Disparities in Healthcare Financing: A Comparative Analysis of Croatia and Selected Central and Eastern European Countries

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The past few decades have been marked by a substantial increase in health spending in Central and Eastern European countries. At the same time, healthcare systems have experienced significant changes, as a consequence of economic and political transformation processes that these countries have undergone after the fall of communism. The aim of this paper was to briefly present current situation and trends in healthcare financing in Central and Eastern European countries. Our approach is based on an analysis of a number of healthcare expenditures indicators which are connected to healthcare spending patterns in each of these countries. Comparative research of these countries aims to demonstrate a degree of similarities or variations in the structure and finances in health systems. According to results, public involvement in health financing is still dominant in the majority of countries, but it has recorded a downward trend. On the other hand, private spending has been increasing mostly due to increase in out-of-pocket payments.

Keywords: healthcare expenditures, public health spending, out-of-pocket payments, CEE countries.

JEL classification: H51, I10, O52

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INTRODUCTION

Health economists and policy researchers in many countries of the world are becoming increasingly interested in health as a fundamental aspect of economic development. The health industry has grown in importance as a result of economic expansion, demographic shifts, and technological advancements. Thus, countries around the world have seen rises in health spending, indicating a desire for both economic growth and improved quality of life (Wang, 2011). In the period from 2000 and 2016, global spending on health grew at an average annual rate of 4.0%, faster than the 2.8% annual growth of the global economy (World Health Organization, 2018). To enhance coverage, countries from all regions and income levels are implementing health financing changes which requires a better understanding of expenditure trends.

As in other parts of the world, the level of expenditure on healthcare in Central and Eastern European countries has been increasing over time. At the same time, healthcare systems have experienced significant changes, as a consequence of economic and political transformation processes that these countries have undergone in the 1990s (Rechel & McKee, 2009). Central and Eastern European countries departed from the centrally planned socialist economy towards liberal democracy and market economy (Romaniuk & Szromek, 2016). During the communist era, there was universal access to a wide range of health services. With the collapse of the communist system, many countries attempted to rationalize publicly financed health services by imposing patient cost sharing or reducing the scope of fundamental benefits, as it proved difficult to maintain coverage (Kurpas, 2020). However, the outcomes of reforms were not as expected. Nowadays, public spending in these countries continues to be a dominant mode of health financing, relying mostly on funds from social health insurance. On the other hand, private financing is mostly based on out-of-pocket payments, which threatens equality of the healthcare system (Shakarishvili, 2006). Thirty years after communist countries fell apart, these countries are still battling to secure adequate public health resources and catch up with more developed European Union countries in terms of universal health care (Tambor et al., 2021).

The main objective of this study is to briefly present the current situation and trends in healthcare financing in Central and Eastern European countries. Comparative research of these countries aims to demonstrate a degree of similarities or variations in structure and finances in health systems. Our approach is based on an analysis of a number of healthcare expenditures indicators which are connected to healthcare spending patterns in each of these countries.

The study is structured as follows: after the introductory notes, the research methods and materials used in a study are described. The subsequent section includes research results followed by a discussion. The final section forms the conclusion.

METHODS AND MATERIALS

Our analysis uses annual data for eleven Central and Eastern European countries (Bulgaria, Croatia, Czechia, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovakia and Slovenia) covering the period between 2000 and 2019. The data was collected from the World Health Organization (National Health Accounts, NHA) to ensure reliability and consistency.

This study's approach was based on a thorough examination and evaluation of

a number of data variables connected to health-care spending patterns in each country. Thus, a desk research method has been applied. Although the extent to which health costs can influence health system efficiency is still contested, indicators connected to health expenditure reflect the performance of health systems. The main indicator chosen in order to provide a thorough examination of healthcare financing is *total health expenditure* as % of GDP which offers an indication of the proportion of resources allocated to health versus other uses. It demonstrates the importance of the health sector in the overall economy and the societal priority accorded to health in monetary terms. This indicator is evaluated together with *total health expenditure per capita* (expressed in 2018 purchasing power parity dollars), as the average health expenditure per person which helps to comprehend health spending in relation to population size, making international comparisons easier.

Furthermore, total health spending was broken into shares of public and private expenditures. Public spending, indicating the priority of the government to spend on health from own domestic public resources, consists of government revenues collected from taxation (expressed as % of THE) and social health insurance, with employment-based marked contributions (expressed as % of THE). Private spending indicates how much is funded domestically by the private sector which can be either prepaid to voluntary health insurance or paid directly to healthcare providers in form of out-of-pocket payments.

Table 1 summarizes the collected data and describes the features of the data used in the study. The mean, maximum, minimum and standard deviation (SD) estimations were performed in the descriptive analysis.

Table 1
Descriptive statistics

Variable	Obs	Mean	SD	Min	Max
THE (% GDP)	220	6.55	0.97	4.21	8.74
THE per capita	220	1445.4	664.13	246.1	3629
Public spending (% THE)	220	72.5	9.36	48.73	89.9
Private spending (%THE)	220	26.28	9.57	10	51.27
Government revenues (% THE)	220	13.82	15.1	1.64	63.49
Social health insurance (% THE)	220	58.94	21.38	0	84.04
Out-of-pocket payments (% THE)	220	24.13	10.16	8.83	48.9
Voluntary health insurance (% THE)	220	2.51	4.14	0	14.99

Source: Authors' calculation.

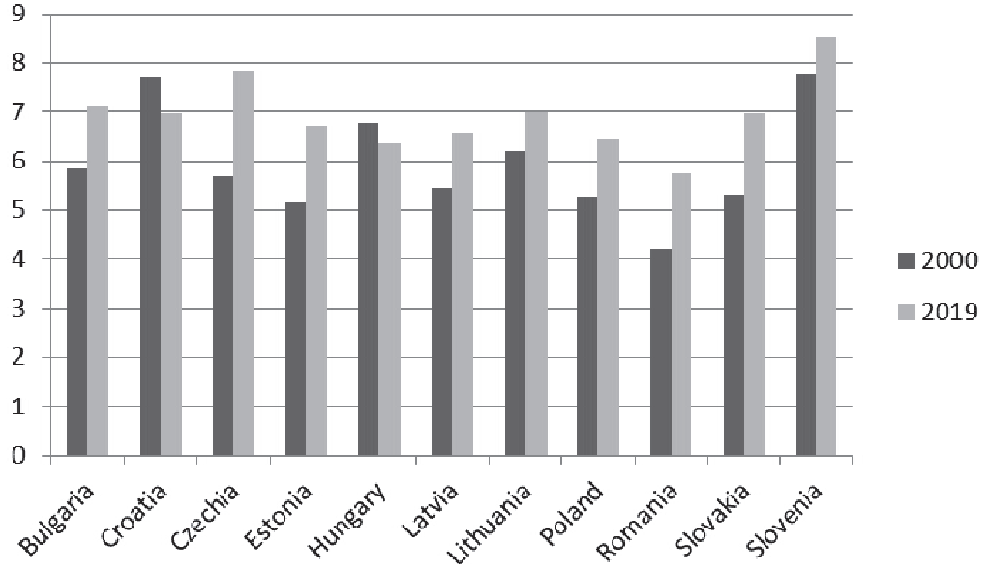
The descriptive statistics revealed significant disparities between the indicators' values as well as their volatility (measured by the standard deviation).

RESULTS

In the early twenty-first century, healthcare spending in Central and Eastern European countries has been gradually increasing. Figure 1 illustrates the large diversity in health spending patterns that persist in the CEE region. In relation to GDP, average healthcare expenditures have risen from 5.9% in 2000 to 6.9% in 2019. The gain is noteworthy, especially when compared to certain countries' low starting points (for example in Romania there was an increase from 4.2 to 5.2% of

GDP). Slovenia had the highest average amount of health expenses over the study period, with an average of 8.2%. Romania, on the other hand, had the lowest proportion, with an average of 5.1% of GDP. In the period 2000-2019, CEE nations saw an increase in health spending, with the exception of Croatia and Hungary, which recorded a fall in health spending (- 0.74 and -0.43%, respectively), even though this was from a rather high level. In the majority of CEE countries, the highest rise in the indicator's value occurred during the 2008 economic crisis, which can be connected to a decline in GDP (Tambor et al., 2021). Despite the fact that healthcare spending increased in absolute terms in all CEE nations between 2000 and 2019, they still spent much less on healthcare than other EU members (9,9%) (OECD/European Union, 2020).

Figure 1
Total health spending (THE) in CEE countries, share of GDP



Source: WHO Global Health Expenditure Database.

Health expenditure in relation to GDP and health expenditures per capita should be evaluated together for a better understanding of the underlying dynamics. Data on health expenditures per capita are presented in Table 2. Health expenditure per capita in all countries, with the exception of Slovenia, was less than $1,000 in 2000. At the end of the studied period, CEE countries saw significant gains, with the highest level of healthcare spending per capita recorded in Slovenia in the amount of 3,629 $. Interestingly, according to Eurostat data, Romania and Baltic Member States have recorded the largest expansions in healthcare expenditure per capita between 2012 and 2019 within the entire European Union.

Table 2
Health expenditure per capita in CEE countries, 2000-2019

Total health expenditure per capita, $ PPP			
Country	*2000*	*2010*	*2019*
Bulgaria	373.6	1 058.3	1 797.5
Croatia	811.4	1 599.9	2 167.8
Czechia	923.9	1 920.7	3 477.0
Estonia	485.2	1 366.2	2 616.8
Hungary	802.9	1 618.4	2 155.9
Latvia	434.4	1 068.8	2 098.4
Lithuania	521.9	1 351.1	2 796.8
Poland	564.5	1 352.9	2 206.5
Romania	246.1	977.3	1 906.5
Slovakia	602.4	1 949.3	2 267.1
Slovenia	1 406.3	2 387.1	3 629.0

Source: WHO Global Health Expenditure Database

Table 3
Public and private spending on health in CEE countries, share of THE

Country	Public spending		Private spending	
	2000	2019	2000	2019
Bulgaria	59.62	60.6	40.38	38.4
Croatia	86.14	81.9	13.86	17.9
Czechia	89.80	81.8	10.2	14.3
Estonia	76.97	74.5	20.36	24.3
Hungary	69.65	68.3	27.96	29.9
Latvia	50.75	60.8	49.25	39.2
Lithuania	68.51	66.4	27.26	33.5
Poland	68.88	71.8	31.33	26.6
Romania	80.58	80.4	19.42	19.3
Slovakia	89.16	79.8	10.84	19.2
Slovenia	72.93	72.8	26.31	25.9

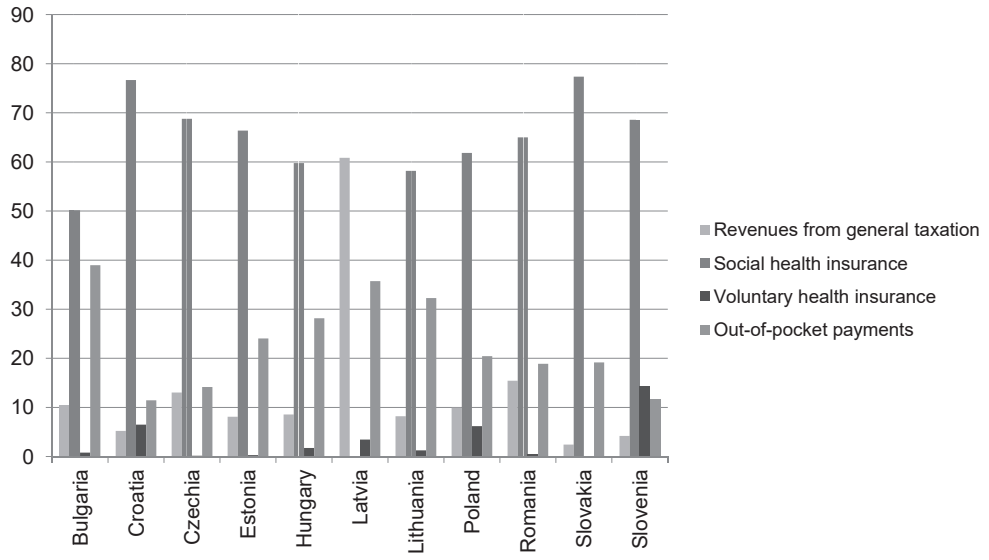
Source: WHO Global Health Expenditure Database

The data on the share of public and private spending in total health expenditure revealed significant differences between observed countries. As can be seen from Table 3, in the majority of CEE countries public spending continues to be a dominant mode of health financing even though there is increasing trend for private spending. The share of public spending in total health expenditure in 2019 has been highest in Croatia, Czechia and Slovakia (80% on average). At the same time, these countries have recorded the highest decrease in the share of public spending compared to the beginning of the analysed period, when these values were close to 90%. On the other hand, health care system funding by government was lowest in Bulgaria and Latvia, with the share of 60% in 2019. However, it is interesting to note that, while the majority of countries experienced a decrease in public spending, Latvia recorded an increase of almost 10%.

As shown in Figure 2, in financing structure, public funding distinguishes between government schemes and social health insurance, while on the private funding side sources are split into voluntary health insurance and out-of-pocket payments (Cacace, 2021). Social health insurance represents the major financial pillar (Wielechowski & Grzęda, 2020) of health care systems in CEE countries, with the average value of 65% of THE in 2019. The highest levels were recorded in Croatia and Slovakia, reaching the amount of 76% and 77% in 2019, respectively. When we observe the whole 2000-2019 period, there is a decreasing trend in financing health from social health insurance, with the exception of Bulgaria which increased the share of social health insurance in THE. Among CEE countries, Czechia and Croatia have experienced the greatest reduction in social health insurance funding. Still, Latvia is the only country in this group which switched entirely to general taxation as a source of public funding in the early 1990s (Cacace, 2021). On the other hand, revenues from general taxation have been slightly increased from 2000 to

2019. In 2019, government schemes have funded on average 13% of total health expenditure in CEE countries, which is significantly lower than EU average (28,2% of THE) (OECD/European Union, 2020).

Figure 2
Financing structure in CEE countries, share of THE



Source: WHO Global Health Expenditure Database.

Turning to private funding, the greatest share of this source consists of out-of pocket expenditures (Rancic et al., 2015). Most of these countries recorded a growth in the value of this indicator, even though initial levels were relatively high. On average, 23% of THE was in the form of out-of pocket payments in CEE countries in 2019, which is higher than household payments in EU, whose share averaged 15.4%. The greatest shares were recorded in Bulgaria (39%) and Latvia (35%), while Croatia and Slovenia had the lowest levels, reaching 11% of THE. Voluntary payment schemes constituted the most minor portion of health-care finance in 2019, accounting for more than 5% only in Croatia, Poland, and Slovenia (6.5%, 6.2% and 14.3%, respectively).

DISCUSSION

Central and Eastern European countries are sharing similar social and economic heritage, as well as a common experience of socio-economic transition (Konatar et al., 2021), which has reflected in the health systems. Since the early 1990s, the health care sectors in CEE have been in a state of more or less permanent change (Mihaljek, 2008). During the communism era, two types of health-care systems were observed in this region. Baltic states, together with Bulgaria, Czechia, Hungary, Poland, Romania and Slovakia, used the Semashko model in which funds for healthcare were provided by the government, thus citizens had free and equal access to health services (Preker et al., 2002). On the other hand, Slovenia and

Croatia, former Yugoslavian countries, had mixed social insurance/taxation-based systems. Initial reforms transformed systems which were inherited from socialism and tried to establish a sustainable method of financing (Cacace, 2021) During the early stages of the transition, all of these countries witnessed an extraordinary drop in economic productivity, reducing governments' ability to spend on health and leading to the increase of both legal and informal health-care charges (Stansulescu & Neculau, 2014). By the beginning of XXI century, CEE countries turned to various modes of the Bismarck model which is based on compulsory social security contributions by employers and employees. The main objective was to apply the same system as EU founder states in order to bring spending levels to international norms, as well as to limit politicians' incentives to divert funds away from healthcare systems (Cerami, 2006).

In the period from 2000 to 2019, CEE countries indicated similar rising paths in the shares of GDP devoted to healthcare. Czechia and Slovenia stood out as countries with the highest health spending in this group of countries. Public involvement in health financing is still dominant in the majority of countries, but it has recorded a downward trend. The reason for this trend is a decline in the share of social health insurance in health spending. The key reason for the decrease in funds from this source is that contributions are paid by employees, i.e. only those who are formally employed, while the gray economy is significantly widespread and does not enter the basis for calculating contributions. Also, unemployment in these countries is very high, which also erodes the base for contributions (Cacace, 2021). Countries facing a decline in funds from social health insurance have tried to compensate it with an increase in revenues from taxes, but without much success as public spending generally declined, and proved not to be sufficient to improve financing structure (Tambor et al., 2021). Interestingly, there is an example of Latvia whose public spending system is entirely based on general taxes.

On the other hand, private spending has been increasing mostly due to an increase in out-of-pocket payments, resulting in significant inequalities in access and contributing to increased poverty. This source of spending has increased from already high levels, reaching almost 40% in Bulgaria in 2019. Households mostly contribute to financing medical products, dental care and medicines (Tambor, 2021). However, due to the pronounced problem of informal payments in CEE countries (Wielechowski and Grzeda, 2020), there is a high probability that private spending is even higher than presented in official data. Finally, voluntary health insurance is still marginalized in this group of countries. Still, in Slovenia citizens are relying on this source of funding, thus leaving them without need to pay out-of-pocket (Tambor, 2021).

Generally, CEE countries are spending less on healthcare compared to EU average. However, healthcare spending continues to rise, driven not only by the aging of the population but also by rising public expectations for healthcare accessibility and quality (Rancic et al., 2015). Health outcomes measured by life expectancy and mortality rates have significantly improved, but these countries are still lagging behind developed Western European countries (for example, life expectancy in CEE countries has increased by 9 years in the last 60 years, while in Western Europe it has increased by 12 years in the same period; mortality rates in CEE are also twice as those of Western European countries).

Despite the convergence of health systems, there are still differences in financ-

ing health among CEE countries, which determine the success of health system. According to Euro Health Consumer Index, which analyses national healthcare on 46 indicators (areas such as Patient Rights and Information, Access to Care, Treatment Outcomes, Range and Reach of Services, Prevention and use of Pharmaceuticals), the most efficient system in CEE region is the one in Czechia, followed by Estonia, Slovakia, Slovenia and Croatia, while the least efficient system is the one in Romania.

In the end, a special focus is put on Croatian health system. In comparison to Western Europe, the Croatian government spends a small percentage of GDP on health, and per capita spending is also low (Džakula et al., 2014). Public spending on health is higher than the EU average, while on the other hand private funds are much lower (OECD/European Union, 2020). Croatia is the country with the highest share of social health insurance funds in health expenditure among CEE countries. Thus, future increase in healthcare spending should be based on voluntary health insurance instead of public funds (Šimović et al., 2021)

CONCLUSION

Health care systems in CEE countries have experienced structural changes over the last three decades, with health spending steadily growing. Still, despite their progress and relatively similar starting points (Nemec et al., 2013), these countries are lagging behind their counterparts in Western Europe, with significant differences among individual countries.

In this study we used a variety of health expenditure indicators and statistics to determine similarities and differences, as well as to compare trends in these indicators. Results of the study showed that public spending is the main source of health funding, with social health insurance as the major financial pillar. On the other hand, out-of-pocket payments constitute the major part of private funds, even higher than the EU average. Higher proportion of spending out-of-pocket payments suggests that shifting a portion of health-insurance activities from social health-insurance funds to voluntary health insurance should be a key component of health-care financing reforms in these countries (Mihaljek, 2008). However, use of private budgets to cover medical expenses is a well-known feature of CEE health systems, which is implemented in healthcare policies.

Covid-19 crisis should remind us of the importance of investing in health care sector. Increased and more efficient healthcare spending is anticipated to improve health outcomes, resulting in an increased economic productivity and corresponding tax income, while also saving money on healthcare in the long run. Additionally, in a crisis it is of crucial importance to protect the most vulnerable population groups, with the final aim of achieving equality and accessibility (Kaštelan et al., 2020)

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Sažetak

NEJEDNAKOSTI U FINANCIRANJU ZDRAVSTVENE ZAŠTITE: KOMPARATIVNA ANALIZA HRVATSKE I ODABRANIH ZEMALJA SREDIŠNJE I ISTOČNE EUROPE

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Posljednjih nekoliko desetljeća obilježeno je znatnim porastom izdataka za zdravstvo u zemljama Središnje i Istočne Europe. Istovremeno, sustavi zdravstvene skrbi iskusili su značajne promjene uslijed procesa gospodarske i političke transformacije koje su te zemlje prošle nakon pada komunizma. Cilj je ovoga rada ukratko prikazati trenutnu situaciju i trendove u financiranju zdravstvene skrbi u zemljama Središnje i Istočne Europe. Naš se pristup temelji na analizi niza pokazatelja izdataka za zdravstvenu skrb koji su povezani s uzorcima za izdatke za zdravstvenu skrb u svakoj od tih zemalja. Komparativno istraživanje tih zemalja nastoji ukazati na stupanj sličnosti ili varijacija u strukturi i financijama sustava zdravstvene skrbi. Prema rezultatima, javno financiranje zdravstva još je uvijek dominantno u većini zemalja, ali bilježi trend opadanja. S druge strane, privatno trošenje se povećava uglavnom zbog povećanja neposrednih plaćanja.

Ključne riječi: izdaci za zdravstvenu skrb, javni rashodi za zdravstvo, neposredna plaćanja, zemlje Središnje i Istočne Europe.