

Health care system and spending in Serbia from 2004 to 2008

Autors:

Dr Milena Gajic-Stevanovic, PhD

Snezana Dimitrijevic, PhD

Ana Vuksa, MPH

Dragoslav Jovanović, BEd.

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I Executive summary

The period of six years in implementing the National Health Accounts (NHA) in Serbia has resulted in increased transparency of financial flow in health sector. It was the first time ever that private sector of health care providers has been observed along with the public sector. The tables have been produced with indicators of health expenditures critical for functional comparison of health system in Serbia with health systems of other countries covering the period from 2004 to 2008.

Revision of all NHA results in 2009 resulted as a consequence of Republican Statistical Office (RSO) correction of data on private sector spending called "Out of Pocket data", and gave us new picture of relations between public and private sector of health care financiers. Constant increase in THE, stable HIF spending, but significant increase of "out of pocket" payments could be observed according to revised data.

Six years of observation of the financial flow in health sector alone would not be substantial for accurate analysis and estimation of future finance trends in health sector. However, some results indicate the following:

- In 2007 Serbia allocated financial resources out of GDP in the amount similar to the European Union, while comparing to the countries of the region, these funds were similar only to those in Bosnia and Hercegovina¹.
- Allocation of financial resources in practice was low as the consequence of relatively low level of GDP in Serbia.
- A high purchasing power disparity in healthcare services was observed between the population of Serbia and other European countries.
- Relatively stable participation of public sector financing sources within the mentioned period, could not avoid increased participation of private health sector financiers.

It was confirmed that Health Insurance Fund (HIF) was the major financing source of health with around 5,6% of GDP what represents almost 60% of total expenditures for health.

Although constantly higher, allocation of finances from HIF to health sector, it seems to be insufficient over time due to several factors (more and more need of elderly population and more costs for introducing the new technologies). The situation does not differ much from the rest of Europe where National Health Accounts face great financial challenges as well².

¹ WHO: [http://www.who.int/nha/country/en/document/NHA_Ratios_and_Percapitalevels\(Excel\)](http://www.who.int/nha/country/en/document/NHA_Ratios_and_Percapitalevels(Excel))

² Mosseveld, Cornelis, „International Comparison of Health care Expenditure“, PhD thesis, 2003, page

Blurred situation in private health sector of financiers and providers was observed. Policy makers have decided to overcome it with implementation of new “Fiscal bill policy”. From 1.06.2009 all private providers are obliged to provide patients with fiscal bill that would make foundation for more transparency in activities of private providers and will help public health sector to reduce shade economy. Introduction of fiscal bill in private and public health premises will allow better exploration of both private sector financiers and providers.

When comparing the participation of public and private financing sector in overall health financing in Serbia to the neighboring countries, it shows almost identical results (70:30) with the relation of public/private sector in Slovenia, Macedonia, Montenegro, Hungary, Romania and Slovakia in the beginning of explored period, with rising tendency up to 40% in 2008..³

The outpatient hospital care and inpatient care financing changed in period 2004 to 2008 in a way that more funds had been allocated to ambulatory health care with the percentage of 1,84% of GDP in 2004 that increased to 2,18% of GDP in year 2008. This trend follows the projected priority of health policy makers with greater investment for ambulatory health care in Serbia, which is consistent with the objectives of consolidating the fiscal situation and correlate with EU 8 findings from WB paper „Health care Spending in the New EU member states“.

Observation of allocated financing sources for health care in period 2004 to 2008 shows trend of constant reduction in finances for preventive care.

This trend is followed by increase in financing for rehabilitation, diagnostic and laboratory care as well as pharmaceuticals and other medical goods dispensed to outpatients . Total costs for pharmaceuticals show growth from 1, 87% of GDP in 2004 to 2,77% of GDP in 2008.

The increase of drugs consumption⁴, and consequently the increase in costs for pharmaceuticals is global trend⁵ that each country seeks to solve differently, although with not much success so far.

³ WHO: <http://www.who.int/nha/en/>

⁴ Hogerzeil HV. Promoting rational prescribing: an international perspective. *British Journal of Clinical Pharmacy*, 1995; 39:1-6., The rational use of drugs. Report of the Conference of Experts. Geneva, World Health Organization, 1985.; Promoting rational use of medicines: core components 2002. WHO Policy Perspectives on Medicines No.5, Geneva, World Health Organization, 2002.; Ronning M, et al. Problems in collecting comparable national drug use data in Europe. Berlin, Springer-Verlag. 2003; Dukes MNG, ed. Drug utilization studies. Methods and uses. WHO, European Series No.45 .Copenhagen, World Health Organization, Regional Office for Europe, 1993; International Society for Pharmacoepidemiology, (<http://pharmacoepi.org>); Quick JD, Rankin JR, Laing RO, O’Conor RW, Hogerzeil HV, Dukes MNG, Garnett A, (eds). *Managing drug supply*. 2nded. West Hartford, CT, Kumarin Press, 1977; Ross- Degnan D, Laing RO, Quick J, et al. A strategy for promoting improved pharmaceutical use: the International Network for Rational Use of Drugs. *Soc. Sci. Med.* 1992; 35“ 1329-41.

⁵ *Boston Univ. School of Law Working Paper No. 06-36* , University of Queensland Law Journal, Vol. 26, No. 1, p. 111, 200, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=932903#

The worrying fact however, is that not only the finances allocated for Public Health Institutes (HP.5) were reduced, but decrease of preventive services and occupational health services has been observed as well in period from 2004 to 2008. The participation of 0,74% in 2004 and 0,72% in 2005, 0,73% in 2006, 0,75% in 2007, was reduced to only 0,66% of GDP in year 2008.

The growth of the expenditures for the employed in health sector covering period from 2004 to 2008 shows slower increase than total revenues increase trend, which is complementary with planned decrease of expenditures for the employed in HIF. Revenues in period 2004 to 2008 increased in total of 130,82%, whereas gross salaries have increased in total of 105,79%.

In 2007 the share of salaries represented 58.14% of the total revenues what was similar to EU8 countries. Although salaries of employed in public health sector grew for more than 20% annually, they are still 22%⁶ lower than the national salaries average, much different than in the EU8 and EU15 countries⁷.

The positive changes are observed in decreased number of referrals from primary to secondary and tertiary levels of health care indicating improvements in organization and referral protocols.

II Introduction

Health care sector of Serbia was one of the sectors that were affected by the waste set of reforms commonly branded as a transition process. Reforms started after a decade of destructive and difficult events that started after the breakdown of former Yugoslavia, followed by wars, hyperinflation, sanctions and NATO bombing.

Serbia, like other parts of former Yugoslavia, has inherited a health system financed by compulsory health insurance contributions, based on 12,3% payroll taxes. The system was used to provide easy access to comprehensive health services for all population.

Unfortunately, political problems that shaped the economic performance, has resulted in a substantial health system resources reduction. The viability of the system was challenged by the reduced financial basis of health insurance contributions where two million employed financed seven million insured. A cumulative effect of all this events caused significant deterioration of the health status of population widening the gap between the Serbian and the EU population.

⁶ Schnaider, Final NHA report , October 2007

⁷ Health Care Spending in the New EU Member States, WB Working Paper., 2003

Gaps between expenditures and revenues in the system have been met through increased out of pocket payments, by already physically and materially vulnerable population. Marked lack of funds has resulted in low salaries of medical workers, poor investment in the infrastructure and equipment of medical facilities and a large deficit in the Insurance Fund, created by health-care costs. The system was suffering from the lack of medicines and medical material, bribery and corruption, transfer of patients and a part of equipment from the state to the private health sector etc. All this has jeopardized accessibility, the basic principle of the health care of the population.

For all these reasons Serbian Government has found itself, more than ever in need for proper planning and organization of healthcare financial funds. The highest levels of Serbian government have publicly declared that reforming the health system was a national priority. In August 2002, representatives of Ministry of Health (MoH), Health Insurance Fund (HIF) and Institute of Public Health (IPH), articulated an overall health vision for the health sector in Serbia.

The ambitious reform aimed to reform and put the focus on the 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 to the needs of patients, to develop new basic package of health services that will be in balance with the available resources. Changes on the side of the health system financing were supposed to change the flow of money so that it doesn't follow the existing structure and staff but patient's movement through the system. Capitation was chosen as an option for the primary health care and the model of Diagnostic Related Groups (DRG) for payments in secondary health care.

One of the important goals was also integration and better oversight over the provision of the private health care services.

One of the biggest problems at the beginning of health reform was a 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.

With NHA methodology policy makers expect to monitor and evaluate:

- 1) who pays how much;
- 2) how much money goes to where;
- 3) what areas of reform are consistent with the objectives of consolidating the fiscal situation;
- 4) health spending pattern in Serbia in comparison to other countries

Work on development, implementation and institutionalization of NHA, as a tool to help policy makers to better manage their health resources started in the end of 2004 under Ministry of Health project called: “Serbia health project,” financed by the World Bank. The formation of new department for NHA production in the Republican Institute of Public Health represents a major reform accomplishment, after WB project was finished. NHA became an assigned programmatic job of MOH, with the new established financial line for NHA production.

So far the NHA Team has produced:

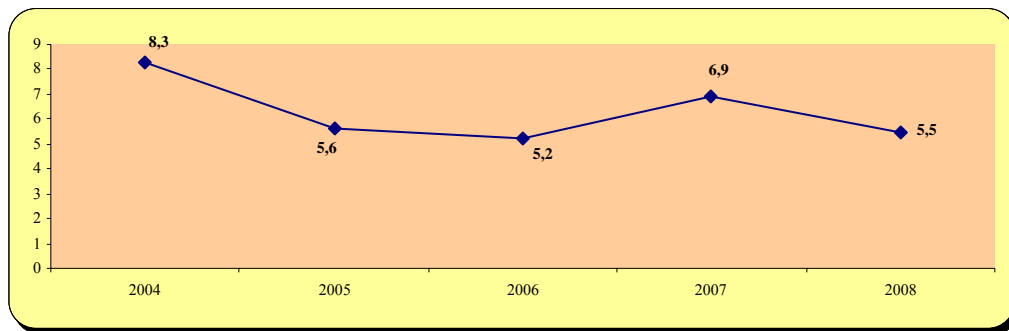
five NHA tables for 2004, 2005, 2006, 2007, and 2008, analysis of Public Primary Health Care, Basic cost of illness account, study called “Assessment of financial flow in the health system of Serbia in a period 2003-2006”, study “Cost of Primary Health Care in the Republic of Serbia from 2006-2008year“, study “Evaluation of Utilization of Insured Rights to Preventive Dental Examinations in Primary Health Care in the Republic of Serbia in the Period 2003-2006”, as well as 57 health indicators requested by World Health Organization (WHO), for every observed year.

In this paper indicators obtained from NHA data will provide evidence on spending patterns for all sectors, public and private, different health care activities, providers, and country regions. Information will be used to make assessment if changes in expenditures reflect the main strategic orientations on the reform of the health system and compare results with those of other countries.

III Social-Economic Indicators

Gross domestic product is the most important macroeconomic aggregate, as a measure of total economic activity of all resident institutional units, with production of all material goods included, as well as all kinds of services. Gross domestic product per capita in 2004, amounted to U.S. \$ 3177 in year 2008 and, according to the Ministry of Finance figures, it reached U.S. \$ 6800, or 4600 euro’s. During the monitoring period a relatively high rate of economic growth (Graph 1) has been achieved. The growth of gross domestic product was positively influenced by structural reforms and implemented investments, but the greatest impact was through the increased demand of population, mainly in sales growth, earnings, pensions, loans and imports.

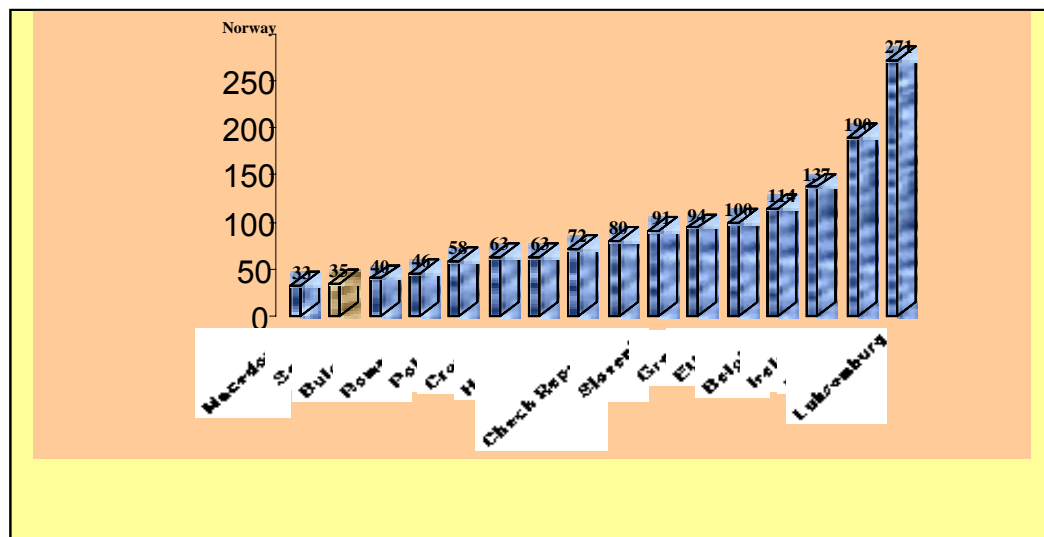
Graph 1. The growth rate of gross domestic product (%), Serbia, 2004 - 2008



Source: Republic Statistical Office of Serbia

Gross domestic product per capita in Serbia, expressed through purchasing power, among the lowest in Europe and is only 35 points the average of the European Union (Graph 2).

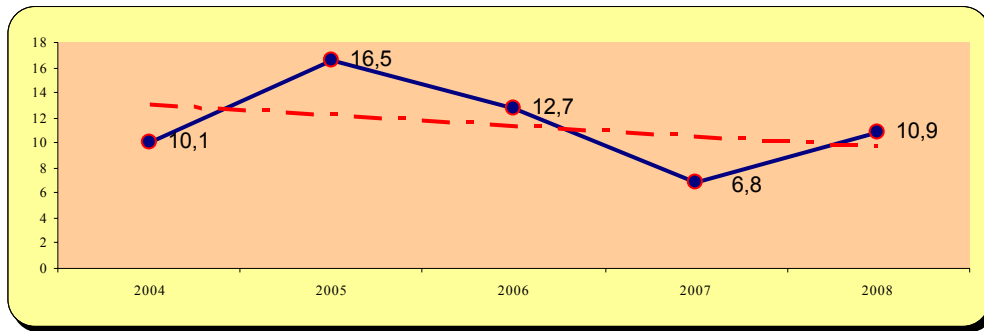
Graph 2. Index of GDP by purchasing power per capita (PPS) in Serbia and selected European countries, 2008. (EU-27 = 100)



Source: Eurostat, <http://epp.eurostat.ec.europa.eu>; Statistics Institute of Serbia, <http://webzrs.stat.gov.rs/axd/index.php>,

Within the observed five-year period 2004 - 2008, the average annual growth rate of retail prices have fluctuated significantly, showing slightly declining trend. Thus in year 2008, the inflation rate was slightly higher than within the first given period and amounted to 10.9% per annum (Graph 3). In addition, the total inflation (in December 2008/ December 2007.) amounted to 6.8% in year 2008 and was by 2.7 percentage points lower than projected levels.

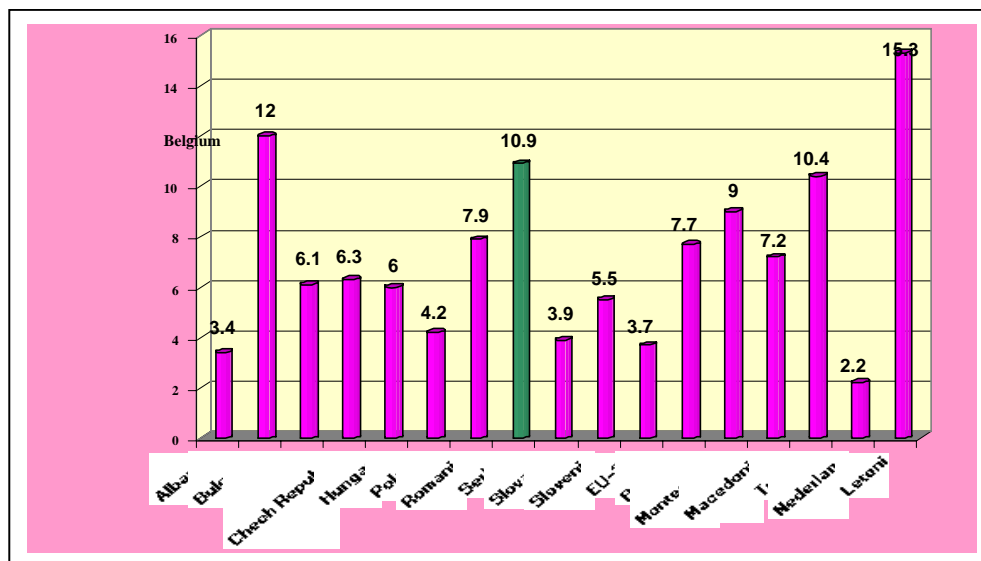
Graph 3 Inflation (%) - average annual growth of retail prices, Serbian, 2004 - 2008



Source: Statistics Institute of Serbia

In comparison with the European Union, the average level of inflation in the given period is significantly higher in Serbia each year. But also noticeable are differences between some European countries, for instance - the average inflation rate in Latvia was even 15.3% in year 2008, while in the Netherlands it was only 2.2% (Graph 4).

Graph 4. Inflation (%) in Serbia, EU27 and selected European countries, 2008.

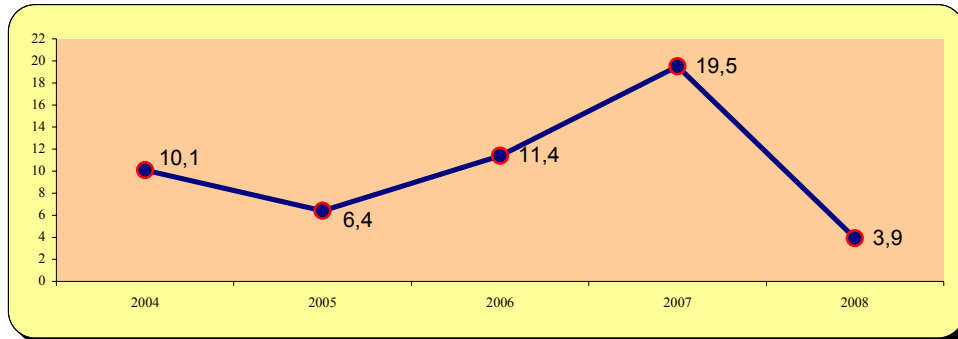


Source: Eurostat, <http://epp.eurostat.ec.europa.eu>, UNECE, <http://w3.unece.org/pxweb/Dialog>; Statistics Institute of Serbia, <http://webzrs.stat.gov.rs/axd/index.php>

In the five-year period observed, the average earnings recorded an increase in each observed year, although with noticeably different intensity. Thus in 2004, the average wages were 10.1% higher than in the previous year and the net amount reached 194 euros, whereas in 2008, the amount increased to 400 euros, with a growth rate of 3.9% (Graph 5). It is clear that in 2008, there was a significant slowdown in growth of average real earnings, including deceleration of earnings growth within the public sector.

It is necessary to point out that in the whole period observed, with the exception of year 2008, the average nominal salary growth was considerably higher than the growth of overall economic activity and labor productivity.

Graph 5. The rate of growth of average real net wage in Serbia (%), 2004-2008.



Source: Statistics Institute of Serbia

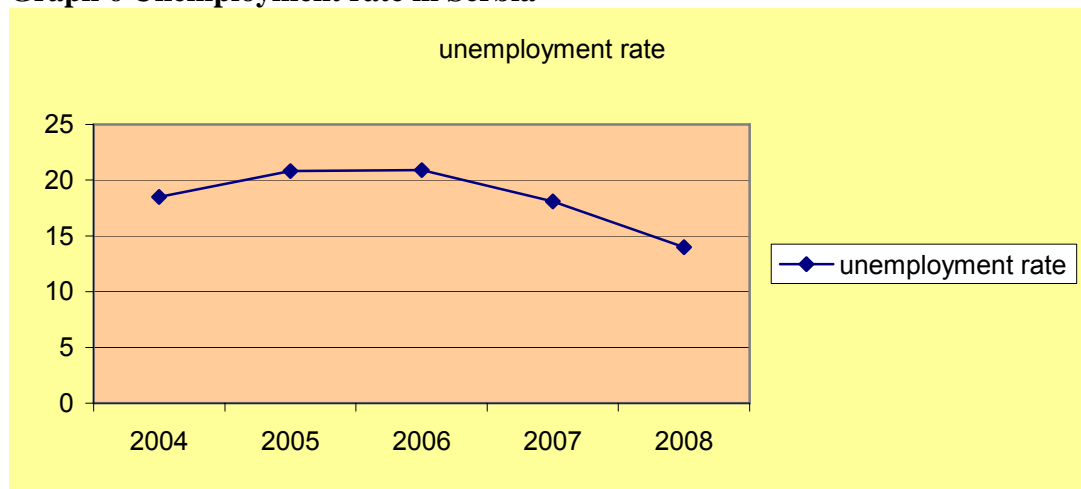
The unemployment rate, as a basic indicator of the labor market, tends to decline and was reduced in year 2008 to 14%, which is its lowest level in five years (Graph 6). The total number of unemployed in 2008. year was reduced by the 445 383 persons.

The total number of employees increased from the previous year to 6.3% in year 2008 amounts to 2,821,724 employees.

The unemployment rate for women has a tendency to decrease, but is above average and is 16.5%. Youth unemployment rate, expressed as a percentage of unemployed youth aged 15-24 years in the working age population of the observed age group, is also declining in the year 2008 and is 35.1%.

The situation in the labor market is additionally complicated by the fact that even 71% of the unemployed in year 2008 belong to long-term unemployed group, which shows an extremely high degree of social exclusion.

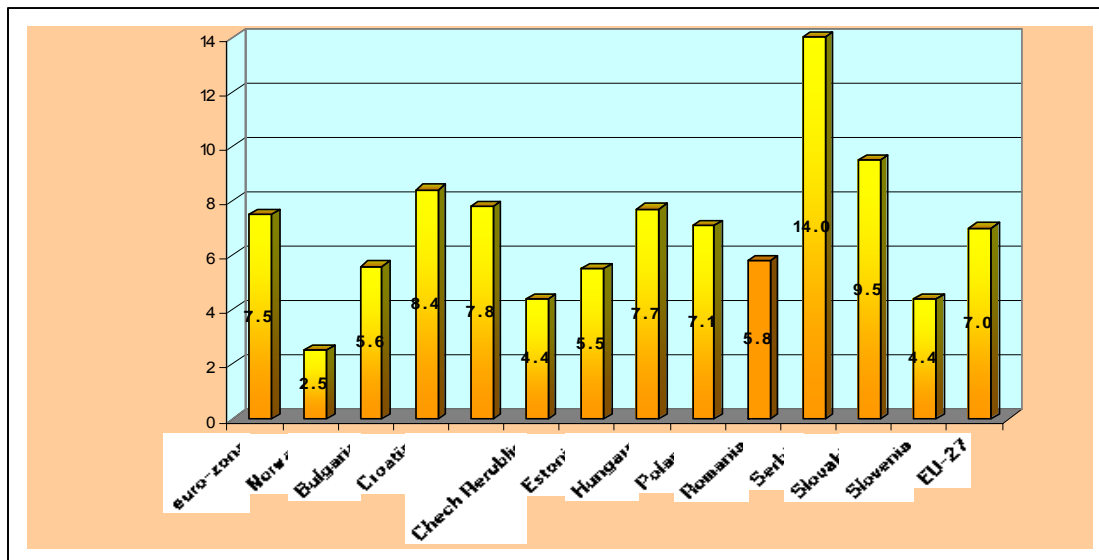
Graph 6 Unemployment rate in Serbia



Source: Republic Statistical Office of Serbia

The unemployment rate in Serbia is still the highest in comparison with the European Union, Euro-zone countries and countries in the region (Graph 7). That's it in 2008. year twice higher than the average of the 27 European Union countries. Most countries have a lower unemployment rate of 10% (lowest Netherlands 2.5%), which creates a clear mission to reduce the unemployment rate in the future. Highest levels in Europe compared to the show and the unemployment rate of women (EU-27 has a rate of 7.5%) and young (EU-15, 5%). Long-term unemployment rate is also highest in comparison with the European Union, Euro-zone countries and all countries in the region (EU-37%).

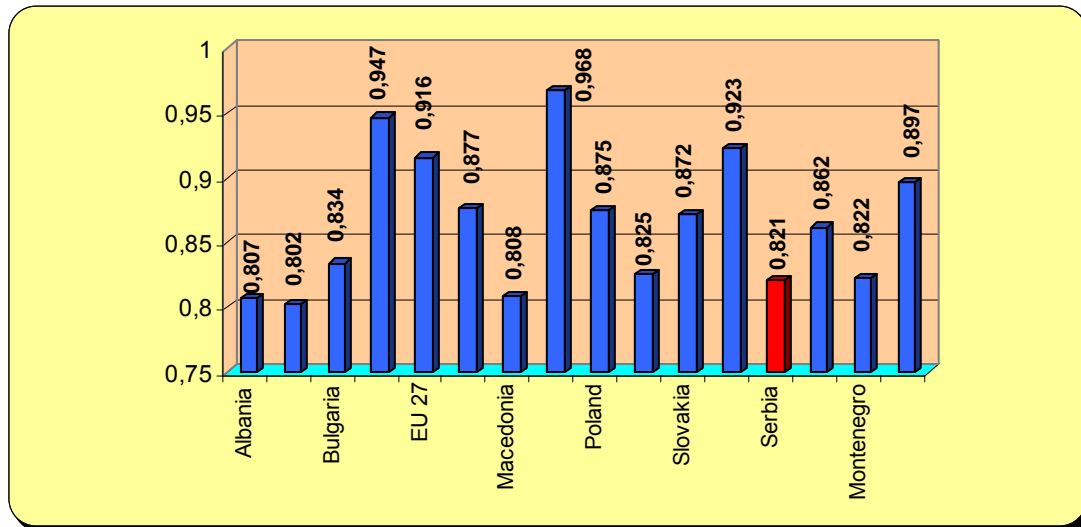
Graph 7 The unemployment rate in Serbia, EU 27 and selected European countries, 2008.



Source: Eurostat, <http://epp.eurostat.ec.europa.eu>, UNECE, <http://w3.unece.org/pxweb/Dialog>; Statistics Institute of Serbia, <http://webrzs.stat.gov.rs/axd/index.php>

Human Development Index, an indicator of quality of life and the interdependence between economic and social development, has also been growing steadily in the period. So he in 2004. year has a value of 0.813 (range of the index is 0 to 1, and values close to unity indicate a higher quality of life), and in 2007. year reached an estimated 0.837. With HDI of 0.821 in 2006. year, Serbia was on the 65th place in the world (by GDP by purchasing power, Serbia 74th in the world). However, Serbia still has, compared to the average of the European Union, lower level of human development index (Graph 8).

Graph 8 Index of human development in Serbia and selected countries, 2006.



Data source: WHO / Europe, European HFA Database, <http://data.euro.who.int/hfad/>

In the reporting period and reduces the poverty rate (6.6% or 490,000 persons in the 2007th year, when the absolute poverty line amounted to 8883 dinars a month), but it is still very high. Serbia also has a high risk of poverty rate (31.4% in 2006.).

IV Overview of the health care system in Serbia

Health Care Services

Health care in Serbia is provided through a wide network of public health care institutions owned and controlled by the Ministry of Health. The law provides for private practice which, however, may be pursued exclusively by way of private funds.

The whole of the private health care sector is not included in the public funding scheme and as such, it represents no supplementary component of the public system nor does it offer to insurers the possibility to exercise rights arising from compulsory insurance.

At the same time, in the Republic of Serbia there is no additional, supplementary, parallel private health insurance which could enrich the existing scarce financial resources of the system. The private provision of health care services, although limited, is on the rise, particularly in certain areas such as dentistry. However, it should be stressed that the private sector is insufficiently regulated and that it mainly employs consultants from public sector on temporary basis. The absence of private health insurance has created an

unbalanced market system, where the system of private service providers, rather than powerful finance institutions, negotiates prices with individual beneficiaries (patients).

Primary care is provided in 159 Health Care Centres and health care stations throughout the country, according to WB data from 2009 survey⁸.

The provision of primary health care to the population in Serbia is relatively decentralized, where services for children and women are offered by paediatricians and gynaecologists along with general practitioners. Even given the presence of specialist doctors at primary level, a study of the Belgrade primary healthcare system for 1991 to 2000 by Belgrade Institute for Public Health in May 2001 showed that one third of patients were referred on to secondary care. This is a very high referral rate by international standards even from healthcare systems where the primary care level is largely staffed by general practitioners. This feature of high referral rates to other levels of the system is symptomatic of poor organization and a lack of well-defined referral protocols.

Situation has changed according to the World Bank's latest survey⁹:

“Referral rates are relatively low among DZ-s but significantly higher in DZ-s that are part of a health center (Table 1). Overall, 7.1 percent of consultations result in a referral to a specialist, and 5.5 percent result in a referral to a hospital. The total mean referral rate is 12.6 percent, which is reasonable. Rural DZ-s have a higher rate of referrals to hospitals (6.2 vs. 4.9) and total referrals (13.3 vs. 12.0), although these differences are not statistically significant. DZ-s that are part of a health center have a significantly higher rate of referrals to specialists than stand-alone DZ-s (8.9 vs. 6.4), but there is no significant difference in the rate of referrals to hospitals or total referrals. Easy access to specialists in health centers may lead DZ providers that are still part of a hospital complex, to more readily refer their patients.”

Table 1: DZ Referrals, number of referrals and in percent of total visits¹⁰

	All DZs	Stand-alone	In Health Center
Total # of referrals to specialists(% of total visits)	19,795 (7.1)	17,924 (6.4)	24,318 (8.9)
Total # of referrals to a hospital(% of total visits)	17,450 (5.5)	16,224 (5.4)	20,418 (5.7)
Total # of referrals (% of total visits)	37,245 (12.6)	34,148 (11.8)	44,735 (14.5)

Health Centres differ in view of the services they provide; they may include a pharmacy or even hospital beds. Likewise, they may provide public health care services, physical therapy and rehabilitation and occupational medicine services.

⁸ Baseline Survey on Cost and Efficiency in Primary Health Care Centers before Provider-Payment Reforms, World Bank, January 26, 2009

⁹ Baseline Survey on Cost and Efficiency in Primary Health Care Centers before Provider-Payment Reforms, World Bank, January 26, 2009

¹⁰ Source: WB Baseline Survey on Cost and Efficiency in Primary Health Care Centres, 26.01.2009

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 or institutes and academic hospitals.

Hospital or stationary health care in the public sector in the Republic of Serbia is provided by 37 general hospitals, 14 specialised hospitals, 19 specialized health centres, 23 single speciality clinics, 38 speciality institutes, 5 clinical hospital centres, 3 clinical centres, according to WB data from 2009.survey.

According to an official analysis of health care services drawn up by the EAR ¹¹ in 2003, Serbia disposed of some 48,000 hospital beds, 43,000 of which were standard hospital beds. Most of the beds were intended for short-term use (73%), some 25% were for long-term use, while the remaining ones were accommodated by primary care centres.

In 2007 Serbia had 41100 hospital beds including 1220 day-beds, according to IPH data. This means that the number of 5.57 beds per 1000 people in 2007 is relatively high in comparison to the countries in the region, but is still below the EU15 standard (7.6). The number of beds per 1000 people is the lowest in Srem (3.2), and the highest in Zaječar (11.1).

With 6.9 beds per 1000 people, the capital Belgrade is slightly above the country average. Although the number of beds correlate with the same indicator in other countries, the problem comes from an inadequate structure of hospital capacities that is not adjusted to the needs of population in particular territories.

The unplanned development of this sub-system of health care is also mirrored in huge differences in the performance of certain branches of medicine, non-rational internal organization, often with small hospital units, including activities from the tertiary care sphere such as neurosurgery, maxillofacial surgery and the like.

At the end of 2004, there were some 120,000 full-time employees and some 9,200 fixed-term **employees in the public health care sector**. According to Institute of Public Health data, at the end of 2007 there was a reduction of full-time employee to 111068 (decrease of 7%), as it was planned strategically, but in 2008 the number of employee increased again to 114.317. Within the network of public institutions, employee salaries are almost entirely funded by the Republican Health Insurance Fund (RHIF). The remuneration system in health care is still input-based, and employee earnings have by far the largest share in overall costs in the health care service. Findings show that those expenditures in DZ in 2008. are dominated by personal costs (70% of total costs).¹² Although salaries of the employees did show significant growth from 2004 to 2008 that was exceeding 20% annually, comparisons across different sectors of the Serbian economy show that the wages in the health sector were about 22% below the national average in January 2006.¹³ Situation is quite different in the EU 8 countries. Salaries there account for 60% of health expenditures that is similar to situation in Serbia but they are all above national averages and are increasing the pressure on overall health spending¹⁴.

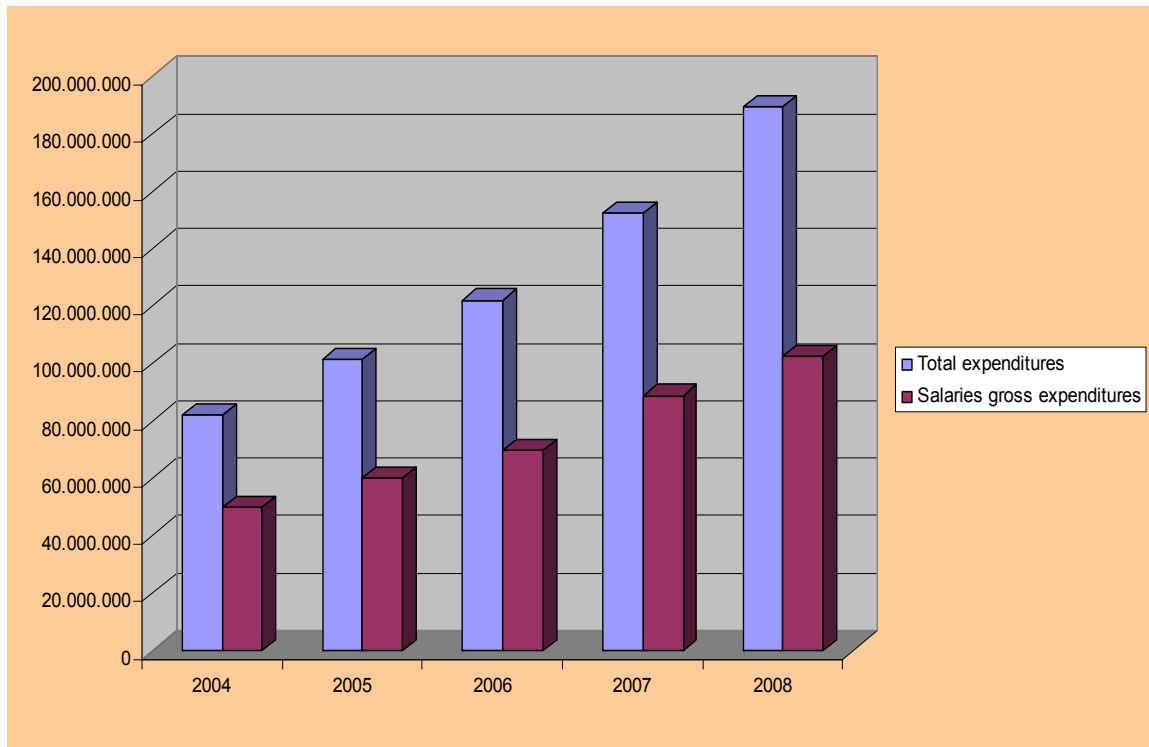
¹¹ World Bank Document (24 May 2005), *Serbia PEIR Update*, p. 4

¹² WB baseline Survey on Cost and Efficiency in PHC before Provider Payment Reform (January 2009)

¹³ Schnaider, Final report, 2007

¹⁴ Health Care Spending in the New EU Member States, WB Working Paper , 2003

Graph 9. Employees expenditures within Public Health Sector in Serbia in period from 2004. to 2008. in thousands of dinars and percentage¹⁵



The private sector includes 1220 medical offices and clinics, 1663 dental offices, 1835 pharmacies and 149 laboratories. In the private sector, there are 81 hospitals and 58 polyclinics¹⁶.

Health insurance system

Serbia has inherited a health care system oriented towards securing an easy availability of all health care services to the entire population. In principle, insurance coverage is provided to (i) all employed persons, (ii) pensioners and (iii) self-employed people and farmers who are contributor payers, including the spouse, dependent children and elderly parents of an insurer. The Budget transfers to the Republic Health Insurance Institute (RHIF) guarantees that, in principle, health insurance coverage is also provided to unemployed, internally-displaced people and refugees, as well as to people who belong to vulnerable categories. A special system of health insurance coverage is applied to the

¹⁵ Source: Chamber of Health Institutes

¹⁶ Public Health Institute data obtained from the Republican Statistical Office (all data related to Private Sector).

army, army civilians and armed forces' pensioners and their family members and dependents. The RHIF offers a generous package of health services, including special services, such as medical treatment abroad and 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.

The new Health Insurance Law (2006) has decreased a number of entitlements in the basic health service package. It abolished the right to dental health care (with the exception of children, people over the age of 65, pregnant women and emergency cases), compensation for the period of temporary work incapacity for women with preterm labour has been reduced from 100% to 65%; the right to compensation of travel expenses associated with exercising rights to health care in the region of the branch institution has been abolished. According to the new law, non-marital partners gain the right to insurance after only two years of their partnership. Savings made in such a way should have been directed into better functioning of other parts of the health system

Health system financing

The health care system in Serbia is funded through a combination of public finances and private contributions.

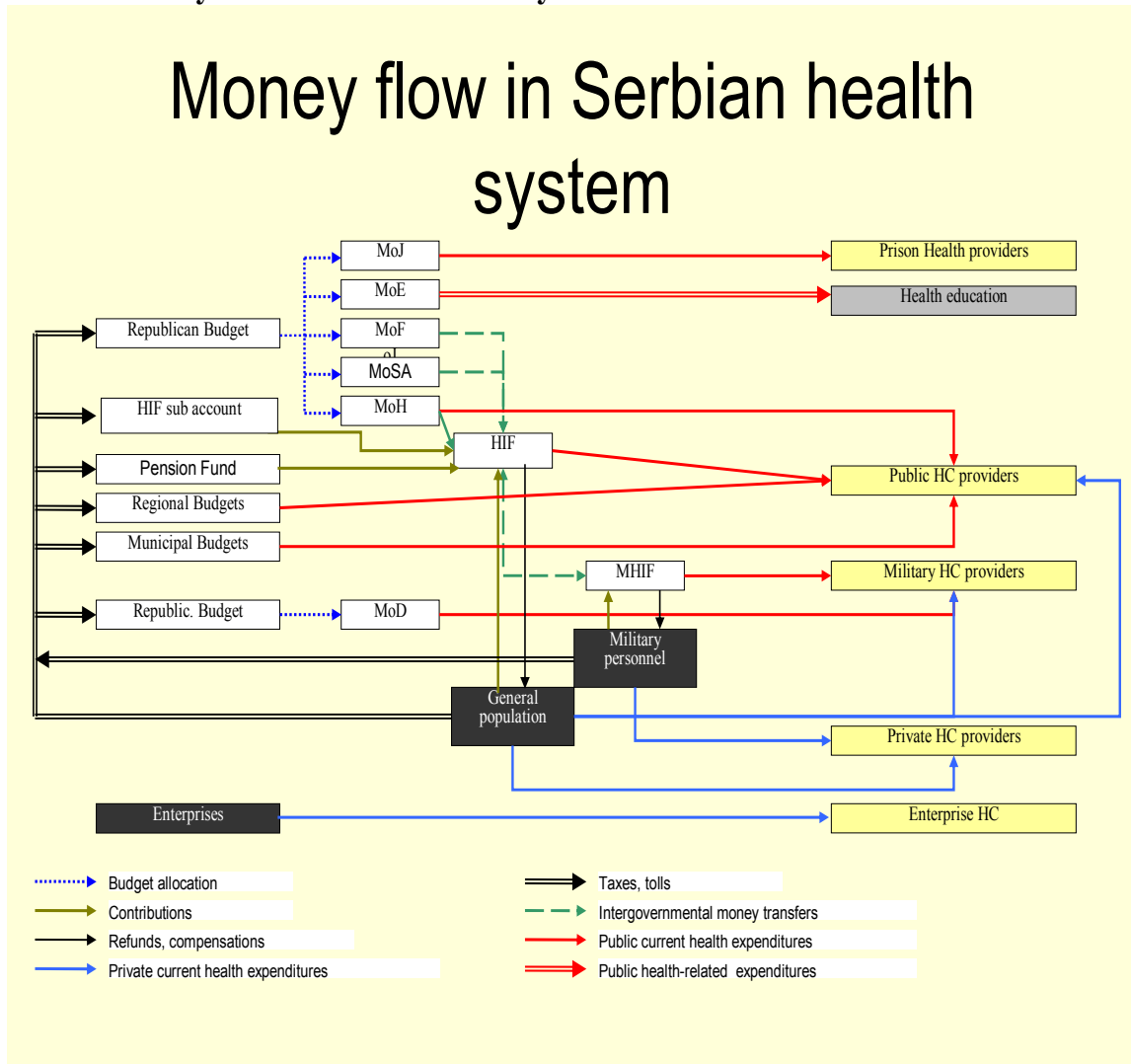
The most important source of health care financing in Serbia is the Republic Health Insurance Fund (HIF). Funds from employees and employers are collected directly to HIF sub-account. Ministry of Finance has the access to that account, so it is their sub-account as well. Health Insurance Fund is financed also with supplementary financing from various budgetary sources, such as Pension Fund, Ministry of Finance fund for the unemployed, etc. The appropriate compilation of these public financial flows provides not only the basis for the Serbian Health Accounts but also for the analysis of the financial stability of the system.

Funds for the health care of the insured persons are provided from the Republic Health Insurance Fund, 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 from the Republican budget.

Due to the absence of private health care insurance, private funding is more or less completely based on out-of-pocket payments and is supplemented by contributions from a small number of major companies which have (and fund) their own institutions which specialize in the treatment of occupational diseases and also provide primary care services. More than 90% of public costs are financed through the RHIF or inter-departmental transfers via the RHIF. Similar coverage is envisaged for those who are entitled to health care services by military service providers.

Health services in prisons have a relatively small market share. They are provided within their own framework without any statistical data.

Chart.1 Money flow in Serbian health system



Bruckner 2006

Availability of data for NHA production

The public provision of healthcare services in Serbia is fairly well documented, and quite a substantial amount of data is routinely collected. With respect to health accounts, the most useful data is the financial report of the Republic Health Insurance Fund (HIF), as the HIF stands for more than 90% of public health care spending in Serbia.

The second important set of information comes from the reporting of the institutions in the network of providers as organized by the Chamber of Health Institutes. Whereas the public healthcare system is generally well documented, the opposite holds true for the **private healthcare providers**. Virtually nothing is known about the structure, the turnover made, the number of employees, or the number of patients treated.

Some limited information exists on the bigger private institutions (e.g. a private hospital), but the majority of institutions constitutes completely uncharted territory. The Statistical Office has obtained an estimated number of institutions via the business register, and Ministry of Health has obtained the list of private institutions with work permit.

Currently all data on **private healthcare financiers** are taken from the household budget survey (HBS) estimates, i.e. from what private households indicate as having spent on healthcare. The usefulness of HBS data has never been questioned in principle, but there are serious dangers of systematically underreporting health-related expenditures in HBS, as the amounts are discontinuously spent (different from expenditures for food, rent or the like) and the true amount spent may not always be fully remembered. Furthermore, private healthcare is likely to be primarily consulted by high-income households, which are known to be systematically underreported in HBS data in all countries worldwide.

The second difficult subject is the area of **international donations**. Serbia receives quite substantial donations earmarked for health, both from public and private institutions and both in money and in kind. As donations can be held in foreign-currency accounts with Serbian commercial banks, it is not easy to get a complete estimate for the total value of donations. Different approaches have been followed; data from the National Bank, from the Ministry of Finance, as well as websites of the international donor societies have been consulted. The amount currently attributed still incorporates substantial estimation risks and needs further work in the future. As the majority of donations trigger improvement of buildings and medical-technical equipment, the impact on current health expenditures is fairly small, because the majority of donations end up in health-related expenditures.

The functional distribution of the health expenditures is based on financial information of the Providers of the Public Healthcare Network and structures of activities paid by RHIF.

V Trends and structure of health care expenditures

Health Spending Indicators

From a health policy perspective public health care financing has not only the function to cover financial risks of ill-health but also to secure a fair distribution of the public funding.

In Serbia in 2008, about 62% of Total current health expenditure (TCHE) are financed by Public sources, thereof the largest share by RHIF. Consequently, the payments of the Republican Health Insurance largely determine the public provision of services. Part of the public finance of health services are further expenditures by the Ministry of Health, by regional and local government, by Ministry of Defense, Ministry of Justice, and Military Health Insurance.

Share of expenditures for health care in the gross domestic product, with some fluctuations, also shows growth in the period 2004-2008. years (Table 2).

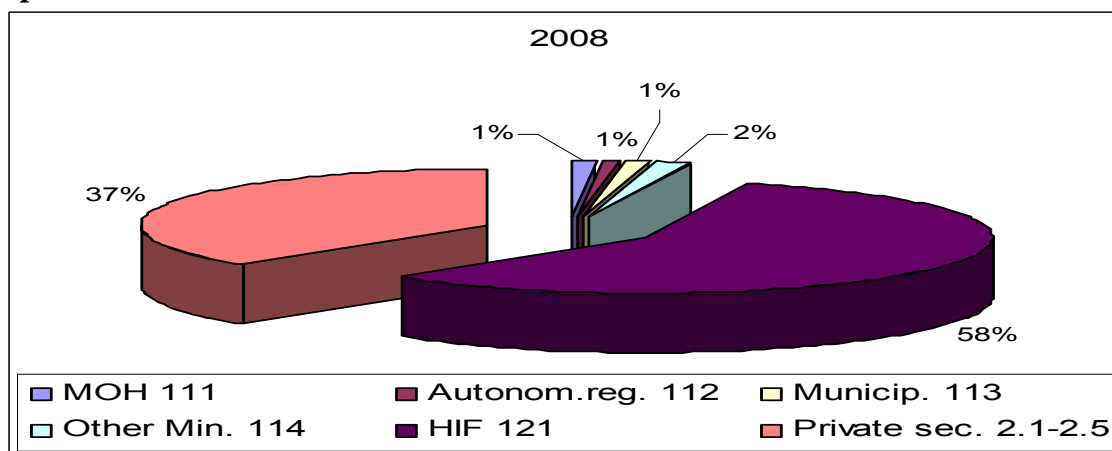
Health System financing in Serbia in period 2004 to 2008, is characterized by predominant role of public health financing (shown in Table 2).

Table 2: Expenditure on health as % of GDP in Serbia, 2003–2008. year

Indicator	2003	2004	2005	2006	2007	2008
Total expenditure on health (THE) as % of GDP	8,7	8,6	9,0	9,3	9,9	9,8
General government expenditure on health (GGHE) as % of GDP	6,2	5,9	6,0	5,9	6,1	6,1
HIF expenditure on health as % of GDP	5,6	5,4	5,5	5,5	5,7	5,6
Private expenditure on health as % of GDP	2,5	2,7	3,0	3,4	3,8	3,7

Answer to question: **Who pays how much** could be seen on graph 10.

Graph 10. Financers of health sector



It is confirmed that predominant financing source within Public health sector in Serbia is Health Insurance Fund (HIF), whose participation in financing has inscreasing trend from 2003 to 2007, with slight decrease in 2008. Probable reason for this fund growt is establishment of better controle on the HIF revenues collection.

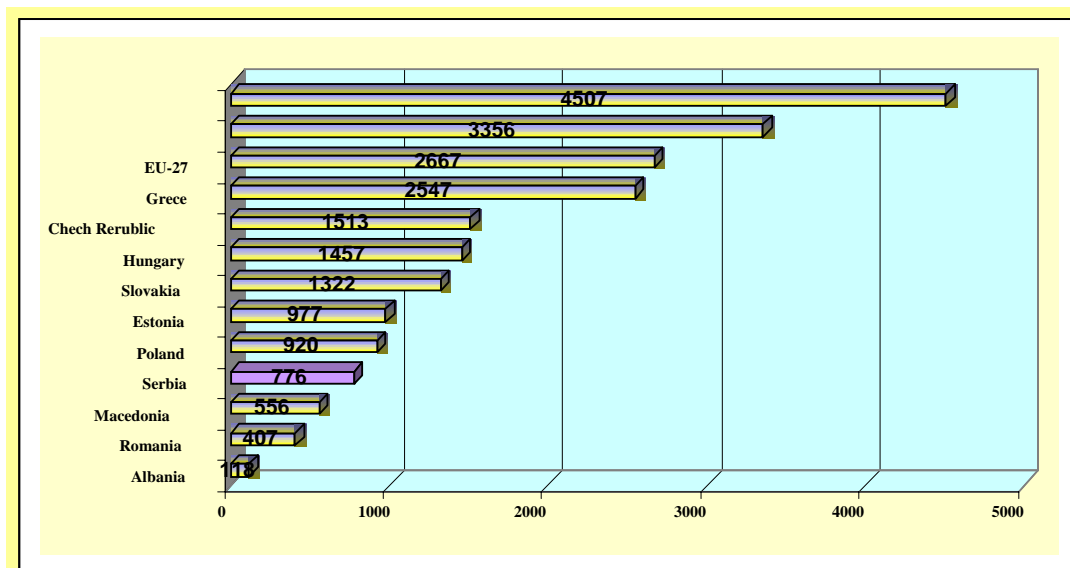
Table 3. – Share of financing within public financing

	2003	2004	2005	2006	2007	2008
Share of HIF %	87	91.5	92.7	93	93.9	92.8
Share of other public sources %	13	8.5	7.3	7	6.1	7.2

Total expenditures for health care, the resident observed, showing steady growth in the period 2003-2008. years to 2008th year reached 493 euros, or 664 U.S. dollars per capita. In that public expenditures for health care amounted to 308 in the observed year per capita, or 415 U.S.

Looking at spending on health care as a percentage of gross domestic product, Serbia is above the EU average (8.9% in 2007th years), or approximately at the level of Denmark (9.8%), Greece (9.6%) and Iceland (9.3%). It is also over the Czech Republic, Hungary, Italy, Poland, Slovakia and many other countries. However, in comparison with other European countries, the Republic of Serbia stands in the absolute amount of small funds for health care as a result of the relatively low level of gross domestic product of Serbia (Graph 11).

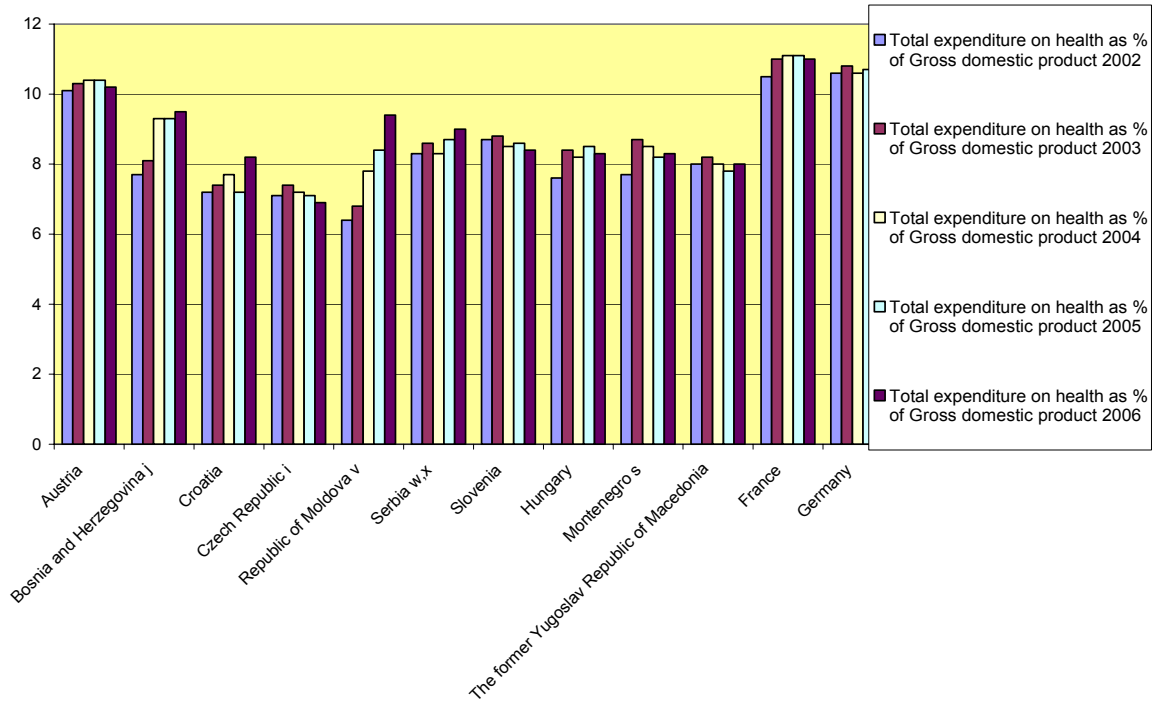
Graph 11. Total expenditures for health care dollars by purchasing power, per capita, Serbia and selected countries in Europe, 2006.



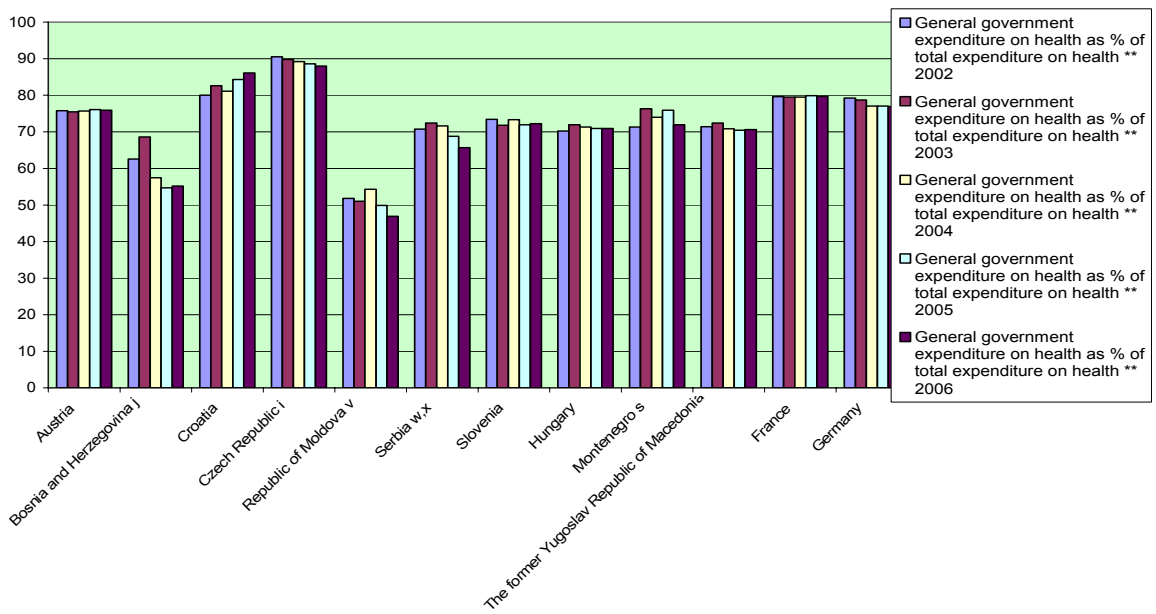
Data source: WHO / Europe, European HFA Database, <http://data.euro.who.int/hfad/>

The calculated indicators of health expenditures, presented as percentages of GDP, enabled comparison between the share of health care expenditure in GDP for Serbia with the selected European countries.

Graph 12. Total expenditure on health as % of gross domestic product 2002-2006¹⁷



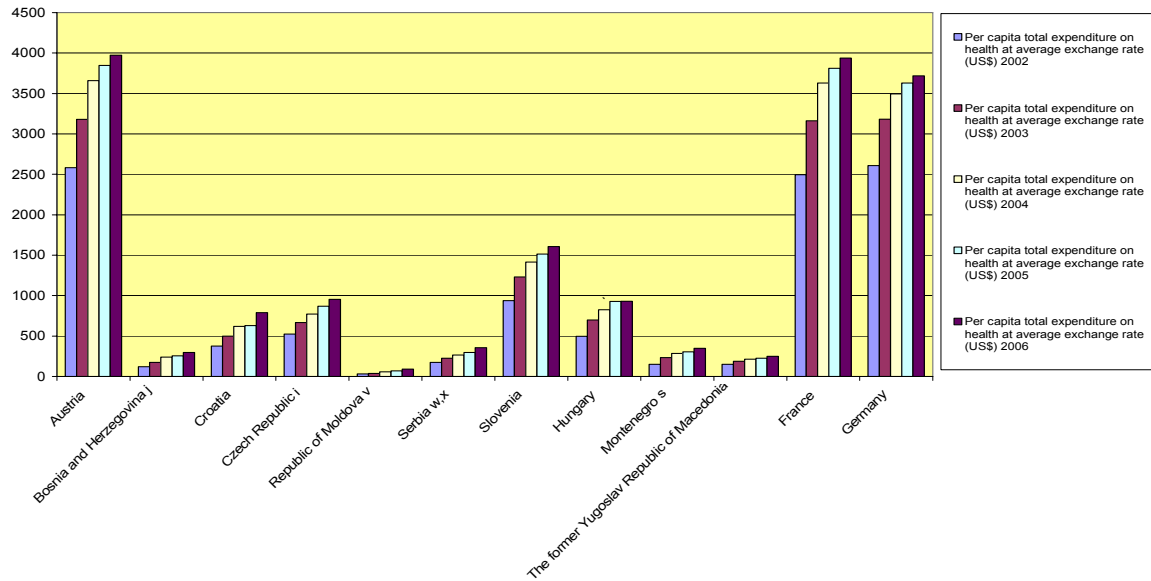
Graph 13. General government expenditure on health as % of THE 2002-2006¹⁷



¹⁷ Source: <http://www.who.int/nha/country/en/> dokument [NHA Ratios and Percapitalevels\(Excel\)](#)

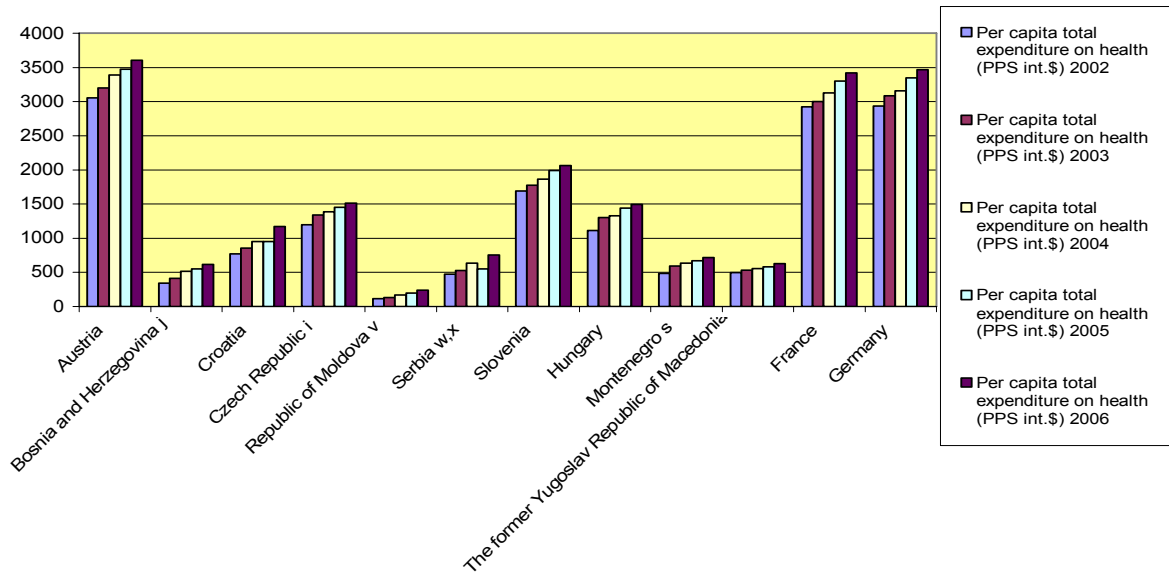
¹⁷ Source: <http://www.who.int/nha/country/en/> dokument [NHA Ratios and Percapitalevels\(Excel\)](#)

Graph 14. Total expenditure on health per capita at average exchange rate (US\$)2002-2006 Health spending pattern in Serbia with other countries¹⁸



Only Purchasing Power Parity provide us with data on real purchasing capability of some nation.

Graph 15. Total expenditure on health per capita *Purchasing Power Parity*¹⁹



¹⁸ Source: <http://www.who.int/nha/country/en/> dokument [NHA Ratios and Percapitalevels\(Excel\)](#)

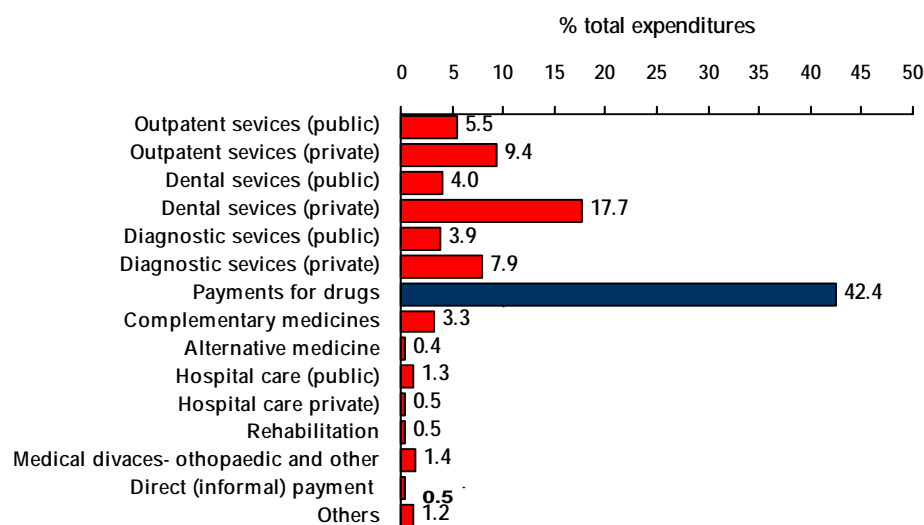
¹⁹ Source: <http://www.who.int/nha/en/>

Relation between private and public health providers, as well as relation between private and public health financiers are established with the Ministry of Health Survey in 2006 (table 4 and graph 16).

Table 4. Public/private mix of health care financing in Serbia as % of TCHE, 2006

		Health care providers			
		Private	Public	Total	
Financers of health services	Private sources	38,443,726 (23%)	12,201,704 (7,3%)	50,645,430	(30,3%)
	Public sources	18,386,130 (11%)	98,115,074(58,7%)	116,501,204	(69,7%)
	Total	56,829,856 (34%)	110,316,778 (66%)	167,146.634	(100%)

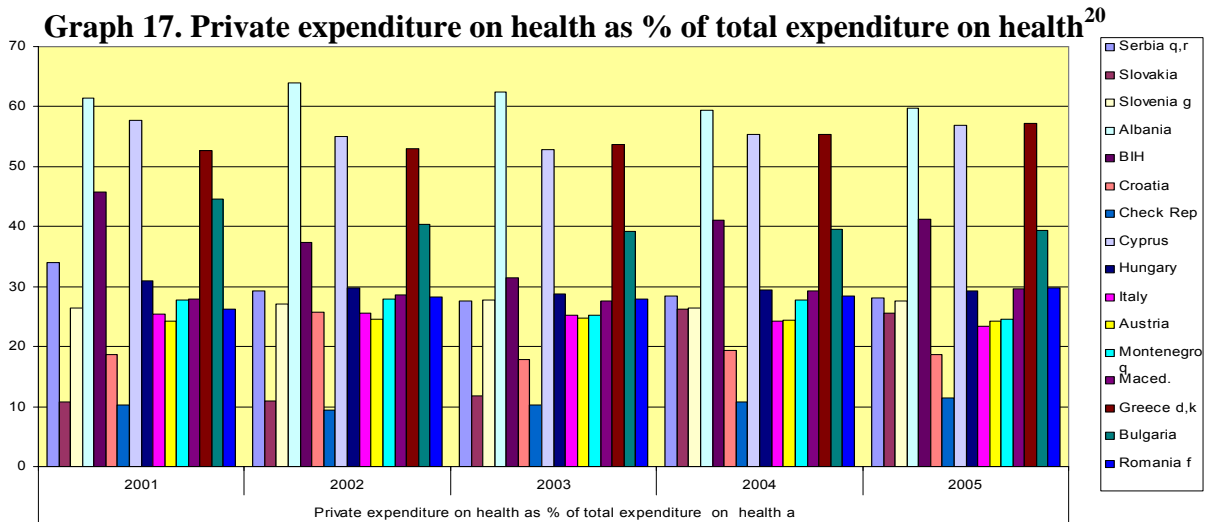
Graph 16. Structure of out-of-pocket payment



Republican Statistical Office survey on Shadow economy, from 2005, shows that citizens of Serbia are spending substantial amount of money for “under the table” payments to health workers. Results show that 90,8% of gifts in health care relate to public sector, and represent 9,3% of total out of pocket spending.

Blurred situation regarding private health providers and their activities, policy makers plan to overcome with implementation of the new “Fiscal bill policy”. From 1st of June 2009 all private providers are going to be obliged to provide patients with fiscal bill, which will make foundation for more transparency in private sector.

The following graph is showing comparison between the share of public and private financing in Serbia and countries from the region in 2006.



The next set of indicators is looking into distribution of resources as per different providers and services.

The largest share of the total health expenditures is being allocated to hospitals (HP.1), followed by allocations for retail sale and pharmacies (HP.4), while Ambulatory health care and other institutions providers of the outpatient health care take the third place (HP.3). The lowest share is directed for general health administration (HP.6) as shown in the Table 5 as a percentage of the GDP.

Table 5. Health providers financing in percentage of GDP (ICHA-HP)²¹

How much money goes to which provider?

Health providers measurement

Expenditure on health as % of GDP	2003	2004	2005	2006	2007	2008
Total	8,7	8,6	9,0	9,3	9,9	9,8
HP.1 Hospitals	4,65	4,26	4,26	4,16	4,32	4,35
HP.3 Providers of ambulatory health care	1,48	1,84	1,76	1,88	1,97	2,15
HP.4 Retail sale and other providers of medical goods	1,69	1,74	2,28	2,58	2,94	2,76
HP.5 Provision and administration of public health programs	0,25	0,22	0,21	0,22	0,22	0,16
HP.6 General health administration and insurance	0,34	0,22	0,19	0,16	0,21	0,14
HP.7 Other industries (rest of the economy)	0,29	0,31	0,30	0,30	0,24	0,23
HP.9 Rest of the world	0,00	0,01	0,00	0,00	0,00	0,01

²⁰ Source: <http://www.who.int/nha/en/>

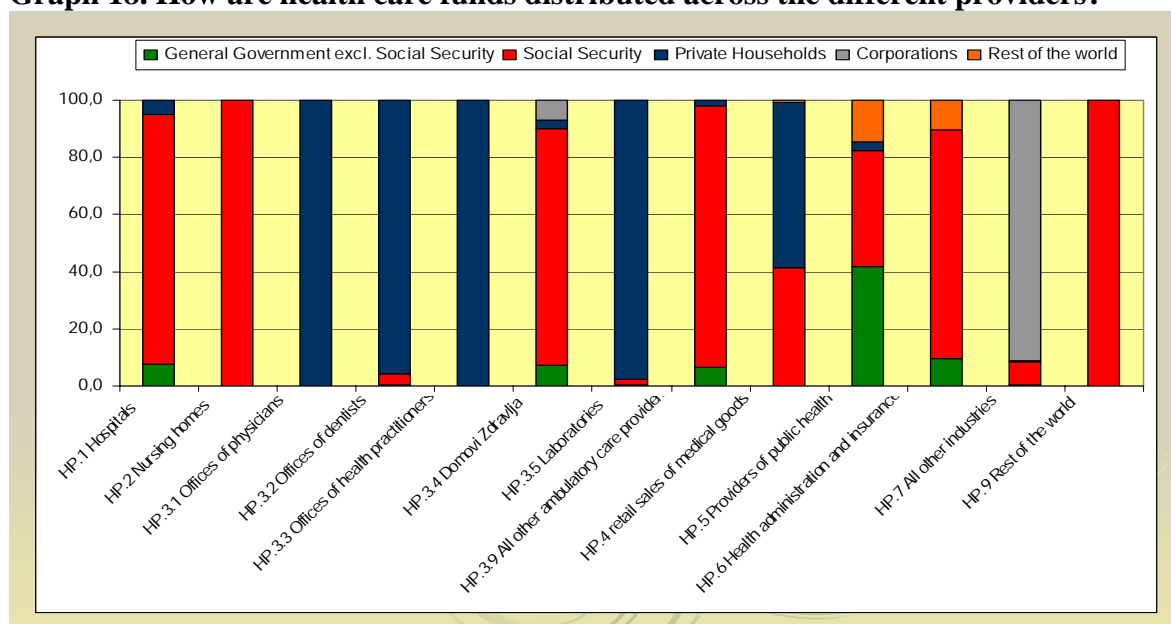
²¹ International classification of health accounts – classification of different providers

Allocations to hospitals have decreased in the observed period from 4,65% GDP in 2004 to 4,35% GDP-a in 2008.

The second, very positive trend is noticed in increased allocations for the primary and out-patient health services. The ratio of allocation to Dom zdravlja versus hospitals changed from 1:3, 25 in 2003 to 1:2.24 (for every dinar allocated to Dom zdravlja, hospitals receive 2.24 dinars).

The next graph is showing distribution of funds across different providers. The categories of Offices of physicians, Offices of dentists, Laboratories and Offices of Health Practitioners belongs to private providers and therefore such a high private household's contribution. It is obvious that all other providers are mostly financed by Social Security that is HIF.

Graph 18. How are health care funds distributed across the different providers?²²



Functions or types of services provided and activities within the health system, observed throughout the years covered with this survey are showing the highest share of allocations being directed to the curative care. The next highest amount is allocated for pharmacies and is reflecting global trends of increase in usage and costs of pharmaceuticals.

Next table is showing distribution of resources per different functions as percentages of the GDP

²² Gunter Bruckner (Mart 2006) NHA Final Report in Serbia

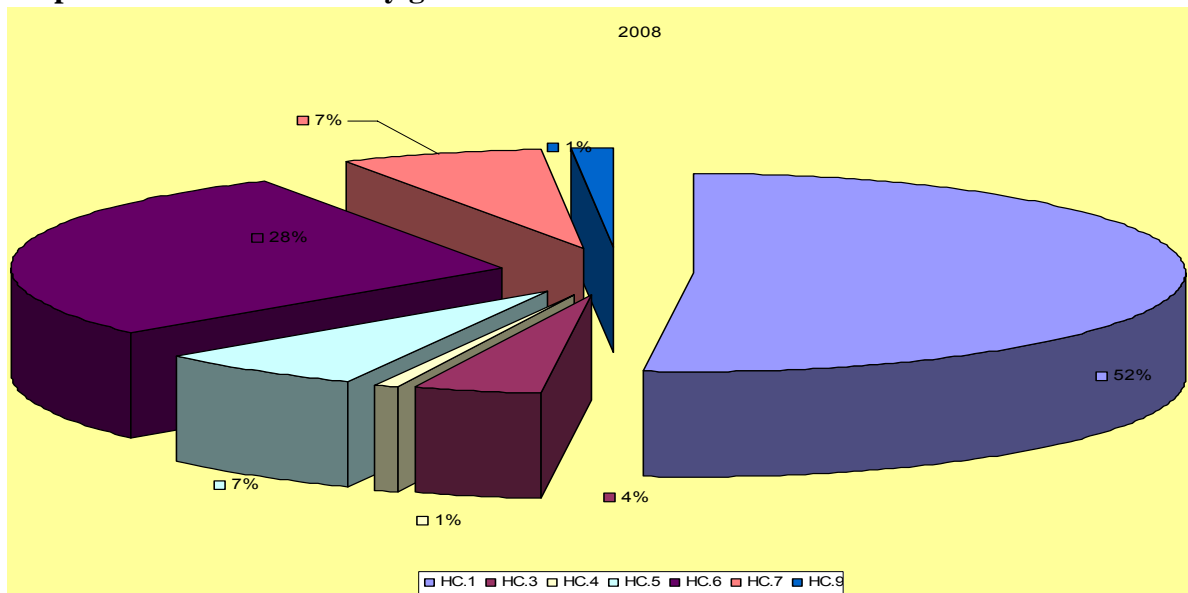
Table 6. Health care financing as percentage of GDP(ICHA-HC)²³

How much money goes for which services?

Function measurement

Expenditure on health as % of GDP	2003	2004	2005	2006	2007	2008
Total	8,7	8,6	9,0	9,3	9,9	9,8
HC.1	5,01	4.83	4.76	4,84	4,78	5,06
HC.2	0.31	0.37	0.41	0,29	0,45	0,42
HC.3	0.06	0.09	0.09	0,09	0,13	0,08
HC.4	0.42	0.53	0.59	0,54	0,69	0,68
HC.5	1.81	1.87	2,29	2,71	2,94	2,77
HC.6	0.76	0.74	0.72	0,73	0,75	0,66
HC.7	0.33	0.17	0.14	0,10	0,16	0,14

Graph 19. How much money goes to what services?

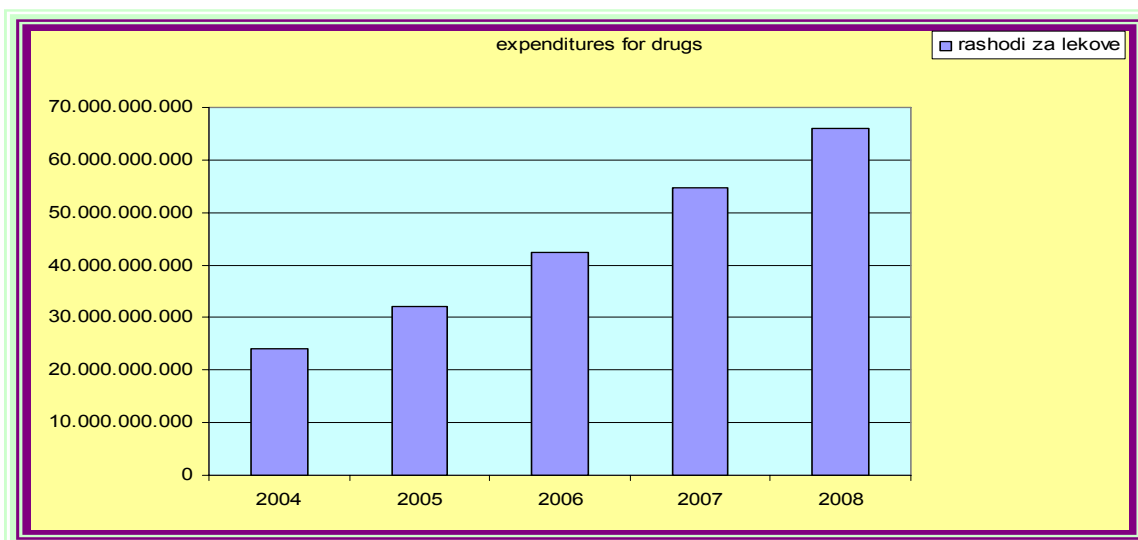


The general trend in relation to the health services has been that of rising expenditures on pharmaceuticals, marginal falling of expenditures on inpatient care and marginal increase of expenditures on outpatient care.²⁴ The similar trend can be observed in Serbia as well.

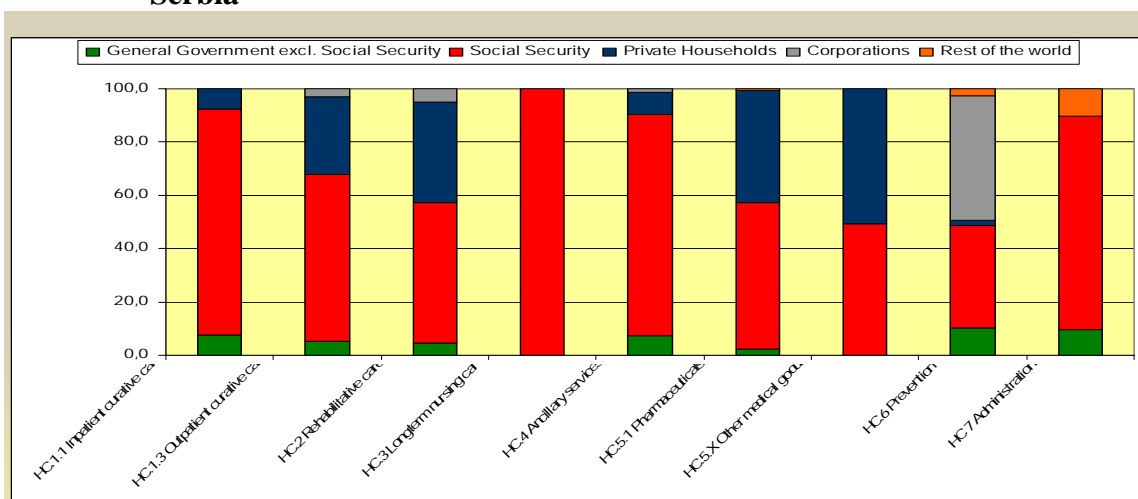
²³ International classification of health accounts – classification of health services

²⁴ “HEalth CARE SPending in New EU Member States”, Controlling COsts and Improving Quality , MUKesh Chawla, The World Bank Working Paper NO 113

Graph 20. Drugs spending from 2004 -2008 in Serbia²⁵



Graph 21. How are Health care funds distributed across the different services in Serbia²⁶



If we look into distribution of services cross referenced with the sources of funding, it can be observed that private households financed outpatient curative care with almost 1/3 of total finances of that category, while inpatient curative care has public sources as a dominant source of funding. Almost one half of resources needed for pharmaceuticals and other medical goods (glasses, hearing devices etc) are covered from private sources.

²⁵ Source: Drug Agency of Serbia

²⁶ Gunter Bruckner (Mart 2006) NHA Final Report in Serbia

VI Conclusions and recommendations

The results have confirmed the pattern of health spending in the Republic of Serbia in period 2004 to 2008 and identified health indicators that enabled comparison of health system in Serbia with health systems in other countries.

An analysis of a period from 2004 to 2008 revealed a similarity between Serbia and the countries of the European Union in regard to the level of average financial resources allocation for healthcare expressed as a percentage of GDP. A high purchasing power disparity, however, in healthcare services was observed between the population of Serbia and other European countries.

It was concluded that monitoring the financial flow in health at national level was necessary in getting the real picture of health sector and that it was thus crucial to continue with National Health Accounts' production on regular basis.

The positive changes are observed in decreased number of referrals from primary to secondary and tertiary levels of health care, indicating improvements in organization and referral protocols, as well as more finances allocation to providers of ambulatory health care, as it was strategically planned.