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Migration of Health Workers in COVID-19 Conditions*

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Abstract

In the current situation associated with COVID-19, radical measures concerning social distance and mobility are increasingly being introduced. Borders are closing, but life in hospitals is experiencing trials for which no one has been sufficiently prepared. Infected people who need health care come to the hospitals. At the same time, to protect those who are in the hospital due to other problems and not to put them at risk. We also encounter a number of problems associated with the provision of medical supplies and equipment, the organization of newly established health departments, the adoption of adequate legislative standards, etc. We are witnessing the emergence of cohesion between peoples and countries and, at the same time, egoism at various levels. These events develop in conditions of relatively intensive migration of health workers. Its causes are mainly related to differences in working conditions and remuneration of health workers in individual countries and their shortage. The occurrence of the coronavirus epidemic has updated and multiplied the need for health professionals around the world. At the same time, from a common point of view, it is not clear what is happening with the migration of health professionals in the conditions of COVID-19. Several events and measures taken in individual countries should strengthen the migration of health professionals, while others should dampen and even suspend or re-emigrate (return home). What is actually happening with the migration flows of health workers, especially in European countries, is the subject of analyzes and findings of the study.

Keywords: Migration, COVID-19, Health Workers.

JEL Classification: 115, J61, J62.

Introduction

Only after a while do we begin to realize how this epidemic is changing and changing our daily lives. In the context of COVID-19, radical measures concerning social distance are being introduced more and more. People are encouraged but also forced to remain isolated both at home and in work teams. The activities of educational institutions, leisure facilities, cultural and sporting events are limited. The borders have closed, but life in hospitals is experiencing trials for which no one has been sufficiently prepared. The occurrence of the coronavirus epidemic has updated and multiplied the need for health professionals around the world. At the same time, from a common point of view, it is not clear what is happening with the migration of health professionals in the conditions of COVID-19. The topicality therefore lies precisely in the issue of migration. Is it or is it not necessary? Where appropriate, to what extent we focus on the health system and health professionals. Several events and measures taken in individual countries should strengthen the migration of health professionals, while others should dampen and even suspend or re-emigrate (return home). Of course, in such a short time, we cannot expect radical changes in the migration flows of health workers in the conditions of COVID-19, which could be detected using conventional research methods and statistical data. Therefore, our goal is to find out, on the basis of available information and logical considerations, at least changes in the speed and direction of migration flows of health workers in the conditions of COVID-19, but also to look for possible opportunities that migrants provide for the health system.

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COVID-19 epidemic and migration of health workers

The introduction and exchange of pathogens between distant communities is as old as the human movement itself. The spread of epidemics of infectious diseases is not new in human history. (Greenaway & Gushulak, 2017). The changing nature of crises and the increased expectations of pandemics, according to Karlsen (2016), are paving the way for many challenging crises in the future. Modernization and inequalities in a divided world also play a major role in this future, while organizational factors are often only responsible for inadequate crisis management. Karlsen's thinking in 2016 took on a formidable reality much earlier than we expected. COVID-19 is an infectious disease caused by a recently discovered coronavirus. It is a new virus and disease that was not known before the outbreak of the disease in Wuhan, China in December 2019 (Dong et al., 2020). A serious problem according to Zheng ate. (2020) is the fact that the increase in confirmed cases indicates an underestimation of preventive measures. Because health professionals are only human and are also exposed to this disease. Although they try to protect themselves to a high degree (if they have the equipment), it happens that the hospital staff also become infected. Of course, the hospitals of the countries are also counting on this possible scenario, and therefore they are creating personnel reserves, but in the event that the disease breaks out en masse at several epicenters, medical staff is not enough, nor is the equipment - for example Italy and the USA. According to the International Council Of Nurse (2020), Italian health workers have sacrificed and are sacrificing health in the fight against COVID-19, also due to a lack of protective equipment. Data from April 2020 showed an increase in cases of infected health workers, which accounted for up to 9%.

Jennifer Goforth Gregory (2020) also draws attention to a serious problem, who says that while America is currently facing a major health crisis, other factors also contribute to the very shortage of health workers. Most of the world is expected to face similar challenges in the next 10 years, and many countries are already in crisis. Its research direction includes the so-called The Baby Boomer generation, which includes 76 million Americans born after World War II from 1946 to 1964 (according to the United States Census Bureau). The oldest reached the age of 64 in 2010, and over the next 20 years, most of this population will be retired, many of whom are in the medical profession leaving many health care jobs. In addition, a large part of the aging population will require additional medical care from the health care system, which will be increasingly burdened by too many patients and a shortage of health professionals. According to Bidwell et al. (2014) estimate at about 4.3 million and these are the countries with the highest burden of various diseases. Wojczewski et al. (2015) argue that global health imbalances contribute to the malfunction of health services, especially in low-income countries. The loss of health workers, inadequately equipped health systems in poor countries makes this situation even worse. In many such countries, the vacancy rate for doctors and nurses is more than 50%. Thus, the brain drain has more far-reaching consequences. Following these findings, Stephen Khan (2020) also mentions the South African health system, which has a long-standing problem with a shortage of medical staff. The World Bank estimates that there are only 0.9 doctors for every 1,000 people in South Africa, compared to a global average of 1.6. The area has only 1.3 nurses and midwives for every 1,000 people, compared to a global average of 3.8. By mid-July 2020, COVID-19 would multiply this problem by 3% of the total number admitted to the infectious disease. The International Labor Organization (ILO, 2020) estimates that 244 million migrants live worldwide. A significant number of these migrants are low- or semi-skilled workers who live in conditions that raise concerns about social overcrowding and unsatisfactory hygiene. Although, according to the organization's findings to date, housing conditions have generally improved over the years, the conditions are not ideal for a pandemic situation. The current situation has highlighted the vulnerability of migrant workers as a working group. Following this, Ginsburg et al. (2018) states that the relationship between migration and health is multidimensional and two-way. Health can lead to migration, but such relocation can have an impact on health. Circular migration was also associated with the spread of health conditions or behavior between the target areas. Migration is a common manifestation of global trends in the labor market in all countries of the world, although from the perspective of European Union countries, this phenomenon develops in the conditions of the socalled free movement of labor within the Union (Krajnakova, Vojtovič, 2020). However, it is possible to talk about the emergence of large imbalances in the labor market, which are affected by the absence of balance sheets on the benefits and losses of labor migration for individual countries (Tupa, Vojtovic, 2018).

The reason for these migratory flows are, according to Shattuck et al. (2008) also motivate workers themselves in countries where low incomes cripple already fragile healthcare systems. Retaining health professionals is crucial to the performance of health systems, so it is how to best motivate and retain health professionals. The International Organization for Migration (2020) adds that for more than a decade, the global shortage of health workers has been called a crisis, and programs to address human health resources need to be designed to overcome it. As early as 2006, the World Health Report drew attention to the unsatisfactory state of health care and the need for rapid progress towards improving the health care of the population, especially in view of the critical shortage of qualified health professionals in 57 countries. If we focus on the issue of migration of qualified health professionals. Thus,

according to Schumann and Maaz (2019) in general and physicians in particular, it has become a global phenomenon of movement. This phenomenon has a significant impact on the quality of health care systems in the source countries, ie the countries of origin of the professionals who travel abroad for work, as well as in the destination countries that receive health workers. The Work Health Organization (2020) has the same opinion, confirming that even outside the epidemic, the migration of health workers is increasing. The number of migrant doctors and nurses working in OECD countries has increased by an incredible 60% in the last decade. Forecasts for the future point to a continuing acceleration of international migration of health professionals, with a growing mismatch between supply and demand. It is necessary to understand the stimuli of the health worker to the migration itself. So what are the advantages and disadvantages or incentives for migration of health professionals? The summary in Table 1 will serve us for this.

Table 1: Select Advantages and Disadvantages of Circular Migration of Health Professionals

For The Migrands	For The Origin	For The Destination		
Adventages	Adventages	Adventages		
Preserve traditional and family associations.	Health workers return with greater skills and improved networks.	Savings in the training of health professionals.		
Can still earn and professionally benefits of working with high incomes country.	Contribution to the health of the nation.	Part of a 'development friendly' national migration policy.		
Able to contribute to the health of the homeland population.	Improved links with a destination country.	It can satisfy the shortage of health professionals in rural and remote areas.		
Create opportunities for the family.		Enhanced links with origin country.		
Children can gain experience growing up in both countries.	Brain drain human capital loss not as great.	Most health worker shortages handled in a flexible way.		
Disadvantages	Disadvantages	Disadvantages		
Disruption of moving.	Governance challenges.	Complications of organisation health system at destination.		
Social costs of separation from family for part of the time.	Loss of skills for part of the time.	Governance challenges.		
Complexity and costs of moving.	Difficulties with the organization of the health system with personnel only	Workers not available on a permanent basis.		
Difficulties of adjusting to two work contexts.	in the country for limited time.	Difficulties for immigration policy.		

Source: Graziano Battistella (2020, ILO)

The issue of migration of health professionals can be viewed from different perspectives, as well as can be seen in the division according to Battistell (2020). Here are provided insights into the advantages and disadvantages in three basic areas (migrands, origin, destination). Of course, these can also differ from the preferences of the individual himself or the cultural society in which he works. Humphries et al. (2015) try to point out that the very stimuli for motivation change over time. Migration decisions are much more complex than the "binary scenario" often reported in the literature. The migration of health workers is affected by many factors, including those that are endogenous to the health system (such as the desire for better working conditions) and exogenous to the health system, such as the desire for better demands for citizenship and family reunification. Based on these studies, we note a great shortage of health workers in the future and thus their migration.

Objective and Methodology

All the above-mentioned events related to COVID-19 require the need for a larger number of health professionals and at the same time restrict their free movement and employment in specific health care facilities and in specific countries. Of course, in such a short time, we cannot expect radical changes in the migration flows of health workers, which could be detected using conventional research methods and statistics. Our goal is to find at least changes in the speed and direction of migration flows of health workers in the conditions of COVID-19 on the basis of available information and logical considerations. This means that the intensity and extent of migration flows increased, remained at the previous level, or slowed down. In the article we use available statistical data on the migration of health workers from the OECD, thanks to which it was possible to point out the importance and nature of migrants working as health workers. At the same time, it is possible to assess how the individual affected countries approached this issue and from what sources they tried to obtain the necessary health workers. Because it was necessary to focus on the concepts that examined the phenomenon and the issue of the paper. In our case, it was a connection between the issue of viral disease (epidemic) and international migration of health workers. As a result, there were some opportunities for migration of health workers, but also threats associated with COVID-19 or the escape of health workers under better conditions. Subsequently, our findings allowed us to state the evaluations, but also to shape the very direction of the paper and its issues.

Problem Solution

Although the health care system has tried to gradually prepare for a larger number of patients with COVID-19 (coronavirus). It was necessary to transform some departments into so-called red pavilions, or in the worst crisis variant, transform the entire medical facility into a COVID hospital. During a pandemic, doctors have to deal with many problems, both they face enormous pressure and the fact that they deal with death more often than they are used to. Due to the restrictions that apply to a hospital visitor, they are often the last person to spend time with an terminally ill patient. This greatly affects their mental health, not to mention that these pressures weaken their immune system and are thus more susceptible to the disease itself. At the same time, it is necessary to point out that the medical staff where this disease appears among the employees, or is suspected of it, must go to quarantine (usually 2 weeks). So a paralyzed health system will receive another blow, not to mention if the burn is confirmed by doctors and they automatically drop out for an indefinite period. Many states have asked for help, or this help has been provided to them by other states as a show of solidarity, and so has the international migration of health workers. As the world faces pandemics, it is important that all authorities make every effort to confront xenophobia, including when migrants and others are exposed to discrimination or violence related to the origin and spread of the pandemic (United Nations Humans Rights, 2020). Migrants can be a driving force for hospitals that do not have enough staff. In response, a number of OECD countries (or states and provinces in the United States and Canada) have taken measures that have even enabled immigrant health workers to help cope with the sharp rise in demand for health care. These actions have facilitated the renewal of work permits, accelerated processing of the recognition of foreign qualifications, temporary and / or limited certification, or access to certain health jobs (OECD, 2020).

Examples of measures to facilitate the work permit of health professionals: In Chile, the National Health Service may employ foreign health professionals in the event of an emergency, even if their qualifications are not yet formally recognized. In contrast, the Spanish ministries had various urgent and coordinated measures to immediately employ foreign health workers willing to work in Spain. At the end of April 2020, about 400 people had been admitted. International nursing students can now work more than 40 hours every two weeks in Australia to ease the pressure on the workforce. In France, health professionals without a permit to study abroad can work as support staff in non-medical professions. Among other positive measures, we recommend free extension of visas in the case of a health worker (GOV-UK, 2020). Such measures have been introduced by the United Kingdom where health professionals are entitled to a free visa extension for one year. The condition is to have a visa, which expires between March 31 and October 1, 2020. Work for the NHS or an independent health care provider in an eligible profession. If the conditions are met, this benefit also applies to family members, who can also extend their visa for one year free of charge. According to Charlotter Oberti (Info Migrants, 2020), for example in France where health services were severely paralyzed during the coronary crisis, dozens of refugees and asylum seekers with medical knowledge in their home countries are ready to volunteer as a gesture of "gratitude". Because the inability to use their medical skills during this public health crisis has been very frustrating for them. As the pandemic continued to spread, on 25 March 2020, the French Ministry of Health called on active and retired people to help their colleagues voluntarily cope with the crisis. It was then a large-scale mobilization challenge in an industry known for its stringent authorization requirements. To facilitate the use of all volunteers, the French inter-ministerial delegation for the reception and integration of refugees stated that refugees with diplomas from outside the European Union who worked in their country of origin as doctors, dentists or pharmacists were entitled to work in French public institutions but "in contractual status" and under the supervision of an accredited doctor. Even the government, in the urgency of the situation, extended these conditions during the crisis to "foreigners" who do not have refugee status in France.

It may be of interest, according to Dumpster and Smith (Center for Global Development, 2020), that the individual states affected rely on migrants, even though the policies of the states often restrict their movement. Studies show that in most high-income countries, migrants make up a large proportion of health workers. Today, one in six doctors in OECD countries has studied abroad, and the number of doctors and nurses born abroad has increased by an incredible 20% in the last decade. Migrants make up 12 percent of the UK's 1.9 million health workers and 17 percent of the US's 12.4 million healthcare workers. Thus, it can be stated that health systems rely heavily on migrant health workers. Confirmation of the following statements is also provided in the International Platform On Health Worker Mobility (2020). Who is tasked with maximizing the benefits and mitigating the adverse effects of labor mobility in the health sector through intensified dialogue, knowledge and cooperation. At the same time, they are trying to facilitate a strong political dialogue and measures in the field of health workforce mobility. In particular, through strong monitoring, country support, knowledge-sharing acquisition and sharing, and enhanced support for the implementation of the WHO Global Code and relevant ILO Conventions and Recommendations. The direction of their activities can be seen in the following diagram.

Policy Dialogue ILO Convention & Recommendation Global Compact on Migration WHO Global Code of Practice Knowledge Strengthened Country Support Generation and Monitoring Sharing INTERNATIONAL PLATFORM ON HEALTH WORKER MOBILITY Increasing Escalating scale Stagnant dialogue Disconnected policies complexity

Scheme 1: International Platform On Health Worker Mobility

Source: Jim Campbell (Health Workforce Department, 2020)

At the same time, the idea of the availability of a sufficient number of qualified and, above all, motivated health professionals, who are essential for the performance of any health care system, comes to the fore, as pointed out by the current COVID-19 pandemic. The deep-rooted challenge of staff shortages was highlighted, as was the significant contribution of migrant doctors and nurses who contribute to the health workforce in many OECD countries. Numerically, we will follow up on these data in the statistical overview of migrants working in these countries.

Table 2: Number and share of migrant doctors and nurses working in OECD countries

	Migrant doctors				Migrant nurses			
	foreign-trained (of which natives)1		foreign-born		foreign-trained		foreign-born	
					(of which natives)1			
	number	% of total	number	% of total	number	% of total	number	% of total
Australia	29 000 (333)	32.1 (0.4)	47 154	53.9	52 860 (815)	18.4 (0.3)	104 272	35.3
Austria	2282 (399)	6.0 (1.0)	5 2 251	14.2			18 779	19.6
Belgium	8061	12.1	6 174	15.7	7889	3.7	15 281	11.2
Canada	24 587	24.6	38 780	38.5	32 346	8.1	92 530	24.4
Chile	11 038 (2030)	22.7 (4.2)			1135 (196)	2.0 (0.4)	9532	7.9
Czech Republic	3232	7.4	4 110	9.7			2600	2.7
Denmark	2111	9.2	3 904	21	1034	1.8	41 732	6.7
Estonia	262	3.9	742	14	20	0.1	1304	14.3
Finland			1917	9.5			2722	3.6
France	26 048 (715)	11.5 (0.3)	312 271	15.7	20 757	2.9	40 329	6.6
Germany	419 343	11.9	78 907	20.2	71 000	7.9	217 998	16.2
Greece	836742 (7 832)	12.8 (12.0)	2 103	4.2	451 (416)	2.5 (2.3)	3221	6.1
Hungary	2614 (400)	8.0 (1.2)	3 761	11.2	953 (17)	1.5 (0.0)	2238	4
Ireland	9583	41.6	5 565	41.1			13 778	26.1
Israel	17 133 (6 963)	57.9 (23.5)	13 753	48.7	5078 (2 125)	9.3 (3.9)	19 946	48
Italy	3378 (1 443)	0.8 (0.4)	10 163	4.3	21 561 (458)	4.8 (0.1)	41 935	10.7
Latvia	477	6	1 197	17.4	274	3.2	1334	16.6
Lithuania	72	0.5			113	0.4		
Luxembourg			1 103	55			900	29.1
Netherlands	1336 (483)	2.2 (0.8)	11 247	17.1	978 (249)	0.5 (0.1)	11 643	6.2
New Zealand	7228	42.5			13 115	26.2		
Norway	10 248 (5 492)	40.3 (21.6)	5 082	22.7	6065 (1 121)	8.7 (1.2)	12 418	12.1
Poland	2549	1.9			162	0.1		
Portugal	6229 (2 865)	12.2 (5.6)	3 508	9.9	1212	1.8	6637	10.8
Slovak Republic			153	1.2			186	0.4
Slovenia	1085 (147)	16.9 (2.3)			27	0.4		
Spain			25 8 751	13.7			10 302	4
Sweden	14 195 (2 117)	34.8 (5.2)	15 372	30.5	3269	3	14 455	13.1
Switzerland	12 570	34.1	23 438	47.1	18 403 (1 387)	25.9 (2.0)	32 264	31.6
Turkey	262 (223)	0.2 (0.2)			456 (397)	0.3 (0.3)	••	
United Kingdom	51 115	29.2	86 866	33.1	104 365 (294)	15.1 (0.0)	151 815	21.9
United States	215 630	25	289106	30.2	196 2303	6.7	691 134	16.4
OECD Total	587 933	18.2	716 432	24.2	558 343	7.4	1523 726	15.8
	27 coun	tries	26 countries		22 countries		27 countries	

Source: OECD Health Statistics (2019)

In the previous table, OECD statistics show why migrants are so important to health systems. High percentages and figures speak of country dependencies. For example, in Australia, foreign-born migrants make up 53.9% of total doctors and nurses make up 35.3% of total nurses. Another example is Israel where foreign-born migrants make up 48.7% of total doctors and nurses 48% of total nurses. Of course, there are also countries with a low percentage, such as Italy, where foreign-born migrant doctors make up 4.3% of total doctors and nurses 10.7% of total nurses. As this country has become one of the epicenters of the pandemic, it is questionable whether this issue speaks of the difficulty of enforcing and implementing migrants, or the attractiveness of this country for their scope. Of course, it is important to note that it was not possible to prepare for this situation in advance, but it is possible to anticipate with greater interest in migrants and their easier adaptation to the labor market in countries around the world. However, the number of migrants themselves is limited, so it is necessary to think about how to address the shortage of health workers in the future.

Conclusion

There is no doubt that healthcare workers are the backbone of the healthcare system. Because of their profession, millions risk their health and lives at work every day, and in the case of the COVID-19 pandemic, it was no different. This disease has given us cards of imperfections and mistakes in the health system, and it is now up to us whether we want to win in this unequal struggle. It is also necessary to learn from small mistakes, which take on wide proportions in the accumulation. We know that the number of health professionals around the world is constantly declining, and if they decide to pursue this demanding and often unappreciated profession, they will certainly think about where they want to take root their help. Thus, there is an international migration of health workers examined by us. So what needs to be considered? First of all, to realize and at the same time show respect for the work of these people, to create them decent working conditions. These are extremely important in the current situation, because health professionals have encountered a great lack of protective equipment, but also insufficient equipment of medical facilities. The system that fell in the most important areas, such as healthcare, was disrupted. As a positive perception of the cohesion that has taken place in recent months, the world seems to have stopped and the long-running disputes between countries have cooled. The countries became in solidarity with each other as much as possible, regardless of nationality, they were willing to help where it was currently needed. This also supported the very migration of health workers who were willing to take their lives, leave their families and go literally into the unknown. Into situations they had never experienced before, unaware of whether they would ever return home. This is a huge thank you to them, they are the heroes of modern times. Although they do not have a sword or clear armor, they have a heart and a determination to protect lives at all costs, even knowing that they will lose theirs. On the other hand, we are very critical of the underestimation of the situation and the selfish attitude of the representatives of certain countries, because they were able to decide on the lives of millions of people on their own behalf without hearing them. The situation with access to migrants in individual countries, who often became hope and rescue for infected patients, was also resolved. An interesting finding was the fact that migrants were willing to take the risk associated with COVID-19, based on the specifics of this profession where they are "produced" non-monetary gains and human values (Ciarniene, 2017) under the influence of culture, education and training (Krajňáková, Vojtovič, 2011). The integration of migrants provided an important workforce, which was in short supply. This opened up a new sphere that needs to be addressed urgently, namely faster and more effective integration of migrants who are willing to work, but a lengthy and often discouraging bureaucratic system does not allow them to do so. It is in a situation of global threat, but also the number of statistics that have been published has shown that migrants are a normal part of society and need to be considered as an important and inevitable part of the labor market.

Supplement

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References

- Battistella Granziano Circular Migration Of Health Professionals. International Labour Organization [online], [Retrieved August 09, 2020], https://www.ilo.org/wcmsp5/groups/public/---asia/---ro-bangkok/---ilo-manila/documents/publication/wcms_320606.pdf
- Bidwell, P., Laxmikanth, P., Blacklock, C.,k Hayward, G., Willcox, M., Peersman, W., Moosa, S., Mant, D. (2014). Security and skills: the two key issues in health worker migration. *Global Health Action*, 7 (1), 1-11. ISSN 1654-9716
- Ciarniene, R., Vienazindiene, M., Vojtovic, S. (2017). Process Improvement for Value Creation: a Case of Health Care Organization. *Inzinerine Ekonomika-Engineering Economics*, 28 (1), 79-87.
- Coronavirus disease (COVID-19) pandemic. World Health Organization [online]. [Retrieved August 09, 2020], https://www.who.int/emergencies/diseases/novel-coronavirus-2019

- Coronavirus: European Solidarity in action. European Commision [online]. [Retrieved August 10, 2020], https://ec.europa.eu/info/live-work-travel-eu/health/coronavirus-response-0/coronavirus-european-solidarity-action en
- Covid-19 does not discriminate, nor should our response. United Nation Human Rights [online]. [Retrieved August 15, 2020], https://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=25730&LangID=E
- Charlotte Oberti "If France need us, we're ready". Migrant healthcare workers want to aid the fight against COVID-19. Info Migrants [online]. [Retrieved August 08, 2020], https://www.infomigrants.net/en/post/24291/if-france-needs-us-we-re-ready-migrant-healthcare-workers-want-to-aid-the-fight-against-covid-19
- Dong, E., Du, H., Gardner, L. (2020). An interactive web-based dashboard to track COVID-19 in real time. The Lancet, 20 (5), 533–534.
- Ginsburg, C., Bocquier, P, Béguy, D., Afolabi, S., Kahn, K., Obor, D., Tanser, F., Tomita, A., Wamukoy, M, Collinson, M (2018). Association between internal migration and empidemic dynamics: An analysis of causespecific mortality in Kenya and South Africa using health and demographic survailance data. BMC Public Health, 18 (918), 181-191.
- Greenaway, Ch. & Gushulak. B. (2017). Pandemics, migration and global health security. *Social and Political Science*, 316–336.
- Health workforce Migration. World Health Organization [online]. [Retrieved August 12, 2020], https://www.who.int/hrh/migration/en/
- Health Worker Density and Distribution Health Worker Labour Mobility Jim Campbell. World Health Organization [online]. [Retrieved August 01, 2020], https://www.un.org/development/desa/pd/sites/www.un.org.development.desa.pd/files/201802_unpd_cm16_s dg3_who.pdf
- Helen Dempster, Rebekah Smith Migrant health workers are on the Covid-19 frontline. We need more of them. [online]. [Retrieved August 13, 2020], https://www.cgdev.org/blog/migrant-health-workers-are-covid-19-frontline-we-need-more-them
- High proportion of healthcare workers with COVID-19 in italy is a start warning to the world: protecting nurses and their colleagues must be the number one priority. International Council of Nurses [online]. [Retrieved August 14, 2020], https://www.icn.ch/news/high-proportion-healthcare-workers-covid-19-italy-stark-warning-world-protecting-nurses-and
- Humphries, N. McAleese, S., Tyrrell, E., Thomas, S., Normand, Ch., Brugha, R. (2015). Applying a typology of health worker migration to non-Eu migrant doctors in Ireland. *Human Resources For Health*, 13(53), 1-12.
- International labour standards on migrant workers. International Labour Organization [online]. [Retrieved August 12, 2020], https://www.ilo.org/global/standards/subjects-covered-by-international-labour-standards/migrant-workers/lang-en/index.htm
- Jennifer Goforth Gregory Healthcare Workforce Shortage: American's Next Epicemic. Soliant [online].
 [Retrieved August 12, 2020], https://www.soliant.com/resources/worker-shortage-americas-next-healthcare-epidemic/
- Karlsen, A. 2016. Comparative case study of pandemics as transboundary crisis in Norway and Western Africa. *The Artic University Of Norway*, 01–81.
- Krajnakova E.; Vojtovic, S. 2011. Development of Science and Education Among the Priorities of State. Efficiency and Responsibility in Education Conference: 8th International Conference on Efficiency and Responsibility in Education: Prague, pp.147-156.
- Krajňáková, E., Vojtovič, S. 2020. Global Trends in the Labor Market and Balance of Losses and Benefits from Labor Migration. The 19th international scientific conference Globalization and its Socio-economic consequences 2019 - sustainability in the global-knowledge economy. - Žilina: Žininská univerzita. SHS Web of conference, 74, 1-8. ISSN 2261-2424
- Migration of Health Workers. International Organization for Migration (IOM) [online]. [Retrieved August 06, 2020], https://www.iom.int/migration-health-workers
- Mobiling foreign trained doctors and nurses in response to COVID-19. OECD. [online]. [Retrieved August 10, 2020], https://www.oecd.org/coronavirus/policy-responses/contribution-of-migrant-doctors-and-nurses-to-tackling-covid-19-crisis-in-oecd-countries-2f7bace2/
- Schumann, M., Maaz, A., Peters, H. (2019). Doctors on the move: a qualitative study on the driving factors in a group of Egyptian physicians migrating to Germany. *Globalization and Health*, 15(2), 1-9.
- Shattuck, M., Bidwell, P., Thomas, S., Wyness, L., Blaauw, L., Ditlopo, P. (2008). Motivation and retention of health workers in developing countries: a systematic review. *BMC Health Services Research*, 8 (247)

- Stephen Khan Ten ways South Africa can step-up care for its healthcare workers. The Conversation [online]. [Retrieved August 16, 2020], https://theconversation.com/ten-ways-south-africa-can-step-up-care-for-its-healthcare-workers-142836
- Tupa, M., Vojtovic, S. 2018. Impact of Brexit on the Migration in the Uk. *Ad Alta-Journal of Interdisciplinary Research.* 8, 306-309.
- Zheng, Y., Ma, Y., Zhang, J., Xie, X. (2020). COVID-19 and the cardiovascular system. *Nature Reviews Cardiology*, 17, 259-260.
- Visa extension for health workers during coronavirus (COVID-19). GOV.UK [online]. [Retrieved August 08, 2020], https://www.gov.uk/coronavirus-health-worker-visa-extension
- Wojczewski, S., Poppe, A., Hoffmann, K., Peersman, W., Nkomazana, O., Pentz, S., Kutalek, R. (2015). Diaspora engagement of African migrant health workers examples from five destination countries. *Global Health Action*, 8 (1), 1-10. ISSN 1654-9716