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THE COVID PANDEMIC AND THE ECONOMIC MIGRATION OF DOCTORS THE CASE OF THE REPUBLIC CROATIA

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ABSTRACT

Human capital is the primary driver of change in the modern knowledge society. The migration of healthcare workers is a "brain drain" of highly qualified individuals. Healthcare workers are currently among the most sought-after and mobile occupations in the EU. The global trend of open borders and free movement of goods, people and capital is an important determinant of growth and development, which developed countries have already recognized at the expense of less developed ones. The aim of this paper is to highlight the importance of the volume of migration, which is not insignificant, and the long-term consequences are negative for society and the economy. There are numerous reasons for economically motivated migration, and there are three main groups of problems that need to be solved urgently in order to stop further emigration. The departure was primarily motivated by problems caused by general social and political circumstances, as well as dissatisfaction with the general state and socio-political climate in the country. Reasons for dissatisfaction are low wages and living standards, dissatisfaction with the organization and management of the state, hopelessness and deterioration of regions, cities, society and people, corruption and crime, religious intolerance and nationalism in the absence of positive changes in the state. An increasing number of young people are leaving their homelands in search of a "better life", and without them the progress of the country is impossible. What is worrying is the youthful pessimism that already prevails in the attitudes of young people towards issues of political and economic progress and social development. Croatia is currently one of the three EU countries with the largest number of emigrating healthcare workers. In its Report for Croatia for 2018, the European Commission stated that spending on healthcare in Croatia is stagnating, while spending across the EU is growing [2]. Healthcare expenditures in Croatia were among the lowest in the European Union; they amounted to only 760 euros per inhabitant in 2015 and are lower only in Romania, Latvia and Bulgaria. Furthermore, total healthcare spending in Croatia has remained stable since 2011, and the vast majority of EU member states have been spending more on healthcare in recent years, which is usually attributed to increasing costs for technological advances in medicine and an aging population. Healthcare is still underfunded and over-indebted. Since regular sources of financing are not sufficient to cover all costs, the system accumulates outstanding debts that are eventually settled with one-time transfers from the state budget. The scientific contribution of this work is to point out the shortcomings in the system and offer possible solutions.

Keywords: Covid pandemic, migration of doctors, human potential, health of the nation

INTRODUCTION

Human capital is the primary driver of change in the modern knowledge society. The migration of healthcare professionals is a “brain drain” of highly qualified individuals. Healthcare workers are currently among the most sought-after and mobile professions in the EU. The global trend toward open borders and free movement of goods, people and capital is an important determinant of growth and development, which developed countries have already recognized to the detriment of less developed ones. According to data from the UN Department of Economic and Social Affairs for 2019, of the 272 million international migrants worldwide, two-thirds are migrant workers (IOM, 2020)[12]. The same trend affected Croatia. The volume of migration is not insignificant, and the consequences are negative for society and the economy in the long run. There are many reasons for economically motivated migrations, and there are three main groups of problems that need to be addressed urgently in order to stop further emigration. The departure is primarily motivated by problems caused by general social and political circumstances, as well as dissatisfaction with the general situation and socio-political climate in the country. The reasons for dissatisfaction are low pay and living standard, discontent with how the state is organized and managed, hopelessness and decline of regions, cities, society and people, corruption and crime, religious intolerance and nationalism in the absence of positive changes in the state. A growing number of young people are leaving their home countries in search of a “better life,” and the country’s progress is impossible without them. What is concerning is youthful pessimism, which is already prevalent in young people’s attitudes toward issues of political and economic progress and social development. Croatia is currently one of the three EU countries with the highest number of healthcare workers emigrating (Gruber, Sarajlić et al., 2020)[11]. In its 2018 Report for Croatia, the European Commission stated that health care spending in Croatia was stagnant, while spending across the EU was increasing. Health care expenditures in Croatia were among the lowest in the European Union; they amounted to only EUR 760 per capita in 2015 and were lower only in Romania, Latvia and Bulgaria. Furthermore, total health care expenditures in Croatia have remained stable since 2011, with the vast majority of EU member states spending more and more on health in recent years, which is usually attributed to rising costs for technological advances in medicine and an aging population. Healthcare continues to be under-resourced and over-indebted. Because the regular sources of funding are insufficient to cover all costs, the system accumulates outstanding debts, which are eventually settled by one-time transfers from the state budget. The National Hospital Development Plan 2017-2020 was adopted in September 2018.

MEDICAL PRACTICE AT THE TIME OF THE PANDEMIC

In times of crisis, the importance of a well-functioning healthcare system will reflect in the nation’s health. A World Health Organization study found that in more than half of the 155 countries surveyed during the lockdown, treatment was partially or completely disrupted, and rehabilitation and preventive examinations were made difficult in nearly two-thirds of countries (Jureško, 2020)[13]. Much of the wealth flows from poor countries to richer ones, not the other way around. Until now, Croatia has “gifted” an entire state budget to Germany through its workforce (Jurić, 2020)[14]. A paradox could occur in the statistics if the percentage of newly discovered diseases in 2020 is lower than

expected. A nation's health is a fundamental premise, and those who care for it are the pillars of society. The European Commission is preparing a new document named "EU for Health" for 2021-2027, which anticipates a significant strengthening of capacity to support member states and a significantly larger health budget of around €9.4 billion. The budget for the period 2014-2020 was set at €450 million. The EU set aside €100 million to purchase rapid antigen tests and distribute them to member states. An agreement with the International Federation of Red Cross and Red Crescent Societies (IFRC) was also signed, and €35.5 million was allocated to support staff training in sampling, analysis and testing (EU4Health program, 2020)[4]. The EU supports member states through the EU Civil Protection Mechanism, which includes coordinating the deployment of medical teams in the most affected areas, facilitating the procurement of protective medical equipment, activating the Emergency Coordination Center and creating a new joint reserve of emergency medical equipment (respirators, masks, laboratory supplies, etc.) (Europsko vijeće, 2020)[3]. According to the European Commission's 2019 report for Croatia, health-care spending in Croatia is stagnant, while spending across the EU is increasing. Croatia's total health expenditure has remained stable since 2011, despite the fact that most EU member states continue to increase their spending. Expenditures for medicines and other medical products prescribed to outpatients are lower than the EU average, accounting for 25% versus 19% of total healthcare spending. Hospital care accounts for 25% of total expenditures, which is 5% less than the EU average, despite the fact that the number of hospital beds per capita is higher (Europska komisija, 2018)[2]. Outstanding liabilities for goods and services increased by more than 15% in 2019, and the trend continued in 2020, as well as an increase in healthcare salaries in the same year. The total debt of hospitals almost doubled in just three years from HRK 2.2 billion to HRK 4.24 billion. On February 28, 2021, hospitals alone owed HRK 4.24 billion to wholesalers, and the debt to pharmacies amounted to HRK 1.73 billion. Almost every day, a new hospital is added to the list of hospitals with limited deliveries because it fails to meet its obligations on a regular basis (HUP, 2021)[9].

Non-infectious chronic diseases kill 41 million people a year, accounting for 71% of all deaths. Chronic non-infectious diseases account for more than 80% of all diseases in Europe, including Croatia (Kralj, Brkić Biloš et al, 2015)[15]. Economic analysts emphasize the major issue of labor shortage, which is already felt in the economy but also in health care, as a result of emigration and an education system that does not take market demands into account. Globally, there has been a shortage of doctors and nurses (WHO, 2006)[26]. The lack of health care delivery at the national level is reflected at the global level. The guidelines of the World Health Organization in the EU are to maintain a sufficient number of its medical staff and to reduce the recruitment of foreign doctors. During the pandemic, there are fewer physically present patients in clinics, but a lot of education and consultations are done online. An online communication system will increase the availability of information and, as a result, may contribute to a reduction in potential migrations. Online medicine is a new era filled with high hopes and potential. In Croatia, *e-zdravstvo* is a project aimed at improving the healthcare system. *E-recepti* project has been a success, with 80 percent of prescriptions for medications issued electronically. Similarly, electronic health records, or *e-uputnice*, are being developed (Europska komisija, 2020).

MEDICAL PRACTICE AND MIGRATION

Educating doctors is costly and time-consuming, and it is difficult to replace existing staff when they leave the country. The European Commission estimated in 2012 that Europe would face a shortage of 230,000 doctors by 2020. This means that 13.5% of Europe's health needs would not be met (Gruber, Sarajlić et al, 2020)[11]. In Croatia, 17% are medical doctors, while in the EU there are 23% of them, and the ratio of nurses to doctors in the EU is 4:1, while it is 2:1 in Croatia (Jurić 2020)[14]. In recent years, 1,810 doctors applied for confirmation to go abroad and continue their careers in another country, which is an average of 75 applications per year, and 800 doctors left the Croatian healthcare system to work in another country (Hrvatska liječnička komora, 2020). Many companies are involved in employment mediation and provide services that connect health professionals with hospitals in EU countries, as well as attend language courses. According to Croatian Employment Service data for 2020, there were 150,000 unemployed people, including 6 medical residents and 58 general practitioners (the situation was similar in 2019). There were 2,542 general practitioner positions available in 2020, 3,330 in 2019, and 2,957 in 2018. (HZZ, 2021)[6]. The Croatian Medical Chamber warns that the main issue has been the slow introduction of young people into medical residency programs, as well as the unacceptable residency conditions, while the given agreements were frequently referred to as "slavery agreements." It was obligatory that after passing the residency exam, former residents continued working at the medical facility where they completed their residency, for the same amount of time as their residency. Before that, for a long time, the obligation was twice as long as their residency. The typical duration of a residency was five years. And then there was the issue of the obligation to reimburse residency fees in the event of termination of employment. Residency costs included the costs of the main mentor, mentors and co-mentors, the cost of healthcare institutions where residency training was done, the cost of the postgraduate residency program, the cost of final and residency exams, the cost of a booklet on residency training of doctors and the cost of medical doctors' diaries. The legal basis for such a restriction was an article of the Regulation on Specialist Training of Doctors of Medicine (Pravilnik o specijalističkom usavršavanju doktora medicine NN 100/2011, 133/2011, 54/2012, 49/2013, 139/2014, 82/2015, 116/2015, 62/2016, 69/2016, 6/2017)[24]. Articles 11 and 12 of the Regulation were repealed by a decision of the Constitutional Court of the Republic of Croatia on July 11, 2017. As a result, the following provisions were repealed: the healthcare institution and the resident are required to enter into an agreement on mutual rights and obligations, the residents are required to remain employed at the institution for the same amount of time as their residency, and the residents are required to reimburse the cost of the residency. Their position also depends on the will of the hospital director and the political views of the current government, which decides on their fate when signing employment contracts and agreements on mutual rights and obligations. This is contrary to European law and freedom of movement for workers and certainly motivates doctors to leave the country in many ways, which is exactly the opposite of what these measures and requirements were supposed to achieve. As a result, many young doctors choose to migrate because they are aware of poor working conditions, undemocratically rough hierarchy and lack of opportunities for advancement. According to the Chamber, the majority of doctors leaving were those without residency, 32 of them aged 24 to 28, 18 aged 34 to 38, 10 aged 44 to 53 and 2 aged 59 to 69. According to the survey, 14% of the 3,185 respondents who participated in the survey stated that they were actively looking for a job abroad, and

45% of them were thinking about leaving (Liječničke novine, 2019, 184)[16]. Table 1 shows the number of doctors who went abroad from 2013 to 2019.

Table 1. Number of doctors going abroad (2013-2019)

Year	Number of doctors going abroad
2013	51
2014	151
2015	144
2016	131
2017	126
2018	129
2019	122

Source: Hrvatska liječnika komora, 2020 [7]

Since 2013, the number of doctors who have left the largest hospitals in Croatia: KB Merkur 36 doctors, of which 8 internal medicine specialists, 5 radiologists, 4 anesthesiologists, 3 gynecologists, 2 pediatricians, 1 neurology specialist, 5 residents; KBC Sestre milosrdnice 13 doctors, including specialists in neurology, ophthalmology, general surgery, otorhinolaryngology, psychiatry, radiology, radiotherapy and oncology; KBC Split 29 doctors, specialists in surgery and anesthesia; KBC Osijek 28 doctors, of which 5 anesthesiologists, 4 cardiologists, pediatricians, surgeons, 3 gastroenterologists; KBC Rijeka 25 doctors, mostly anesthesiologists (Šljivak, 2018)[20]. Our doctors mostly go to work in Great Britain, Germany, Ireland, Austria and Sweden. According to the Croatian Association of Hospital Doctors HUBOL. When it comes to the migration of a specific segment, such as the highly educated workforce, it is a complicated area of individual decision-making in conjunction with systemic factors (Adamović and Mežnarić, 2003)[1]. The Chamber's certificate, which is required for employment abroad in 2020, was requested by 157 doctors, including anesthesiologists, intensive care physicians, family physicians, pediatricians, gynecologists and radiologists. In 2020, there were 81 fewer departures, which could be related to the scenario produced by the COVID-19 problem. There is an exponential increase in the number of younger doctors who leave right after graduation, without getting a single day of work experience in Croatia (Petrić, 2020)[23]. Table 2 shows the top 15 countries with the highest-paid doctors.

Table 2. List of 15 countries with the highest-paid doctors

Country	Average annual income (specialists)	Per capita GDP ratio (specialists)	Average annual income (general practice)	Per capita GDP ratio (general practice)
Finland	HRK 504,000	2,5	HRK 463,000	2,3
Sweden	HRK 517,000	2,5	HRK 449,000	2,2
Norway	HRK 524,000	1,9	HRK 470,000	1,2
Germany	HRK 524,000	2,7	HRK 470,000	2,2
New Zealand	HRK 606,000	3,6	HRK 530,000	3,2
Denmark	HRK 618,000	2,9	HRK 740,000	3,4
Switzerland	HRK 882,000	3,8	HRK 787,000	3,4
Ireland	HRK 970,000	4	HRK 610,000	2,8
France	HRK 1,011,000	5	HRK 624,000	3,1

United Kingdom	HRK 1,018,000	4,9	HRK 801,000	3,9
Canada	HRK 1,093,000	5,1	HRK 726,000	3,4
Belgium	HRK 1,275,000	6	HRK 414,000	2
United States	HRK 1,560,000	5,7	HRK 1,092,000	4,1
Austria	HRK 1,675,000	7,6	HRK 616,000	2,8
Netherlands	HRK 1,713,000	6	HRK 792,000	3,6

Source: Global Wage Report, ILO, 2015 [10]

At the same time, while our mostly young doctors are leaving, 57 applications for a license to work in Croatia on the basis of Croatian citizenship were requested from October 1, 2018, to January 10, 2019. Most of them came from the countries of the former Yugoslavia, 8 from Bosnia and Herzegovina, 7 from Serbia and 7 from Macedonia (Liječničke novine, 2019, 184). The quota model for the employment of foreigners from third countries was abolished from the beginning of 2021, which should make it easier for foreigners to get work (Lider, 2020)[18]. Migration, like in developed countries, has had a significant impact on the situation in Croatia, in addition to the aging population.

Healthcare had the highest rise in employment in 2019, with 1,210 doctors, nurses, technicians, and non-medical professionals employed. In 2019, there were a total of 68,135 (Penić, 2020)[22]. In 2017, HRK 30 million was provided from EU funds within the HLK project for the professional development of general practitioners and family doctors. In the same year, the Demographic Atlas of Croatian Medicine was presented, the first of its kind published in our country (HLK, 2017)[8]. It objectively shows the current state of Croatian medicine. Salaries are low and lag behind Western Europe and working conditions are difficult. A common occurrence is that small local hospitals and clinical hospital centers experience a significant shortage of staff, such as residents for whom job openings are advertised but no one applies. In healthcare, the average starting salary for an intern is around HRK 4,100-4,700, a general practitioner around HRK 6,000-7,500, a resident around HRK 8,000-9,500, a specialist HRK 10,000-12,000, a research novice/assistant around HRK 5,500-5,700, an assistant professor around HRK 8,000-9,000 and professors around HRK 12,000 (MojaPlaća, 2020)[19]. Table 3 shows the average salary of health care work / gross and net from 2013 to 2018.

Table 3. The average salary of health care work / gross and net (2013-2018)

Year	The average salary of health care work / gross	The average salary of health care work / net
2013	HRK 9,375	HRK 6,336
2014	HRK 9,365	HRK 6,368
2015	HRK 9,680	HRK 6,720
2016	HRK 10,017	HRK 7,263
2017	HRK 10,295	HRK 7,572
2018	HRK 10,636	HRK 7,812

Source: Hrvatski zavod za statistiku, 2019 [5]

A survey conducted by doctors of the Chamber confirms that 67% of doctors usually work overtime, which indicates a shortage of doctors and the fact that they work more than one worksite during regular working hours, and there is general dissatisfaction with what they call “system chaos” (Lider, 2019)[17]. Croatian doctors work more than three million overtime hours every year, with an average of 500 hours per doctor. The staff shortage is reflected in the fact that there is a shortage of 2,000 doctors and 4,500 nurses

in healthcare. Every year, doctors work around three million overtime hours in the healthcare system, and the system is also supported by 500 retired doctors who work four hours a day. This is most noticeable in large hospital systems (clinical hospital centers and clinical hospitals), while in general and county hospitals personnel shortages usually range between 10 and 35% (Slobodna Dalmacija, 2020)[25]. Croatia's family medicine system could be severely disrupted very fast since as many as 50% of family medicine practitioners are over the age of 55, with the majority of them being women. There are 720 family doctors over the age of 60 in the system, including 170 over the age of 65 (Petrić, 2020)[23].

CONCLUSION

Because Croatia lacks existential security and stability, seeking a better life abroad is the only feasible and economical choice. In the dynamic labor market environment, but particularly in Croatia, further measures are required that encourage the working population to stay in the country and support return. The prospects for building a career and general dissatisfaction with life in the homeland are the main motives for migration. Salaries are not a major factor in deciding whether to leave or stay. It is a devastating fact that medical students already during their studies declare that they want to leave their home country without the possibility to start their career development in it. Measures focusing on the social component and the happiness of the individual eager for growth and development, such as the opportunity of additional education and the acquisition of good practice, are mainly absent in our country and are widely available abroad. Despite the multi-year EU admittance process, Croatia has not prepared for the massive exodus of medical personnel. Croatia should take aggressive demographic measures to address the housing crisis, as well as provide effective tax relief. It should specify clear parameters for development and progress in the realm of municipalities, towns and counties, give them special benefits, and via induction reach the state of a country that provides efficient service to residents and an organized system with a functioning rule of law. There can be no strong economic recovery or a sustainable pension and healthcare system without an increase in the working population, so there can be no progress without some changes. In addition, the current global health situation caused by the pandemic clearly indicates that human resources should be preserved, nurtured and invested in. The scientific contribution of this work is reflected in key indicators for long-term future planning of how to improve our healthcare system: strategic planning of human resources, computerization of the complete system, horizontal and vertical connectivity, the need for depoliticization of staffing in healthcare, systematic monitoring of health outcomes and parameters of quality and safety patients, better management of waiting lists, more rational public procurement and necessary investment in infrastructure. Once the epidemic is under control, many health professionals who may have "weighed" their reasons for staying or leaving will almost surely make the decision to leave based on their experiences working in Croatian institutions during the outbreak. The main conclusion of the paper is the undeniable fact that the departure of doctors causes undeniable damage to the Croatian healthcare system, making it even less sustainable.

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The topic of this paper is based on secondary data and analyzes available sources of gazetteers and statistical reports in addition to domestic and international scientific literature. Scientific theory supports mobilities and migrations, but the long-term consequences will be very unpleasant, since the recipient country gets many times what it is in the context of economic values. The scientific contribution of this work is reflected in the importance of the functioning of the health system, which will reflect on the entire economy of a particular country. The fundamental principle of economics is the principle of supply and stimulation, and if healthcare is underfunded and over-indebted, what kind of service should be expected. The stranglehold of the nation is one of the fundamental values of the assumptions for a secure society, which we saw once again with the covid pandemic.

REFERENCES

- [1] Adamović, M., Mežnarić, S., Potential and actual "outflow" of young scientists from of Croatia: empirical research. *Review of Sociology* XXXIV (3-4): pp 143– 160. 2003, available at <https://hrcak.srce.hr/file/22174>; ISSN 0350-154X (Tisak); ISSN 1846-7954 (Online); <https://doi.org/10.5613/rzs>
- [2] Europska Komisija (2018), Report for Croatia with a detailed review on the prevention and correction of macroeconomic imbalances
- [3] Europsko vijeće, COVID 19: EU public health response, 2020, available at <https://www.consilium.europa.eu/hr/policies/coronavirus/covid-19-public-health/>
- [4] EU4Health programme (2020), available at https://ec.europa.eu/health/sites/health/files/funding/docs/eu4health_factsheet_en.pdf
- [5] Hrvatski zavod za statistiku (2019), Average salary for health care activities/gross and gross 2013-2018
- [6] Hrvatski zavod za zapošljavanje (2021), Statistika on-line available at <https://statistika.hzz.hr/>
- [7] Hrvatska liječnika komora HLK (2020), Press release - Report for the public on the departure of doctors abroad 2013-2019
- [8] Hrvatska liječnika komora HLK (2017), Press release - The HLK project for the professional training of general and family medicine doctors through the Ministry of Health secured HRK 30 million from EU funds, available at <https://www.hlk.hr/EasyEdit/UserFiles/priop%C4%87enja/priopcenje-projektu-hlk-a-osigurano-30-milijuna-kuna.pdf>
- [9] Hrvatska udruga poslodavaca HUP (2021), One in five hospitals stopped paying for already delivered goods in the last 2 months, available at <https://www.hup.hr/svaka-petabolnica-prestala-s-placanjem-vec-isporucene-robe-posljednja-2-mjeseca--dugovi-prema-veledrogerijama-zadnjem-lancu-nelikvidnost-u-hrvatskoj-dosegnuli-alarmanturnu-razinu.aspx>
- [10] Global Wage Report (2015), ILO

- [11] Gruber, E.; Sarajlić Vuković, I.; Musović, M.; Moravek, D.; Starčević, B., Martić Biocina, S. and Knez R., Migration of Croatian doctors in a global context, *Medicina Fluminensis : Medicina Fluminensis*, Vol. 56 No. 2, 2020.; ISSN 1847-6864 (Tisak); ISSN 1848-820X (Online); https://doi.org/10.21860/medflum2020_237296
- [12] IOM World Migration Report 2020. Geneva, available at https://publications.iom.int/system/files/pdf/wmr_2020.pdf
- [13] Jureško, G., Disturbance in the appointment. *Jutarnji list - Morning paper*, September 12, 2020, available at <https://www.jutarnji.hr/vijesti/hrvatska/hoce-li-nam-se-zbog-ogranicene-zdravstvene-uslugepovecati-smrtnost-od-primjerice-raka-15018676>
- [14] Jurić, T., The most expensive doctor and nurse are those who are not there. *Medix*, 26(144/145) pp 30-33, 2020
- [15] Kralj, V., Brkić Biloš, I., Čorić, T., Silobrčić Radić, M., Šekerij M., Chronic non-communicable diseases - the burden of diseases of the population of Croatia, *Cardiologia Croatica*, 2015; ISSN 1848-543X (print), ISSN 1848-5448 (online); <https://doi.org/10.15836/ccar.2015.167>
- [16] *Liječnike novine* (2019). *Gazette of the Croatian Medical Chamber*, No. 184; ISSN 1333-2775
- [17] Lider, HLK: As many as 67% of doctors usually work overtime, 2019. available at <https://lider.media/poslovna-scena/hrvatska/hlk-cak-67-posto-lijecnika-uobicajeno-radi-prekovremeno-128477>
- [18] Lider, The new Law on Foreigners was passed, 2020. available at <https://lider.media/poslovna-scena/hrvatska/izglasani-novi-zakon-o-strancima-ukidaju-se-kvota-za-zaposljavanje-134211>
- [19] *MojaPlaća* (2020). Salary Calculator, available at <https://www.mojaplaca.hr/placa/medicina-i-socijalna-skrb/lijecnik>
- [20] Šljivak, M., How many doctors left the largest Croatian hospitals in 5 years, 2018, www.index.hr available at <https://www.index.hr/vijesti/clanak/doznajemo-koliko-je-lijecnika-u-5-godina-otislo-iz-najvecih-hrvatskih-bolnica/1022438.aspx>
- [21] Šljivak, M., Soon, covid certificates will be, 2021, www.index.hr, available on <https://www.index.hr/vijesti/clanak/uskoro-krecu-covidpotvrde-evo-tko-se-u-zdravstvu-najvise-cijepi-a-tko-najmanje/2305322.aspx>
- [22] Penić, G., The number of employees in the state and public administration continues to grow, the state employs six people a day, *Jutarnji list - Morning paper*, 4 March 2020. available at <https://www.jutarnji.hr/vijesti/hrvatska/broj-zaposlenih-u-drzavnoj-i-javnoj-upravi-i-dalje-raste-drzava-dnevno-zaposljava-sest-osoba/10046389/>
- [23] Petrić, I., *Dorrier Health: What's in store for the system once this pandemic is over*, 2020, available at <https://korona.net.hr/nema-kategorije/dossier-zdravstvo-sto-ceka-sustav-jednom-kada-ova-pandemija-zavrsi/>
- [24] *Pravilnik o specijastičkom usavršavanju doktora medicine* NN 100/2011, 133/2011, 54/2012, 49/2013, 139/2014, 82/2015, 116/2015, 62/2016, 69/2016, 6/2017
- [25] *Slobodna Dalmacija Chamber and Trade Union: There is a shortage of 4,500 nurses and technicians in hospitals. These figures are not from yesterday, we have been warning*

about the same problems for years, 2020, available at <https://slobodnadalmacija.hr/vijesti/hrvatska/komora-i-sindikatu-bolnicama-nedostaje-4500-medicinskih-sestara-i-tehnicara-ove-brojke-nisu-od-jucer-godinama-upozoravamo-na-iste-probleme-1045073>

[26] World Health Organization WHO (2006). Working Together for Health: The World Health Report, Geneva, xxvi, 209 p; ISBN 9241563176, 9789241563178. <https://apps.who.int/iris/handle/10665/43432>