

INSTITUTIONAL REFORM – A NECESSARY CONDITION FOR HEALTH SYSTEM REFORM IN CROATIA

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ABSTRACT

Even before the COVID-19 virus pandemic, the health system of the Republic of Croatia was subject to frequent questions about the effectiveness of its financing, ie the level of health insurance contribution rates that have a direct negative impact on the competitiveness of the national economy and the scope, quality and quantity of health services which are often perceived in a negative context. There are several main reasons why the health care system needs to be thoroughly reformed: fast and intense development of new health services, the possibility of new pandemics such as the current COVID-19 pandemic, life expectancy causing rising costs and very negative demographic trends in Croatia. The current way of financing the health system is less and less efficient, and the new circumstances related to the COVID-19 pandemic further indicate its sensitivity, so it is necessary to reform its financing to achieve two main goals: efficient financing and avoiding further distortions of the economy. The authors conclude that this can be achieved by changing the tax structure in a way that relieves income and shifts the emphasis to consumption taxation

Keywords: *institutional reform, health system, tax structure, demographic trends, COVID-19 pandemic*

1. RELEVANT HEALTH CARE FEATURES

The importance of the health care system of modern states is twofold: it should serve to preserve health and increase the quality of life, but at the same time it is one of the most important users of public finances. The health care system is essentially a system of protection against the financial risks associated with maintaining health and treatment. Intensive globalization processes which lead to significant structural economic changes and affect economic growth (Radulovic, Kostic, 2020), present dynamic challenges for the health systems. This is presented through overall budgetary pressures both to increase health spending through increased demand determined by forces of income convergence and redistribution (Radosavljević et al., 2020), as well as to reduce overall government spending due to tax saturation of the economy (Hodžić et al., 2020). The first health insurance systems such as the German *krankenkassen* were established as part of national programs to eliminate or at least reduce the risks of complete impoverishment among the working class due to illness, disability and unemployment (Hsiao and Li, 2003). Due to its importance for the health and quality of life of the entire population, today health systems around the world are characterized by an extremely high degree of state regulation, despite the increasing changes introduced into this system by market and private initiatives. Regulation is reflected in the comprehensive organization of the health care system and in the supervision of its functioning.

One of the most widely used composite indicators of a country's health system's effectiveness is life expectancy at birth. Although it is influenced by numerous external factors such as lifestyle, environment, natural disasters, it contains the effects of current health policy and the effects of previous health policies. Another important indicator is life expectancy in health, and it was developed to investigate whether life expectancy is accompanied by a longer period of life in good or poor health (EHLEIS, 2016). While life expectancy at birth is influenced by these external factors over which the health system has no influence, life expectancy in health provides a better view of the effectiveness of the health system. Life expectancy at birth and healthy life expectancy at birth for OECD countries and for Croatia are shown in Chart 1.

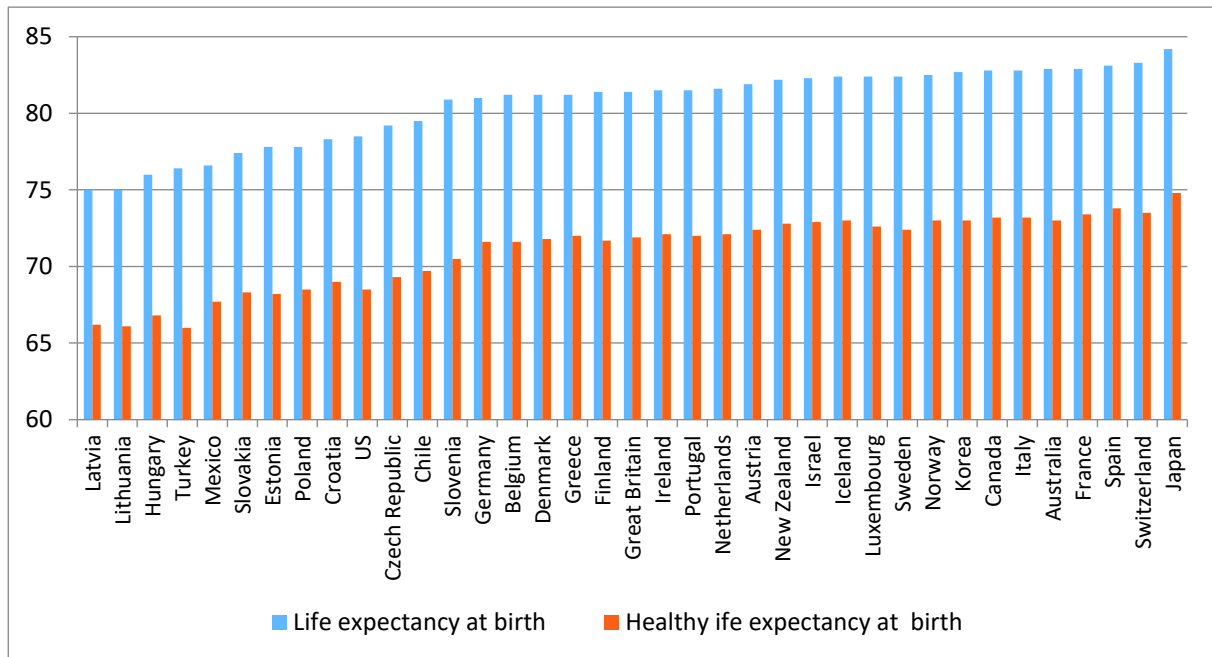


Chart 1: Life expectancy and healthy life expectancy at birth in OECD countries and in Croatia in 2016
(Source: WHO, 2018)

It can be observed that life expectancy as well as life expectancy in health does not depend on the geographical location of the country. Namely, several European countries are at the top almost equally, together with the countries of the Far East and Oceania.

2. HEALTH CARE CONSUMPTION

Increased consumption of health systems in recent decades has led to an increase in life expectancy and healthy living although results and current consumption do not always correlate. For example, in Spain and Italy, high life expectancy is accompanied by health spending below the average of the observed countries, while the US with very high consumption has below-average life expectancy and below-average healthy life expectancy. The United States is on a par with Croatia and the Czech Republic, where health care costs far less per capita. This is partly the result of external factors, such as lifestyle and habits, but also the fact that in the US, health care is largely based on market principles, which through market mechanisms leads to increased sales of health services. Although health systems differ from one country to another, in almost all developed countries a certain level of health care is available to all residents, and in most countries most health care spending is financed from public budgets. It can be said that one of the main goals of the health system is to provide equal access to health services to all under equal conditions.

Assuming that poor people are more likely to be ill due to lower levels of education, lifestyle, lifestyle habits, poor nutrition and the like, and that everyone is provided with the same quality and quantity of services, the health system as such should reduce inequality. However, in reality this may not be the case in all countries because there are differences in the consumption of health services related to income levels in such a way that they are somehow less accessible to those with the lowest income (Darvas et al, 2018). This inequality can increase the effects of income inequality due to consequently less time spent at work and lower earnings. Furthermore, it has been shown that the health conditions of parents leave consequences on the cognitive and physical development of their children, thus exacerbating the consequences of the poorer health of the poor. Oglobin (2011) finds that health system inefficiencies are negatively associated with growth and increase income inequality. Research has shown that improving an individual's health leads to an increase in his or her productivity, education, and savings (Bloom and Canning, 2008; Kalemly-Ozcan et al, 2000).

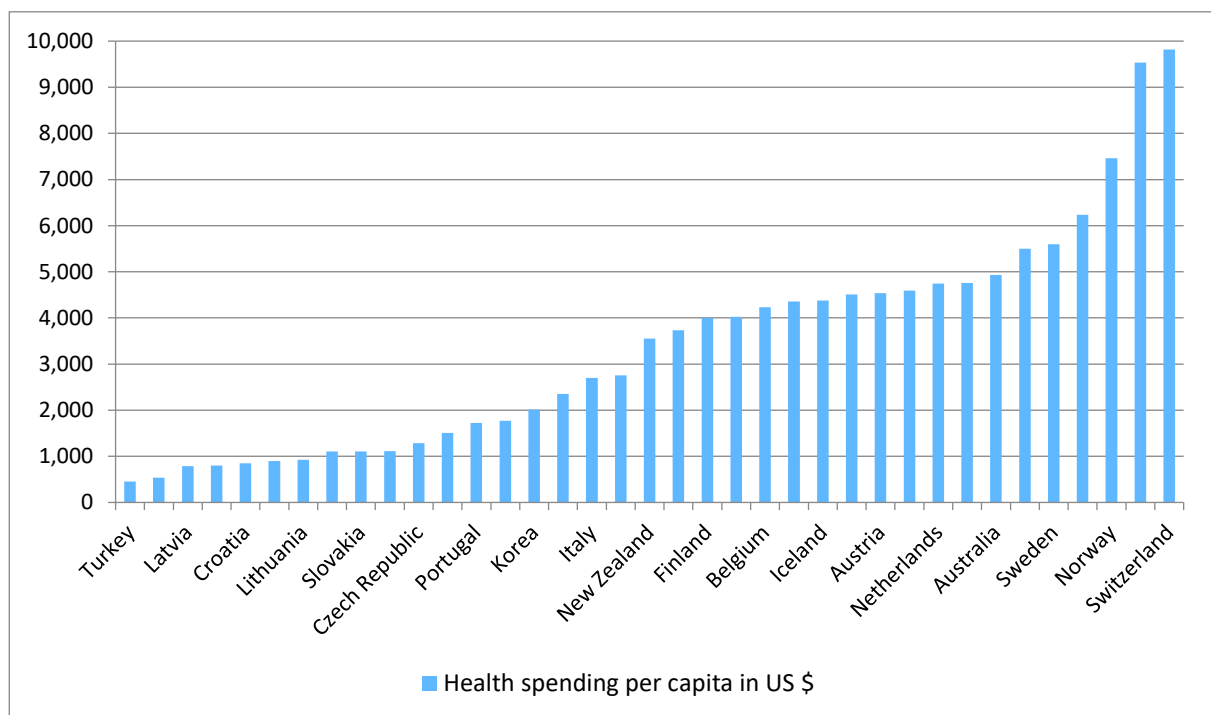


Chart 2: Health spending in OECD countries and in Croatia per capita in 2015
(Source: WHO, 2018)

Among the many studies that conclude that the impact of the health system has a large and significant impact on economic growth are the works of Baldacci et al (2008), which, looking at 118 developing countries between 1971 and 2000, found that investing in education and the health system resulted in increased human capital accumulation and ultimately to higher growth rates; Salla-i-Martin et al (2004) who link health to long-term growth and Bloom et al (2004) who find that health as one of the fundamental factors of human capital has a positive, measurable and statistically significant effect on aggregate growth. On the other hand, there are authors who find that this effect is weak and insignificant (Acemoglu and Johnson, 2007; Acemoglu et al., 2003). They find that an increase in life expectancy or life expectancy as one of the most commonly used indicators of the effectiveness of the health system cannot be linked to an increase in growth rates. In doing so, however, they allow health to make an indirect contribution to growth through its impact on the institutional development of society. Health spending significantly affects the stability and sustainability of public finances.

In developed economies, health systems are financed in three basic ways (Mihaljek, 2014; Gottret and Schieber, 2006):

- 1) Financing mainly from the state budget
- 2) Financing mainly from extra-budgetary funds or social security funds
- 3) Predominantly private financing

Financing from the state budget, ie the Beveridge model, implies that most of the funds are collected from various non-earmarked tax and non-tax revenues, while in the Bismarck model, ie in financing from budget funds, funds are collected through earmarked contributions. A very important difference between these two approaches is not only in the organizational aspect of funding, but in the economic effects of fundraising. Namely, with the financing of contributions, there is a direct debiting of employees' salaries and an increase in labor costs for the employer, which has implications for consumption, competitiveness and economic growth (Buterin et al, 2018). Health economics is a scientific discipline that emerged in the second half of the twentieth century in the United States. Arrow (1963) was the first to give a systematic overview of the specifics of the health services market, which are still largely valid today. The specificity of demand and its main distinguishing feature from the demand for other goods is reflected in its instability and unpredictability. The demand for health services arises in the case of illness, ie in a condition that is significantly different from the normal and normal condition in which a person is otherwise. Such a condition leads to incapacity for work and then to loss or reduction of income opportunities. It can be said that the disease combines health risk, cost in terms of loss of earning capacity and cost in terms of the cost of health services required for treatment. While in underdeveloped countries health services are somewhat considered a luxury good and the demand for them is very elastic, in developed countries the elasticity is lower because the level of health care achieved there is considered standard (Przywara, 2010; Fogel 1999). In both developed and underdeveloped countries, there is a specific type of corruption and fraud in health care that increases the costs of the entire system. Bribery in the provision of medical services, corruption in procurement, unacceptable marketing relationships, embezzlement of drugs and medical devices, and excessive demands for refunds are the most common forms of corruption and fraud in health care (Medeiros and Schwierz, 2015).

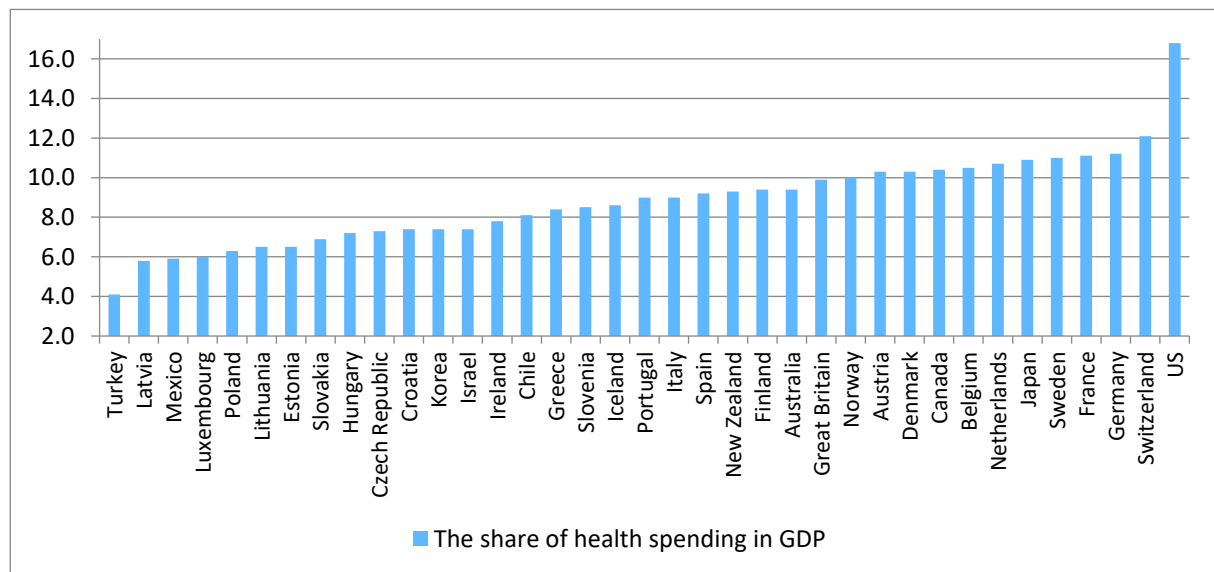


Chart 3: The share of health spending in the GDP of OECD countries and Croatia in 2015
(Source: WHO, 2018)

Chart 3 shows the share of health spending in gross domestic products of the observed countries. In almost all cases, the share of health care in GDP is higher than six percent, and in most cases it is higher than eight percent. The US is the exception with by far the largest share. A characteristic of almost all health care systems is their increasing consumption, in relative terms as a share of GDP and in absolute terms measured by per capita consumption or total consumption. Expenditures for health systems are not only among the largest items of public spending, but are also among the fastest growing. It can be expected that in the coming decades the pressure for higher health spending will continue due to unfavorable demographic trends, so the problem for public finances of the state will be even greater. For example, Maisonnueve and Martins (2013) believe that by 2060, the share of health spending in the gross domestic product of OECD countries will double. Health spending is growing in the long run because with the overall growth and development, the population's demand for health services is growing. Often the growth of health spending is greater than the growth of the whole economy (WHO, 2015; WHO, 2018). According to a study conducted by Dunn et al (2018), an increase in the incidence of disease treatment participates with about 60 percent in the increase in health care costs, and an increase in the cost of services caused by the introduction of modern technology by just over 20 percent. Both categories are directly related to economic growth and development. Healthcare costs are also increased by wage growth which is not the result of an increase in healthcare productivity but an increase in the productivity of the entire economy and is called the *Baumol effect*. Due to this effect, the relative prices of health services are rising (Pomp and Vujić, 2008). Health consumption can be expressed by the linear equation of consumption as a function of income (Senterre and Neun, 2013):

$$E = a + bY \quad (1)$$

Where a is the amount of health expenditure when the income is equal to zero, b is a measure of the change in health expenditure resulting from the unit change in income Y , ie:

$$b = \Delta E / \Delta Y. \quad (2)$$

According to this equation, consumption increases with increasing income, and that a higher level of income derives a higher level of health spending is agreed by many researchers who study health care from an economic point of view, ie from the point of view of its fiscal sustainability (Okunade and Murthy, 2002; Murthy and Upkolo, 1994; Hitiris and Posnet, 1992).

Precisely because of fiscal sustainability, changes in the health system are needed in terms of increasing revenues while reducing expenditures (Gupta et al, 2012). Increasing the life expectancy of people, ie the overall aging of the population increases the demand for health services and leads to an increase in total costs. The likelihood of getting the disease increases with age, and according to data from the United States, a group of people over the age of 65 spends on average six times more health services than a group under the age of 65. At the same time, this increase in costs is particularly pronounced among people over the age of 85 (Hsiao, 2000). But the aging of the population also causes a very big problem on the revenue side of the system no matter how funds are raised to finance it. However, it should be borne in mind that frequent changes imply an uncertain institutional environment which can have negative implications for growth (Buterin et al, 2017; Olgic Draženović et al, 2018). To assess the risk to the sustainability of public finances over the next few decades, most countries face the need to project future health spending and other components of the social security system.

3. HEALTH CARE SYSTEM IN CROATIA

The first examples of public health care in Croatia were recorded hundreds of years ago. In Zadar, in 559, during the Byzantine rule, the oldest xenodochium was opened - a hospital for sick foreigners (Skitarelić et al, 2016). The pharmacy of Mala braća in Dubrovnik, which was founded in 1317 and has been operating continuously for more than 700 years, is considered to be the first public pharmacy in the world (Nosić, 2017). The internationally accepted term *quarantine* (from the French *quarantaine* - about forty days) was conceived and first introduced in the world in Dubrovnik in 1377, as a measure of prevention against infectious diseases (Lang and Borovečki, 2001). The beginnings of a systematic approach to health care in Croatia can be seen in the time of the Austro-Hungarian monarchy. The first Rijeka hospital, which still operates today, was founded in 1572 (Medved, 2013). The first law regulating health care in Croatia was passed in 1874 (HZJZ, 2019). Here it is worth mentioning Andrija Štampar who was one of the pioneers in preventive medicine in Croatia and the world and one of the founders of the World Health Organization and the first president of its general assembly. His beliefs that every human being has the right to health and his approach are thought to have greatly influenced the creation of the World Health Organization (Zile Hyde, 1958; Brown and Fee, 2006). His definition of health as a state of complete physical, mental and social well-being, and not just the absence of illness or disability, is still accepted and written in the preamble of the founding act of the World Health Organization (WHO, 2014).

3.1. Health care system reforms

Following the adoption of the Workers' Insurance Act of 1922, the Central Office for Workers' Insurance was established in Zagreb as the holder of health insurance in Croatia. Although the said law began to be implemented only in 1937, it is believed that its establishment began the provision of comprehensive organized health insurance in Croatia (HZZO, 2019). After the end of the Second World War, compulsory health insurance, which covered the majority of the population, was organized within the institutions in charge of social insurance. By 1979, about 85 percent of the Croatian population had health insurance (Zrinščak, 2008). The system gradually became highly decentralized and highly politicized, which greatly limited its effectiveness (Turek, 1999). According to research by the World Health Organization (WHO, 1999), the Croatian health care system at the time was a unique combination of self-government, health insurance funds, a neglected primary care network, and health care organizations that were only formally independent of politics. This system was expensive and poorly organized, its efficiency was low, so the need for its restructuring arose. In 1990, the Republic Fund for Health Insurance and Health of Croatia was established, the functioning of which in the first years was largely limited by the current bad situation and significant financial debts, transition shocks and the war. The system soon found itself in so much trouble that its functioning came into question, so in 1993 the first of a number of health care reforms was implemented. Characteristic of all previous reforms of the system are attempts to collect higher revenues and better cost management, but all of them have mostly resulted in short-term successes with renewed growth of debts and losses in health care. In the period from 1994 to 2017, 14 health system rehabilitations were carried out in Croatia (Vončina and Rubil, 2018). Covering health losses increases the expenditure side of the budget, and as the health system continues to regularly accumulate losses and unpaid arrears, a radical multi-level system reform is needed. The first level is to achieve satisfactory efficiency by reorganizing health care institutions and health care segments. The second level, closely related to the first, relates to better expenditure management. The third level refers to the revenue side of the health system because the existing method of financing does not allow its smooth functioning.

3.2. Financial characteristics of the health care system in Croatia

Prolonging life expectancy leads to a growing contingent of older people. Consumption of health services by the elderly is above average. Observing the total health expenditure in Croatia, its continuous growth can be noticed. Despite all attempts to limit the growth of health care costs, control and rationalize them, and discourage users from participating in the price of the service, the costs of the health care system have almost doubled in less than two decades. From 2000, when they amounted to HRK 13.3 billion, until 2018 they increased by 82 percent and amount to HRK 24.2 billion, and public health expenditures in the period from 2015 to 2017 accounted for about 17 percent of expenditures state budget. Due to the fact that after several years of recession, the gross domestic product grew faster than the growth of costs in public health, their share decreased from 6.7 in 2015 to 6.4 percent in 2017 (HZZO 2019a; DZS 2018). In public health spending, the largest expenditures were realized in hospital health care, dispensing of prescription drugs and in primary health care, and their movement is shown in Chart 4.

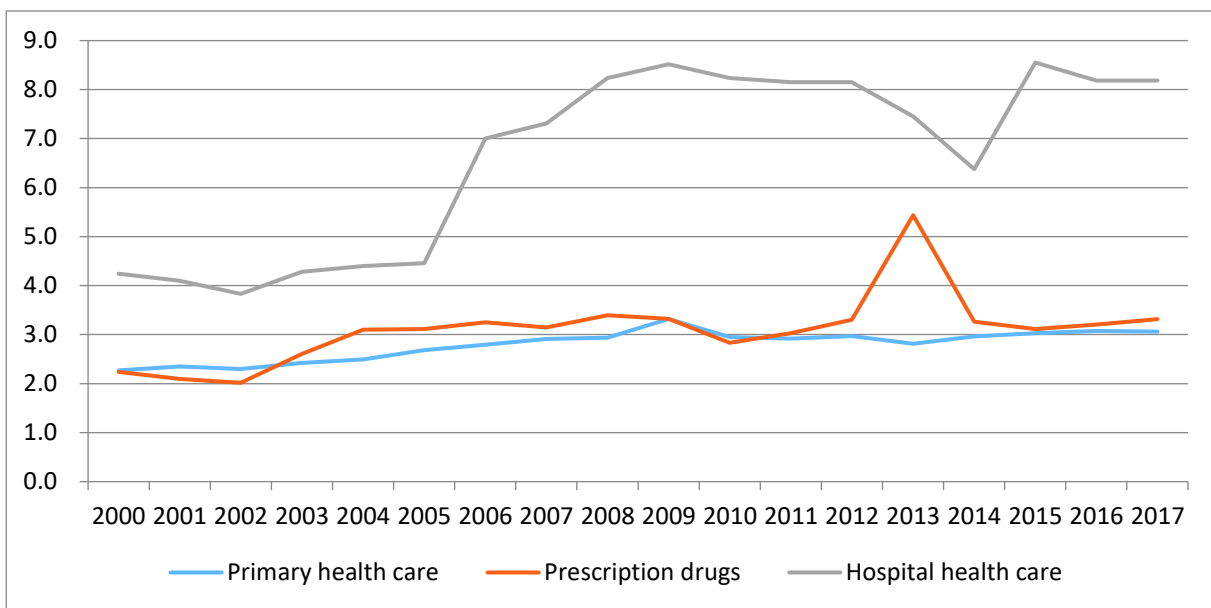
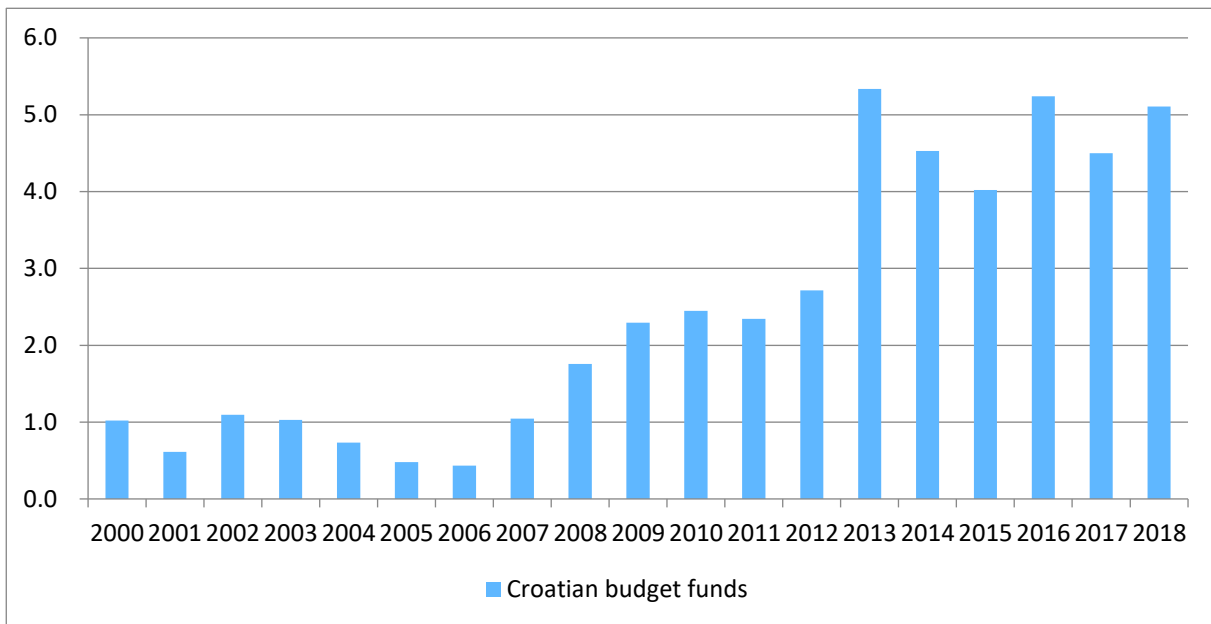


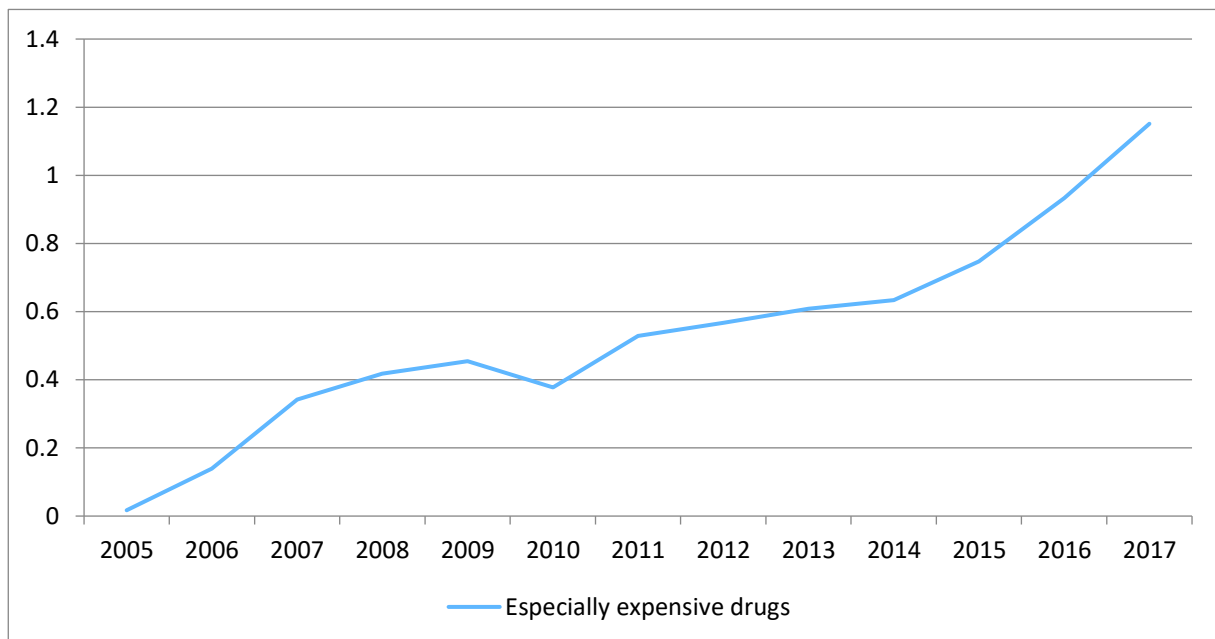
Chart 4: The most important segments of health spending in Croatia, in billions of kunas (Source: HZZO, 2019a)

Although primary health care consumption is growing, its share in total health care costs is still below 15 percent, which shows that this segment of health care still cannot solve the majority of health problems. Despite the reforms and measures taken so far, no success has been achieved in curbing hospital spending, so they have become the main generator of rising health care costs in general. The demographic structure of the Croatian population indicates that health spending will be even higher in the coming decades, while the number of active insured persons, ie those who actually pay contributions, will be lower and consequently the importance of budget financing of health care will increase. In the same period in which total health care costs rose 82 percent, the budget share in those costs increased fivefold. Although this includes the costs of rehabilitation of the health system, which do not have a permanent character, the increase in health spending is constant, while the increase in income from health contributions is insufficient to cover it. It is quite certain that in the years to come the growth of health spending will be even greater, partly due to the development of medicine and the application of new and more expensive methods of treatment, and partly due to the natural needs of an increasing number of mature and elderly residents. The possibility of new challenges such as the COVID-19 pandemic should also be taken into account.



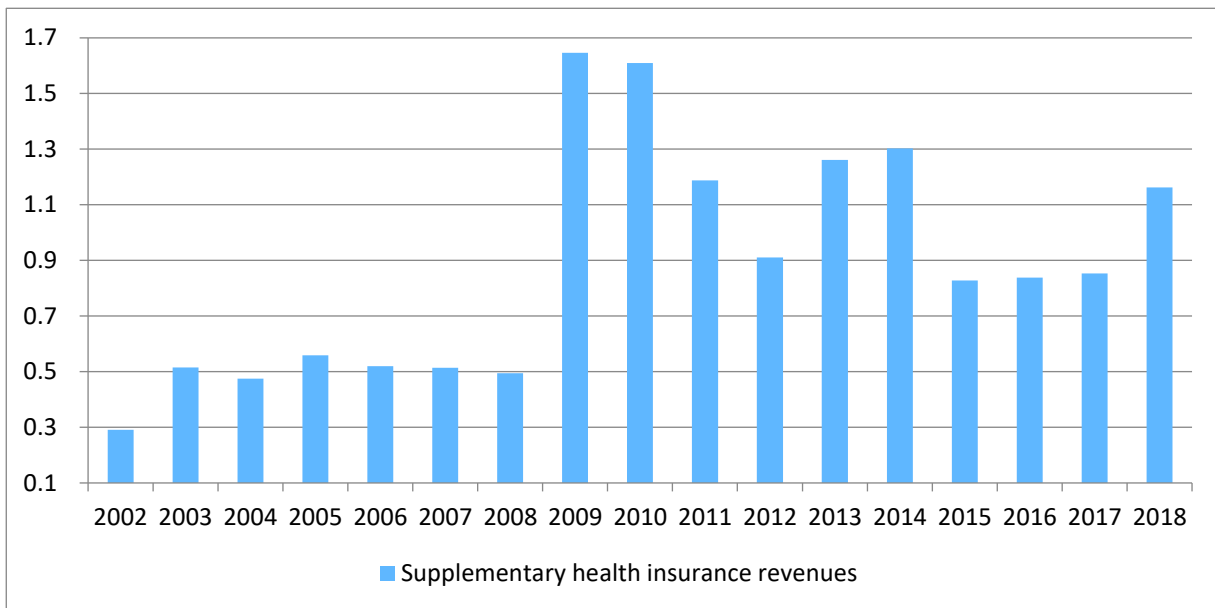
*Chart 5: Budget funds in public health spending, in billions of kunas
(Source: HZZO, 2019a)*

Already on the consumption of particularly expensive drugs in Croatia, shown in Chart 6, one can see the increase in costs caused by the development of science and modern methods of treatment.



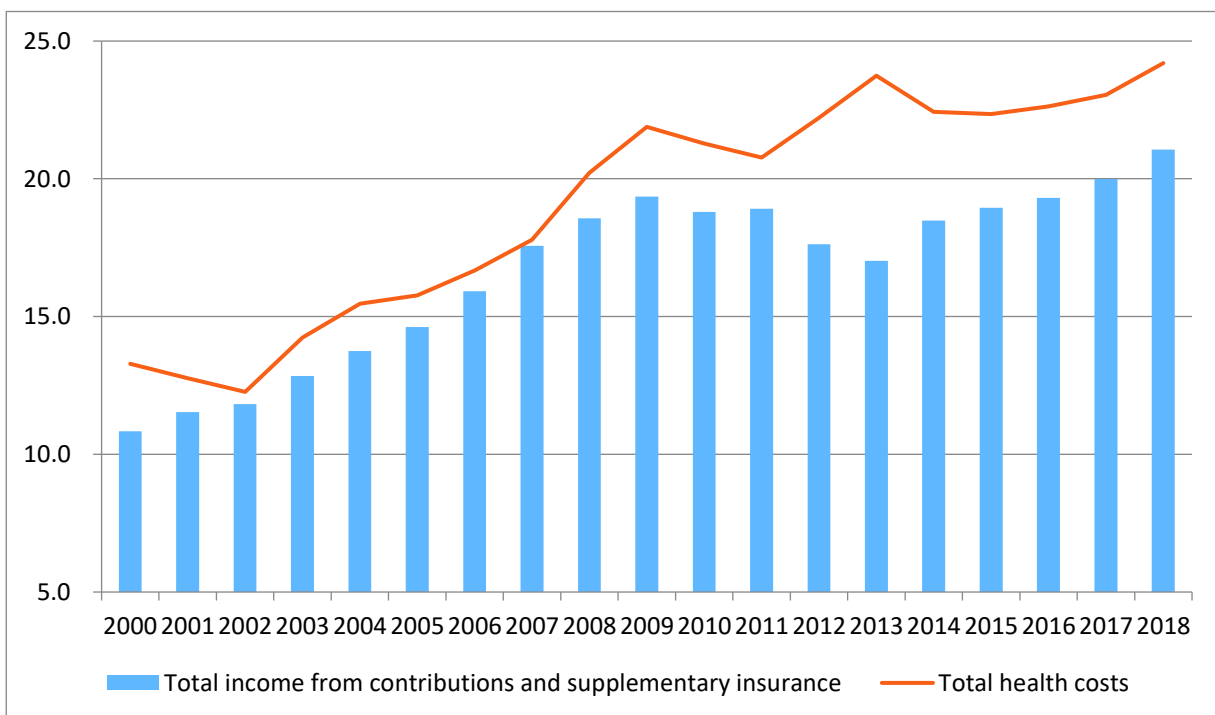
*Chart 6: Consumption for particularly expensive drugs in Croatia, in billions of kunas
(Source: HZZO, 2019a)*

Consumption of particularly expensive drugs is growing because the Croatian Health Insurance Institute every year adds new, extremely expensive drugs to the current list of drugs used in the treatment of malignant or rare diseases, which give better results in treatment than those used so far (HZZO, 2019a).



*Chart 7: Revenue from supplementary health insurance, in billions of kunas
(Source: HZZO, 2019a)*

The observed increase in supplementary insurance revenues in 2009 was the result of an almost fourfold increase in the number of insured persons due to the 2008 reform, when the share of health care costs increased and the number of categories exempted from health care obligations decreased. However, even with these revenues, the Croatian Health Insurance Institute cannot function without additional budget funds. The ratio of total contribution income and total supplementary insurance premium on the one hand and health care costs on the other is shown in Chart 8.



*Chart 8: Overview of health care costs and income from supplementary insurance premiums and contributions, in billions of kunas
(Source: HZZO, 2019a)*

Healthcare costs are constantly higher than the total contributions and premiums, so the difference is currently covered from the budget. Since 2014, the negative difference is between 3.1 and 3.9 billion kuna, but the real problem for the future functioning of the system lies in the fact that it is realistic to expect an increase in this gap as costs tend to grow while opportunities to further raise rates contributions are very limited.

Year	Salary contributions	Income contributions		Total
		Health insurance contribution	Contribution to safety at work	
1994	7.50	7.50		15.00
1995	7.00	7.00		14.00
1998	9.00	9.00		18.00
2000	9.00	7.00		16.00
2002	9.00	7.00	0.47	16.47
2003		15.00	0.50	15.50
2012		13.00	0.50	13.50
2014		15.00	0.50	15.50
2019		16.50	0.00	16.50

*Table 1: Changes in the rates of compulsory health contributions
(Source: Računovodstvo, revizija i financije, 2019)*

Since 2019, the rate of compulsory health insurance contributions has increased from 15.0 to 16.5 percent, but this increase went relatively unnoticed because two other contributions were abolished at the same time, so the total burden on wages remained lower by 0.7 percent. However, this has exhausted such painless possibilities of obtaining additional income for health care, because apart from health and pension benefits, there are no more contributions for the abolition and compensation of the rate increase. The origin of the financial problems of the Croatian health care system lies in the unfavorable demographic structure and unfavorable demographic trends, and to this can now be added the unpredictable risks of new pandemics, such as the pandemic of the COVID-19 virus.

4. CONCLUSION

It could be said that the revenue segment of the future health care reform essentially does not fall into the domain of decision-making in the health care system because it brings with it far-reaching effects on the entire Croatian economy, and not only on health care. Achieving long-term financial sustainability of the health care system without compromising the stability of public finances and without jeopardizing the competitiveness of the economy is an important problem of Croatian economic policy, the solution of which should be carefully and systematically addressed. Increasing contribution rates, expanding co-payments and increasing the scope of services and the percentage of out-of-pocket payments have a negative effect on the competitiveness of the economy and on household consumption, and have only short-term effects. If we take into account the demographic tendencies of the Croatian population that indicate the near end of the sustainability of financing the health system through contributions, or in the way it has been done for decades, it is clear that such measures would not ensure long-term sustainability.

Here it is necessary to make the biggest step forward and change the concept of health care financing in such a way that it is sustainable in the long run, that the system is efficient and that health care financing is not a limiting factor in the competitiveness of the economy. Institutional change proves to be a necessity of reforming the financing and functioning of the health insurance system of the Republic of Croatia. Changes in the taxation system, ie structural changes in tax policy is one of the most complex tasks of the overall economic policy, whose long-term and far-reaching implications can be reflected in many economic and social areas, and this needs to be approached with particular caution. It is necessary to ensure the long-term sustainability of the system by changing the tax structure, ie by relaxing direct taxes and obligatory contributions while placing greater emphasis on indirect taxes. Through institutional change, it is possible to achieve the sustainability of the health insurance system while encouraging the competitiveness of the Croatian economy.

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