

MIGRATION OF MEDICAL PROFESSIONALS IN HUNGARIAN HEALTHCARE SECTOR - LITERATURE REVIEW

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Abstract: *Medical migration is a global phenomenon, an important challenge of globalization and the current global economic trend, which plays a critical role in the operation and maintenance of healthcare systems. This applies to Hungary as well, the migration of health professionals has been a problem that has seriously threatened the Hungarian healthcare system for at least 20 years. In my research, I conducted an integrative literature review of 8 scientific articles about the migration of Hungarian healthcare professionals published in the last 5 years (2018-2022), which I found in the PubMed and ScienceDirect publication databases. The aim of my review study is to provide a complete and satisfactory summary of the literature examining and analyzing the current migration trend in Hungarian healthcare, as this way, even with the lack of the official statistical data, we can gain insight into the current situation. Examining the profile of migration, it can be seen that the situation is most critical in the professions of internal medicine, family medicine, and infant and pediatric medicine in terms of medical specialization, while and in terms of country provision and demographics, there is the most prominent shortage of specialists in Békés, Nógrád, Jász-Nagykun-Szolnok, Tolna and Szabolcs-Szatmár-Bereg counties compared to other counties. The labor crisis in Hungarian primary healthcare is gradually escalating and also within ten years, Hungary will face a severe shortage of pediatricians. Optimizing the working conditions of healthcare workers is a political and social interest, which would probably take a long time, but could ensure high-quality care in the long run. One of the most important conclusions of the review is that Hungarian healthcare workers abroad left primarily because of better quality of life and more favorable financial conditions, but some of the research results showed, that changes in these conditions at home would encourage them to return home.*

Keywords: Medical migration; Health professionals; Workforce; Physicians; Healthcare system; Hungarian healthcare

JEL Classification: O15, I19, J45, J29

1. Introduction

Medical migration is a global phenomenon, an important challenge of globalization and the current global economic trend, which plays a critical role in the operation and maintenance of healthcare systems and is receiving increased attention

worldwide. The medical profession is among the most mobile of highly skilled professions, particularly in Europe and also the sector, which experiences the most serious labour shortages (Becker et al, 2020). Economic-migration and career changing have become more common issues among healthcare practitioners and the past two decades have been marked by significant growth in the migration of medical doctors. Lower unemployment rate, good remuneration of physicians, an aging population, and good medical infrastructure in the host country are the main contributors to physicians' brain drain (Botezat et al, 2020). In the past few years In Europe, the creation of a border-free labor market and its expansion with the EU enlargements of 2004, 2007, and 2013 endowed health professionals with the right to provide services and to relocate to another EU Member State (Suciu et al, 2017). Also Hungary is struggling with a shortage of human resources caused by medical migration, especially after joining the EU in 2004. The most important objective of my research is review of literary sources on the phenomenon of medical migration in Hungary, which might thus provide us with new insights as well as highlight some conceptual contributions.

2. Literature review

Many scientific publications discuss healthcare workforce migration on international level. This is an important global phenomenon, which results in a shortage of health personnel across the world. Bludau highlighted (Bludau, 2021), that poor countries are generally concerned about medical "brain drain." According to Asadi (Asadi et al, 2018), identifying the factors which could influence the migration of health human resources is the first important step in prevention of this trend. Despite a lot of difficulties connected to the migration, e.g. language barriers which can complicate care delivery and increase stress and workload (Gerchow et al, 2021), there is still considerable number of healthcare professionals on global level, which wish and make efforts to go to work in developed countries. Discussing the migration decisions of African health workers, Blacklock concluded (Blacklock et al, 2014), that there is a complex interaction of contributing factors, first of all unmet material expectations, followed by interpersonal disagreement, insecurity in workplace, fear from threats to safety (in/out of workplace), lack of adequate professional support, development and respect, as well as the conviction that all the hopes will be fulfilled abroad. This broad range of factors influencing the migration, could be also applicable for other developing or least developed countries. It is important to collect reliable data on migration and flow of healthcare workers in order to get decisive picture of migration patterns. However, the available information on international level is still insufficient and very poor quality (Mills et al, 2011) due to inadequate registration of migration data in both receiving and sending countries, different and complex pathways of migration and status of migrating healthcare workers (e.g. permanent or temporary migration) (Aluttis et al, 2014). Aluttis and his research team also concluded, that due to globalization, the health workers worldwide are connected, mobile and aware of the opportunities in

other, developed countries, which leads to the global increase of medical professionals migration. The shortage of healthcare workers is shifted from high income countries to low and middle income countries, which are unable to influence or prevent the factors leading to migration and subsequent brain drain. This also emphasizes other important problems, the facts that high income countries suffer from the chronic undersupply of health workers and that their healthcare systems are unsustainable, relying on immigration and foreign labor. In Aluttis's research it has been highlighted, that the recruitment of health workers from foreign countries does not solve the problem, but creates potentially dangerous, even life-threatening situations in developing or least developed countries.

It is also important to make difference between foreign-born and foreign-trained health professionals. In the evaluation of migration are more relevant foreign-trained healthcare workers, while in the group of foreign-born, there could be medical professionals who just born abroad but got their diplomas in the developed countries, where they currently work as well. According to the OECD data, the percentage of foreign-trained doctors in European countries in 2021 was the highest in United Kingdom (31,89%), Ireland (40,45%), Norway (42,1%) and Israel (57,82%), while in Hungary in 2020 it was 8,18%.

3. Methodology

As already mentioned, in my research I have used the literature review method to examine articles on the migration of Hungarian healthcare professionals published in the last 5 years (2018-2022) and included in the PubMed and ScienceDirect publication databases. I focused on domestic studies that examined various aspects of medical migration, as well as opinions and experiences related to it. A literature review is a comprehensive, thorough overview of the current state of knowledge on a given topic, as well as discussion of the literature surrounding a certain topic. In order to identify gaps in the current knowledge and to make recommendations for future research, it must be critically evaluated and synthesized. This integrative type of the review is an important tool, which evaluates the strengths and weaknesses of the existing research and can be also used to inform decision-making in clinical practice or policymaking. As first step, it is certainly important to decide, which articles relevant to the topic should be included in the research. As in my review I tended to deal with migration among Hungarian healthcare workers, I have focused on studies that examined health professionals' views and experiences on migration. Eight (8) studies were included in this research area.

4. Results

Gyórfy and Szél have done research about Hungarian medical students' intentions to work abroad after finishing their studies (Gyórfy et al, 2018b). In 2016/2017

academic year they did a quantitative and qualitative online survey of 530 students from 4 Hungarian medical universities (University of Budapest, Debrecen, Pécs and Szeged), but analyzed only the 5th (51.3%) and 6th (48.7%) year students' answers, 165 in total (38.5% male and 61.5% female). The majority of respondents were students of the Semmelweis University in Budapest (41.4%), followed by the respondents from the University of Szeged (28.4%), and finally the students from Debrecen (19.1%) and Pécs (11.1%). Although the students which answers were analyzed in this survey represented only 2,75% of the complete medical students population (5984) in that particular academic year, the evaluation showed, that more than 40% of students imagine their future abroad. Most of them would leave immediately after graduating from university and plan to work abroad for at least two to five years. At the same time, half of the medical students who declared, that they want to go abroad are not sure about returning home. The most decisive motivations for looking for employment opportunities abroad are the currently prevailing working conditions in Hungarian healthcare system, inadequate wages, as well as the general living conditions in Hungary. It is important to emphasize that these data only reflect the desires and intentions, as the number of students who have a specific agreement with a foreign institution is negligible. There are subjective and objective conditions, which would support staying abroad or returning. Among the subjective reasons, family motivations are primary, however, homesickness, patriotism, the lack of Hungarian words/landscapes/food can also be decisive in returning. The objective reasons are clearly related to work environment factors: the young generation who wants to say no to gratuities (seeing the difficult situation of their older colleagues), unpredictable incomes, long working hours, and risky infrastructural conditions. Work-life balance and a supportive collegial atmosphere seem important to future medical doctors. From the study results we can also notice, that the examined population of medical students is strongly feminized. Similar data are presented by the Hungarian Central Statistical Office, that the proportion of female doctors in the young age group (26–29 years) is twice that of male doctors.

Gyórfy and her team also investigated the connection between the Hungarian physicians' willingness to migrate and burnout, as the most important challenges of the twenty-first century healthcare (Gyórfy et al, 2018a). In 2013 they did a quantitative, online survey including 4 784 Hungarian physicians, which represented 12% of the total physician population in the same year (based on the data published by the Central Statistical Office). They survey was done using the contacts of the registered members of the Hungarian Medical Chamber and the association between physicians' burnout and their willingness to migrate was determined by binary logistic regression analysis. 82% of the respondents did not plan to work abroad in the upcoming one or 2 years, while 16.6% planned to work as physician and 1.4% not as physician. Among those who plan to work abroad, 17.1% had written or oral contract and 32.9% who planned migration in the near future but had not taken any measures yet. The results showed, that there is a circular causality between burnout and the willingness to migrate. The intention to work abroad was affected by the emotional exhaustion dimension of burnout, depersonalization had

a tendency to impact the willingness to migrate, while contemplating migration might evoke a certain degree of depersonalization in caregivers who are in a dilemma.

Gaal and his research team (Gaal et al, 2021) state, that Hungary is facing human resource shortages brought on by emigration, especially after the EU accession in 2004. The financing restrictions on public provision were aggravated by the loss of thousands of health workers, who emigrated mainly to Germany, the UK and Austria, but, to some extent, also to the private sector within the country. The final push came from the COVID-19 pandemic, which threatened to put the whole system to its ultimate test. They highlighted that the deteriorating conditions in the public sector and the migration-driven human resource crisis have generated growing dissatisfaction among health workers, which have from time-to-time erupted (e.g. spontaneous and organized protests, resignations of heads of departments, groups of doctors quitting their jobs in a particular hospital) (Gaal et al, 2020). These events provided munition for professional chambers, trade unions and other organized interest groups to lobby for improvements, mainly for pay increases. For instance, in August 2020, the newly elected leaders of the Hungarian Medical Chamber invited members to deposit their written and signed cancellation of voluntary overtime to exert pressure on the government and acknowledge that without this, health services would not be able to function. The Act, passed on 6 October 2020, brings the employment of health workers under strict central control with a new employment status similar to that of the armed forces. The Act also provides physicians with an unprecedented 120% salary increase and criminalizes informal payments. Gaal emphasized, that the reception has been overwhelmingly negative, however the first statistics show that only about 3-5% of the active workforce did not sign the contract by 1 March 2021. The implementation of the reform still faces serious challenges and the government eventually responded to the demands by offering additional funding to certain areas and pay raises to various groups of health workers. As conclusion of this research is, they accented, that neither the theory nor the empirical evidence suggest the policy will work in practice. The key of success would be proper understanding and addressing the motivation of both the health professionals and the patients in term of informal payment. Low wages are an important factor why doctors accept informal payment, while patients make those in order to access priority in healthcare system, to ensure adequate medical care. According to Gaal, it can be argued that the pay raise might induce the repatriation of health professionals working abroad, but the accompanying conditions of redeployment and transfer of health workforce by the government may reduce the attractiveness of higher salaries.

Kovács and her team did a research is to examine the consequences of migration of healthcare professionals from Hungary to foreign countries (Kovács et al, 2019). They used the data of the Monitoring System of Human Resources in Healthcare System managed by the General Directorate of Human Resources Development (ÁEEK EFF) of the State Healthcare Center and selected the data of the five medical specialties most affected by the migration of physicians, generated during

a six-year cycle (2010–2016). In this research, they measured the density of physicians as well as doctors' specializations (professional exams) with valid registration status. They have observed, that in Hungary the number of physicians involved in migration compared to the number of those with valid licenses in the five most affected specialties was the highest in anesthesiology and intensive therapy (23.5%), in surgery (17.9%), followed by internal medicine (7.9%), infant and pediatric medicine (7.4%) and family medicine (6.4%). According to their results, these specialists are mainly from the 50+ age group, so it is worthwhile and necessary to emphasize the training and retention of the appropriate supply. They concluded, that in the examined specialties, the aging workforce and the low supply of specialists are typical in the regions with a more disadvantaged situation. The results of the research emphasize the problem of aging, as well as regional discrepancies in the case of specialized fields at risk of outflow. It can be seen that a significant majority of the workers in the professions of internal medicine, family medicine, and infant and pediatric medicine belong to the older age group, over 50 years old. The analysis carried out by specialty showed that the most critical situation can be seen in the case of infant and pediatric specialists. More than 70% of pediatric and pediatric specialists are 50 years or older, while in family medicine they represent 68%, in surgery approximately two thirds and internal medicine 65.5% of the total number of all age groups. Only in anesthesiology and intensive care more than half of the working doctors are younger than 50 years old. The data also pointed out that there are marked regional inequalities in terms of care: the capital region and medical university towns and counties are the least affected and in the best position in terms of specialist medical supply. In the capital, the number of doctors is significantly higher due to the top role of progressive care and the institutions related to medical training, and the relatively good situation of Baranya, Csongrád and Hajdú-Bihar can also be linked to the university. It can be concluded that the shortage of specialists in the selected five specialties is severe in the counties of Békés, Nógrád, Jász-Nagykun-Szolnok, Tolna and Szabolcs-Szatmár-Bereg compared to the other counties.

Papp and his research team explored the development of the general practitioner (GP) shortage in primary care and its characteristics in Hungary (Papp et al, 2019). This was longitudinal follow-up study including all general practices and GPs in period 2007–2016, based on data provided by the National Institute of Health Insurance Fund Management (NIHIFM). Analyses were performed on changes in number, age and sex of GPs by the practice type (adult, paediatric and mixed), as well as on their geographical distribution and migration between areas characterised by deprivation index (DI) at municipality level. This research showed, that the number of general practices with unfilled GP posts was increasing exponentially, mainly in the most deprived areas of the country. The number of GPs in all types of practices decreased, in mixed (by 7.7%) and paediatric (by 6.5%) practices. The number of adult practices with unfilled GP posts doubled, while the number of paediatric practices with a vacancy for a paediatrician more than tripled. As a result of the migration, in the most deprived areas, the number of GPs decreased by 8.43%. The average age of GPs increased by 3.7 years in

adult, by 5.4 years in paediatric and by 4.2 years in mixed practices. According to the results of this study in 2007, 52.27% of the GPs were women, and this rate increased to 56.19% by the end of the decade. The association between deprivation and vacancy for GPs was studied by risk analysis and an exponential association between relative vacancy rate and deprivation was confirmed. Papp and his team concluded, that the workforce crisis in Hungarian primary healthcare is progressively deepening and resulting in more severe inequity in access to healthcare.

Kovács D. and her coauthors did a survey on the Hungarian healthcare practitioners' economic- migration and career changing attitude (Kovács et al, 2018). The aim of their investigation was to measure the mentioned attitudes and to present the influencing factors. They have used a self-edited questionnaire and a valid Effort-Reward Imbalance (ERI) questionnaire and 821 persons (nurses, physiotherapist, midwives, dietitians and nurses) have been included in the research. The studied population represented only 0.45% of the total filled healthcare posts in Hungary. More than half of the participants declared they are planning to leave the healthcare sector and 46.7% of the participants are planning to go abroad for work. More than half of the participants would leave the country particularly due to their low salary. According to the study results the low salary has strongly influenced the occurrence of foreign employment. Also, based on the results it has been concluded that the experienced stress at the workplace is stronger among those colleagues who are planning to leave Hungary or the healthcare sector. The level of the experienced stress rate was the highest among nurses, however there was no significant correlation between the profession and the level of the work-related stress. Kovács and her team emphasized, that the above-mentioned attitudes among the participants have several causes, the optimization of the healthcare practitioners' working conditions is a political and social interest and the reduction of the disadvantageous factors would require systemic intervention.

Vizsy and her team analyzed the motivations of Hungarian physiotherapists for working abroad and the satisfaction of the colleagues working abroad. In their research (Vizsy et al, 2019) they used a self-designed questionnaire and the Effort-Reward Imbalance (ERI) Questionnaire, in period between November 2018 and February 2019. 112 physiotherapists were included in the survey, mainly from France and Austria, as well as Germany, Switzerland, England, Italy, United Arab Emirates, Sweden and Belgium. From the data presented in this study, it is not clear which percentage of the Hungarian physiotherapists working abroad have filled the questionnaire. However, the available results showed physiotherapists' migration was primarily driven by the desire for a better quality of life, a more predictable vision and more favorable financial situation and better working conditions. Before leaving, 23.2% of physiotherapists planned to work abroad forever, while at the time of the survey this percentage increased to 46.4. The study emphasized the further foreign employment and remaining abroad is strongly influenced by and significantly positively correlated with the financial situation and the perception of the current life situation. Deeper analysis showed the perception

of the actual life situation is clearly related to the fact that it is not necessary to take a second job. 39.3% of the respondents claimed they do not face any negative factors in a foreign country, 26.8% highlighted no reasons for returning home, while 69.6% would return home with more favorable financial conditions and 51.8% with better working conditions. The change of these conditions would encourage more than half of physiotherapists working abroad to come home.

Szabó, Szöllősi and Talabér in their research (Szabó et al, 2020) examined the the child healthcare system in Hungary, focusing on its strengths and challenges. Analysing numerous official domestic and international data, in their publication they presented several important conclusions, including the statement that Hungary will face a major shortage of paediatricians within ten years. They emphasized this based on the data on average age of paediatricians in Hungary which is 59 years (46% of whom are aged over 60 years) and of the 1498 pediatric practices in the country, one-third are staffed by physicians aged 50–60 years. In Hungary paediatricians study for five years to care specifically for children, while family physicians receive only four months of pediatric training, which is not enough for them to have adequate competence in caring for children. All this could lead to the conclusion, that ten years from now, many of physicians aged 50–60 years will be retiring, leaving many empty positions with no one to take them. They highlighted, that several efforts have been already made to solve this complex problem.

5. Conclusions

Although only 2,75% of the complete population of Hungarian medical students has been investigated, and most of the data only reflect their desires and intentions, the proportion of those who imagine their future abroad is still high (more than 40%). Further research on the topic, involving more participants in the survey would be required, however, it is clear that among the motivations for employment abroad, the prevailing working conditions in healthcare, inadequate wages, and the general living conditions in Hungary are the most decisive. A salary increase may induce the repatriation of medical professionals working abroad, but the accompanying conditions of relocation imposed by the government may reduce the attractiveness of higher salaries, together with better working conditions abroad. Although there are significant efforts, there are still no completely defined government plans for the improvement of working conditions of healthcare workforce in Hungary. Examining the profile of migration, it can be seen that the situation is most critical in the professions of internal medicine, family medicine, and infant and pediatric medicine in terms of medical specialization, while in terms of county provision and demographics, there is the most prominent shortage of specialists in Békés, Nógrád, Jász-Nagykun-Szolnok, Tolna and Szabolcs-Szatmár-Bereg counties compared to other counties. Within ten years, Hungary will face a severe shortage of pediatricians. Low salaries and poor working conditions force doctors to either go abroad or work in private institutions. The average age of

pediatricians in Hungary is 59 years, 46% of them are over 60 years old. The labor crisis in Hungarian primary healthcare is gradually escalating and will result in increasingly serious inequalities in access to healthcare. It has been observed that the burnout syndrome among health workers (doctors) increases the willingness to work abroad. Optimizing the working conditions of healthcare workers is a political and social interest, which would probably take a long time, but could ensure high-quality care in the long run. One of the most important conclusions of the review is that Hungarian healthcare workers left abroad primarily because of better quality of life and more favorable financial conditions, but some of the research results showed, that changes in these conditions at home would encourage them to return home.

References

1. Aluttis C., Bishaw T. and Frank M.W. (2014) The workforce for health in a globalized context--global shortages and international migration, *Glob Health Action*, Vol. 13, No. 7, Available: <https://www.tandfonline.com/doi/full/10.3402/gha.v7.23611> [26 Dec 2022]
2. Asadi H., Ahmadi B., Nejat S., Akbari Sari A., Garavand A., Almasian Kia A., Hasoumi M. (2018) Factors influencing the migration of Iranian healthcare professionals: A qualitative study, *PLoS One*, Vol. 13, No. 6, Available: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0199613> [26 Dec 2022]
3. Becker R. and Teney C.(2020) Understanding high-skilled intra-European migration patterns: the case of European physicians in Germany, *Journal of Ethnic and Migration Studies*, Vol. 46, No., pp. 1737-1755, Available: https://www.researchgate.net/publication/329926093_Understanding_high-skilled_intraEuropean_migration_patterns_the_case_of_European_physicians_in_Germany [04 Nov 2022]
4. Blacklock C., Ward A.M., Heneghan C. and Thompson M. (2014) Exploring the migration decisions of health workers and trainees from Africa: a meta-ethnographic synthesis, *Soc Sci Med.*, Vol. 100, pp. 99-106., Available: <https://www.sciencedirect.com/science/article/abs/pii/S0277953613005807> [26 Dec 2022]
5. Bludau, H. (2021) Global healthcare worker migration, In: *Oxford research encyclopedia of anthropology*, Oxford University Press, Oxford, Available: <https://doi.org/10.1093/acrefore/9780190854584.013.231> [26 Dec 2022]
6. Botezat, A. and Ramos, R.(2020) Physicians' brain drain - a gravity model of migration flows. *Global Health* Vol. 16, No. 7, Available: <https://globalizationandhealth.biomedcentral.com/articles/10.1186/s12992-019-0536-0> [04 Nov 2022]
7. Gerchow L., Burka L.R., Miner S. and Squires A. (2021) Language barriers between nurses and patients: A scoping review. *Patient Educ Couns*, Vol.104, No.3, pp. 534-553, Available:

<https://www.sciencedirect.com/science/article/abs/pii/S0738399120305152> [26 Dec 2022]

8. Gyórfy Zs., Dweik D. and Girasek E. (2018a) Willingness to migrate-a potential effect of burnout? A survey of Hungarian physicians. *Hum Resour Health*, Vol.16, No.1, Available: <https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-018-0303-y> [04 Nov 2022]

9. Gyórfy Zs. and Szél Zs. (2018b) Willingness to work abroad among Hungarian medical students. *Orv Hetil.*, Vol. 159, No.1, pp 31–37, Available: <https://pubmed.ncbi.nlm.nih.gov/29291646/> [04 Nov 2022]

10. Gaal P., Velkey Z. and Webb E.(2020) The health systems and policy monitor: Hungary. In: European Observatory on Health Systems and Policies, editor. *The Health Syst Policy Monitor 2020*. [online] Available: <https://www.hspm.org/countries/hungary25062012/countrypage.aspx> [04 Nov 2022]

11. Gaal P., Velkey Z., Szerencses V. and Webb E. (2021) The 2020 reform of the employment status of Hungarian health workers: Will it eliminate informal payments and separate the public and private sectors from each other?, *Health Policy*, Vol. 125, No. 7, pp.833-840, Available: <https://www.sciencedirect.com/science/article/pii/S0168851021001123> [04 Nov 2022]

12. Kovács E., Girasek E., Kozák A., Sziklai M., Béteki Zs., György A., Páva H. and Szócska M. (2019) Overview of human resources for health composition in the most mobile specialty groups in Hungary, *Orv Hetil.* Vol. 160, No. 31, pp. 1223–1230, Available: <https://akjournals.com/view/journals/650/160/31/article-p1223.xml> [04 Nov 2022]

13. Kovács D., Pónusz R., Boncz I., Szabó Z. and Endrei D.(2018) Survey of the Hungarian Health Care Practitioners' Economic- Migration and Career Changing Attitude, *Value in Health* 21 (1): S115, Available: [https://www.valueinhealthjournal.com/article/S1098-3015\(18\)31079-9/fulltext#relatedArticles](https://www.valueinhealthjournal.com/article/S1098-3015(18)31079-9/fulltext#relatedArticles) [04 Nov 2022]

14. Mills E.J., Kanters S., Hagopian A., Bansback N., Nacheha J. et Alberton M. (2011) The financial cost of doctors emigrating from sub-Saharan Africa: human capital analysis. *BMJ*, Vol. 343, Available: <https://www.bmj.com/content/343/bmj.d7031> [26 Dec 2022]

15. OECD: Health Workforce Migration: Migration of doctors, Available: https://stats.oecd.org/Index.aspx?DataSetCode=HEALTH_WFMI [26 Dec 2022]

16. Papp M., Körösi L. and Sándor J. (2019) Workforce crisis in primary healthcare worldwide: Hungarian example in a longitudinal follow-up study. *BMJ Open*, Vol. 9, No. 7, Available: <https://bmjopen.bmj.com/content/9/7/e024957> [04 Nov 2022]

17. Suciú, Ş.M., Popescu, C.A., Ciumageanu, M.D. et al. (2017) Physician migration at its roots: a study on the emigration preferences and plans among medical students in Romania, *Hum Resour Health*, Vol. 15, No. 6, Available: <https://human-resources-health.biomedcentral.com/articles/10.1186/s12960-017-0181-8> [04 Nov 2022]

18. Szabó L., Szöllősi K. and Talabér J. (2020) Child healthcare in Hungary. *Turk Pediatri Ars*, Vol. 55, Suppl. 1, S41–S56, Available: <https://turkarchpediatr.org/en/child-healthcare-in-hungary-1371> [04 Nov 2022]
19. Vizsy M., Busa M., Szöts B., Pónusz R., Boncz I. and Molics B. (2019) Analysis of health care workers' migration: the motivations of hungarian phisiotherapists for working abroad, *Value in Health*, Vol. 22, Supp.3, S823, Available: [https://www.valueinhealthjournal.com/article/S1098-3015\(19\)34628-5/fulltext](https://www.valueinhealthjournal.com/article/S1098-3015(19)34628-5/fulltext) [04 Nov 2022]