje za lečenje ljudi. Očekivano trajanje života na rođenju je jedan od osnovnih pokazatelja zdravstvenog stanja stanovništva, koji, nažalost, i dalje pokazuje značajan jaz između Republike Srbije i stanovništva EU (Tabela 1). Još jedan važan pokazatelj je stopa smrtnosti odojčadi, koji je značajan i delikatan pokazatelj kako zdravstvenog stanja i zdravstvene zaštite stanovništva, tako i socioekonomske snage društva (Tabela 2). Stopa smrtnosti odojčadi je ozbiljno pogođena tokom krize devedesetih godina dvadesetog veka. Od 14,6 u 1991. godini pala je na 6,2% u 2012, ali je i dalje znatno veća u poređenju sa EU15 zemljama (4,6). Najčešći uzroci smrti odojčadi su respiratorni distres i urođene anomalije.

Podaci IZJZ „Batut" za period 2007–2012. godine pokazuju sledeće:

- Pad stope nataliteta u Srbiji: smanjenje broja živorođenih sa 68.102 (2007) na 67.257 (2012) predstavlja slab porast broja živorođene dece na 1.000 stanovnika sa 9,23 (2007) na 9,3 promila (2012);
- Prirodni priraštaj na 1.000 stanovnika smanjio se sa -4,7 (2007) na -4,9 (2012);
- Vitalni indeks (živorođene dece na 100 umrlih) smanjio se sa 66,2 (2007) na 65,7 (2012);
- Broj smrtnih slučajeva malo se smanjio – sa 102.805 (2007) na 102.400 (2012);
- Stopa mortaliteta na 1.000 stanovnika se povećala sa 13,9 (2007) na 14,2 na 1.000 stanovnika (2012).

Kardiovaskularne bolesti su uzrok više od polovine smrtnih slučajeva. Neoplazme, uglavnom disajnog trakta i debelog creva, drugi su glavni uzrok smrti. Nasilje i povrede kao uzrok smrti još su ređe u poređenju s evropskim zemljama. Umrli od zaraznih i parazitskih bolesti čine manje od 1% smrtnih slučajeva. Većina uzroka smrti su nezarazne bolesti i rezultat su nezdravog načina života, što pokazuje i podatak da su 30% odraslog stanovništva u Republici Srbiji pušači, što je jedna od najvećih stopa u Evropi.

Najčešći uzroci smrti u 2012. pripadaju sledećim grupama oboljenja (Deseta revizija Međunarodne klasifikacije bolesti) [5]:

- bolesti sistema krvotoka 53,7% (muškarci 48,8%, žene 58,8%);
- tumori 21,2% (muškarci 23,8%, žene 18,5%);
- bolesti sistema za disanje 4,9% (muškarci 5,7%, žene 3,4%);
- simptomi, znaci i patološki klinički i laboratorijski nalazi 4,5% (muškarci 4,6%, žene 4,4%);
- bolesti sistema za varenje 3,3% (muškarci 3,7%, žene 3,0%).

Iako zarazne bolesti nisu glavni uzrok smrti i deformiteta, neke od njih su i dalje društveno-zdravstveni problem, poput oboljenja izazvanih hemolitičkim streptokokom. Smrtni ishod osoba obolelih od enterokolitisa uzrokovanog bakterijom *Clostridium difficile* više nego duplo je povećan u 2012. godini u odnosu na 2010. Smanjenje incidencije plućne tuberkuloze sa 27,2% u 2007. godini na 15,58% na 100.000 stanovnika u 2012. posledica je organizovane kontrole i lečenja bolesnika kroz projekat „Kontrola tuberkuloze u Srbiji", kao i strategije direktno opservirane terapije. Iako zvanična statistika pokazuje da je stopa obolevanja od side vrlo niska, Srbija je ranjiva u ovoj oblasti takođe i koristi Svetski fond za finansijske resurse da bi rešila ovaj zdravstveni problem.

## OSNOVE ZDRAVSTVENIH REFORMI

U avgustu 2002. godine predstavnici MZ, RFZO i Instituta „Batut" izneli su opštu zdravstvenu viziju za zdravstveni sektor u Srbiji. Cilj zdravstvene reforme u periodu 2004–2012. godine je da reformiše zdravstvenu službu i u žižu stavi primarnu zdravstvenu zaštitu i primenu mera prevencije u odnosu na kurativno lečenje, kako bi se smanjila stopa izlečivih bolesti, odnosno smanjili rashodi zdravstvenog sistema. Ona takođe ima cilj da se reorganizuju bolnice kako bi efikasnije odgovorile na potrebe pacijenata, te da se razvije novi osnovni paket zdravstvenih usluga koji će biti u ravnoteži s raspoloživim resursima. Predviđeno je da promene na strani finansiranja zdravstvenog sistema prate tokove finansijskih sredstava, tako da se ne finansiraju postojeća struktura i osoblje, već kretanje pacijenta kroz sistem. Kapitacija je izabrana kao opcija za primarnu zdravstvenu zaštitu i model dijagnostički srodnih grupa za plaćanja u sekundarnoj zdravstvenoj zaštiti. RFZO, kao glavni finansijer državnih zdravstvenih usluga, svake godine ugovora neophodna finansijska sredstva za zdravstvene ustanove na osnovu broja radnika. Broj zdravstvenih radnika je kontrolisan na osnovu institucionalnog kadrovskog plana.

Pacijenti mogu da biraju lekara opšte prakse, pedijatra, specijalistu medicine rada, stomatologa i ginekologa kao izabranog doktora, a ti lekari su plaćeni u skladu s kapitacijom. Primena kapitacione formule u zdravstvu, koja podrazumeva plate po učinku, počela je u novembru 2012. u ustanovama primarne zdravstvene zaštite. Kapitacija je formula prema kojoj lekar dobija na platu utvrđenu oktobra 2012. godine do četiri odsto povećanja na osnovu broja i starosti opredeljenih pacijenata. Svi lekari u primarnoj zdravstvenoj zaštiti ne mogu dobiti manje plate nego što im je plata bila u oktobru 2012; jedina razlika je u veličini promenljivog dela, težinskog faktora koji dovodi do povećanja plate. Težinski faktor se izračunava u odnosu na starost pacijenata. Prosečna starost je dobijena na osnovu statistike živih, gde se predviđa da čovek od 65 godina poseti lekara tri puta godišnje,

čovek starosti od 45 do 65 godina dva puta, a čovek starosti od 25 do 45 samo jednom. Promenljivi deo je izračunat prema broju upisanih pacijenata i obavljenih preventivnih pregleda, koji je u poslednje vreme porastao na 4%. Primećeni su problemi s kapitacionom formulom, koja je još u fazi formiranja, a promene su u toku. Problemi se tiču primene kapitacije kod starijih pacijenata i hroničnih bolesnika. Iako ova vrsta pacijenata treba da obezbedi lekarima veći kapitacioni ponder, u praksi, zbog većeg broja recepata napisanih tim teškim bolesnicima, izabrani doktori obično budu finansijski kažnjeni i ne dobiju previđeni procenat nadoknade na platu. Svi drugi specijalisti u zdravstvu, i u ambulantama i u bolnicama, primaju samo platu. Važan cilj je i integracija privatnog sektora pružalaca zdravstvenih usluga i bolji nadzor nad pružanjem privatnih zdravstvenih usluga.

Jedan od najvećih problema na početku zdravstvene reforme bio je deficit pouzdanih podataka koji bi stvorili osnovu koja će omogućili kreiranje zdravstvene politike zasnovane na dokazima. Kreatori zdravstvene politike su shvatili da su im, ukoliko žele da razviju politiku kojom mogu da dovedu do poboljšanja performansi svojih sistema, potrebni pouzdani podaci o finansijskim sredstvima upotrebljenim za zdravstvenu zaštitu. Kako Nacionalni zdravstveni račun (NZR) može da proizvede dokaze i pomogne kreatorima politike i zdravstvenim menadžerima da shvate svoje zdravstvene sisteme i poboljšaju svoje performanse, Vlada Republike Srbije je odlučila da primeni NZR u zdravstvenom sistemu Srbije. Rad na razvoju, implementaciji i institucionalizaciji NZR, kao alata za pomoć kreatorima politike da bolje sagledaju svoj sistem i upravljaju svojim zdravstvenim resursima, počeo je krajem 2004. godine u okviru projekta MZ pod nazivom „Razvoj zdravstva Srbije", koji je finansirala Svetska banka. Formiranje novog odseka za NZR u Institutu „Batut" je reformsko dostignuće, pošto je projekat završen 2008. godine. NZR je postao poveren programski posao Instituta „Batut", s novom utvrđenom finansijskom linijom za izradu NZR. Osim toga, juna 2013. godine obrazovani su radna grupa i Intersektoralni komitet za nacionalni zdravstveni račun. Značajno reformsko dostignuće je postignuto i osnivanjem Agencije za akreditaciju 2008. godine, čije formiranje je, osim Svetske banke i MZ, potpomogla i EU. Godine 2011. usvojeni su akreditacioni standardi za ustanove svih nivoa zdravstvene zaštite i dobijeno je odobrenje Skupštine, što je stvorilo odličnu osnovu za poboljšanje kvaliteta rada zdravstvenih ustanova u našoj zemlji.

## ZAKLJUČAK

Analiza je pokazala značajan, ali nedovoljan, napredak postignut u oblasti pokazatelja zdravstvenog stanja, kao najvažnijeg konačnog ishoda učinka zdravstvenog sistema uz određene napore i sredstva uložena u ovom sektoru. Očekivan životni vek stanovništva je povećan, smanjena je stopa smrtnosti odojčadi, incidencija plućne tuberkuloze je više nego prepolovljena, a stanovništvo je dobilo mogućnost korišćenja privatnog farmaceutskog sektora zdravstvene zaštite. S druge strane, smrtni ishod osoba obolelih od enterokolitisa uzrokovanog mikroorganizmom *Clostridium difficile* više nego dvostruko je bio češći u 2012. godini u odnosu na 2010, što zabrinjava i dovodi u pitanje adekvatnost primene osnovnih higijenskih mera. Kada se uzmu u obzir glavni uzroci smrti stanovništva, trendovi između Srbije i EU su i dalje isti, ali neizbežan zaključak je da ulaganje u prevenciju i promenu životnih stilova mora da se nastavi u povećanom obimu. Tranzicija državnog sistema zdravstvene zaštite u Srbiji od komunističkog perioda do danas i usporeno integrisanje sa EU se ispostavlja kao veoma bolan proces.