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## FACTORS IMPACTING HEALTH PERSONNEL MIGRATION IN SLOVAKIA: ROLE OF REMUNERATION \*

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**Abstract.** Migration is influenced by many macro (environmental, social, economic, political) and micro (personal characteristics) factors that lead to cross-border movements. Currently, we consider the topic of personnel management in hospitals in Slovakia to be extremely crucial, as it is related to the announced reform efforts that may affect the emigration sentiment of health care workers. The main goal of the paper is to compare the attitudes of doctors and nurses on remuneration before and after the Covid -19 pandemic outbreak in Slovak hospitals and to identify emigration sentiments. As principal methods the base index, chain index and rate of increment have been used to calculate the wages. Next, we used basic statistical methods (sum - "n", proportion - "%") in the study. Student's t - test was also used in the study. Work remuneration was one of the worst rated conditions. The results of the analyses have shown that work remuneration got worse from the point of view of medical staff - the difference before and during the pandemic was 0.2. The pay-for-work scores showed higher average score within the health personnel group with less than 5 years of experience. A Student's t-test was conducted and has confirmed a statistically significant difference in the assessment of conditions as reasons for going abroad. The outflow of healthcare professionals from Slovakia is due to more favorable working conditions and organization of work in other countries.

**Keywords:** emigration sentiment; doctor; salary; work remuneration; nurse

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### 1. Introduction

The significance of personnel management in health care sector lies in the provision of quality and efficient health care, provided that human resources are well managed and of high quality. Different countries have their own specific problems, one of the main problems of Slovak health care system is its insufficient funding, causing an

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outflow of labor force. Migration of doctors leads to a loss of investment in human capital (Castro-Palaganas et al. 2018). In terms of the situation in Slovak Republic, characterized as dissatisfaction of medical staff with their salaries, a reform has been approved to increase salaries in 2023. The minimum salary coefficient for a doctor from 01.01.2023 for certified doctors is 2.5 times of the average salary, for non-certified doctors 1.5 times. In addition, the doctor's salary will be increased according to the number of years of experience - for non-certified doctors by 0.015 times of the average salary, for certified doctors by 0.025 times for 30 years. From 01.01.2025, the seniority coefficient for certified doctors is to be increased to 0.03 times of the average salary for 30 years. The Ministry of Health of Slovak Republic declares that the increase in doctors' salaries is to ensure the withdrawal of mass resignations of doctors, to prevent a decline regarding the interest to study in the field of health care, to prevent the outflow of healthcare professionals from the system or their transfer to other countries (Ministry of Health of Slovak Republic, 2022).

**Table 1.** Salaries of doctors without specialization and experience - without salary supplement (2017 - 2023)

Year	Basic salary (€)	Increase (€)	Base index	Chain index	Rate of increment (%)
2017	1103,75	+ 31,25	Basic Year		
2018	1140,00	+ 36,25	103	103	3,28
2019	1192,50	+ 52,50	108	105	4,61
2020	1266,25	+ 73,75	115	106	6,18
2021	1365,00	+ 98,75	124	108	7,80
2022	1416,25	+ 51,25	128	104	3,75
2023	1695,40	+ 279,15 (proposal)	154	120	19,71

Source: authors - own processing and calculations based on MF SR

**Table 2.** Salaries of doctors with specialization and 20 years' experience - without salary supplement (2017 - 2023)

Year	Basic salary (€)	Increase (€)	Base index	Chain index	Rate of increment (%)
2017	2030,90	+ 57,50	Basic Year		
2018	2097,60	+ 66,70	103	103	3,28
2019	2194,20	+ 96,60	108	105	4,61
2020	2329,90	+ 135,70	115	106	6,18
2021	2511,60	+181,70	124	108	7,80
2022	2605,90	+ 94,30	128	104	3,75
2023	3027,50	+ 421,60 (proposal)	149	116	16,18

Source: authors - own processing and calculations based on MF SR

The Table 1 and Table 2 show the salaries of doctors from 2017 to 2023. The highest increase rate is observed in 2023 compared to 2022 - 19.71% for doctors with no specialization and experience and 16.18% for doctors with specialization and 20 years of experience.

In 2023, the Slovak Ministry of Finance (MF SR) plans to increase the salary of other healthcare personnel - nurses and midwives from €200 to €450, physiotherapists, medical and pharmaceutical laboratory technicians, dental and radiology technicians, public health workers from €90 to €340, laboratory diagnosticians and pharmacists from €120 to €360, dental hygienists from €90 to €330, paramedics from €120 to €375, and

ambulance workers from €100 to €340. Salaries depend on the evaluation, length of experience, expertise, and specialization (MZ SR, 2023).

## 2. Literature Review

It is obvious from the literature that the decision of doctors and other health professionals to migrate is multifactorial (Milner, Nielsen, and Norris 2021). Migration is influenced by many macro (environmental, social, economic, political) and micro (personal characteristics) factors that lead to cross-border movements (Pinto da Costa, Moreira, Castro-de-Araujo, da Silva, dos Santos 2021). The decision to migrate is made by an individual at a personal level; however, how, why, where, and when to migrate appears to be determined by a complex interplay of professional, local, national, and international factors (Davda, Gallagher, Radford 2018; Snieska et al., 2020). In particular, researchers argue that satisfaction with the working conditions factor plays a key role as a push factor regarding the emigration of hospital doctors and nurses (Schneider et al., 2023). Ndikumana (2018) argues that factors such as financial remuneration, the career of health professionals, their qualification training and development, motivation, working relationships, or working conditions are factors influencing the decision to migrate. The results of Onah et al. (2022) indicated that the most common reasons for emigration (the main push factor) are poor remuneration. The migration flows determinants within the European Union by means of networking approach were investigated by Windzio et al. (2021). The publication of Dohlman et al. (2019) assesses the motivational factors leading to physician migration in terms of Maslow's hierarchy of needs. The authors suggested that financial security needs were the main drivers of physician emigration. A study by Botezato and Ramos (2020) evaluates how doctors choose their destination countries for emigration. The authors found out that good remuneration of doctors was among the main drivers of doctors' brain drain. It is significant to bear in mind that the migration of medical professionals may not only take place from low- and middle-income countries to high-income countries, but also from high-income countries (Saluja et al., 2020). Tankwanchi, Hagopian, and Vermund (2019) have pointed out to the understanding of health professionals' mobility in low-income countries, whereby policy makers will be able to develop more informed policies to address the shortage of skilled health professionals. Chojnicki and Moullan (2018) focused their study on doctors' shortage issue to see if policies are taking an effective approach to addressing the shortage of doctors.

The HR manager in healthcare institutions performs all activities and tasks in terms of recruitment, training, motivation, remuneration, etc. Personnel management in healthcare sector is regulated by Act No 576/2004 Coll. on health care, services related to the health care provision and on amendment and supplementation of certain acts as well as Act No 578/2004 Coll. on health care providers, health care workers, professional organizations in health care sector and on amendment and supplementation of certain acts. How to remunerate healthcare workers to be motivated to treat patients effectively has no clear answer even on the threshold of the Healthcare 4.0 era. Salary costs constitute the highest item within the healthcare organizations budgets, (most often between 65% and 80% of the total budget), which only increases the need for discussion and search for solutions. In developed countries, the treatment outcomes payments (pay for performance) in combination with treatment procedures standardization and efficiency indicators adherence are becoming more and more widespread (Stachová, Blštáková, Stacho, 2021). Performance management systems (rewarding the good and punishing the bad) are implemented in healthcare organizations. They are often ineffective because the health personnel shortage leads health managers not to risk demotivation and leaving. Healthcare organizations are most often a highly hierarchical processes, as long as a line manager proposes a reward or punishment, it usually has to go through an approval system, which limits the final activity outcome (Raijani et al, 2018). Schumann, Maaz, and Peters (2019) argue that migration of doctors has become a global phenomenon with significant implications for health care delivery systems worldwide, the motivations and factors leading to physician migration are complex and constantly evolving. Meanwhile, Thompson and Kapila (2018) emphasize that the shortage of human resources in health care leads to serious and lasting damage to health care systems, according to Yakubu et al. (2022a), also to the threat of inadequate health care delivery. Yakubu et al. (2022b) conclude that countries could follow common

public value propositions for source and destination countries. It has been mostly spoken about emigration sentiment, but the opposite can also be stated, that the migration crisis due to the Pandemic seems not to have affected the patterns of migration to Slovakia (Prívvara, Rievajová, 2021).

### 3. Research objective and methodology

Remuneration is one of the HR activities that can influence the migration of health personnel. The research part is based on quantitative research methodology and the goal of the study is to compare the attitudes of doctors and nurses towards remuneration before and after the Covid -19 pandemic outbreak in Slovak hospitals and to identify emigration sentiments. Based on the research objective, the research question has been formulated: Which personnel activities influence the propensity of doctors and nurses to emigrate abroad for work? In formulating the research question, we drew on the findings of Slovak Medical Chamber (2020), according to which the propensity of doctors and nurses to migrate abroad for work is mainly influenced by remuneration and working conditions. Similarly, Jankelová (2021) reports that healthcare personnel migrate in search of better remuneration and working conditions.

According to Jašková (2021), the empirical data is collected from the respondents at the stage of obtaining empirical material. The distribution of the questionnaire was done online through Google Forms. The Research set consisted of 119 healthcare workers, including 88 nurses and health assistants, 31 doctors. In the items related to working conditions, the respondents answered by means of a Likert scale where 1 - very satisfied, 2 - rather satisfied, 3 - neither satisfied nor dissatisfied, 4 - rather dissatisfied, 5 - very dissatisfied. We used the point method, assigning 1 point to a very satisfied response, 2 points to a rather satisfied response, 3 points to a neither satisfied nor dissatisfied response, 4 points to a rather dissatisfied response, and 5 points to a very dissatisfied response. In the study we used basic methods of statistics (sum - "n", proportion - "%") and Student's t - test was used as well. We used the arithmetic mean and assigned scores 1 - 5 to each answer. The higher the average score, the higher the dissatisfaction, the lower the average score, the higher the satisfaction.

**Table 3.** Satisfaction of healthcare workers with working conditions in the hospital

Working conditions before Covid-19	Average score	Working conditions during Covid-19	Average score	Difference	Student t-test
Work remuneration	4,0	Work remuneration	4,2	+0,2	0,011

*Source:* own processing (questionnaire survey 11/2022 – 12/2022)

Table 3 shows that work remuneration was among the worst rated conditions. Apart from the work remuneration issue, the research also has been focused on work organization, workload, training, and other working conditions, and we based our item formulation on the findings of Beutner et al. (2022); according to these researchers, the working conditions of doctors and nurses deteriorated significantly as a result of the pandemic. We note that work remuneration got worse from the perspective of health personnel - the difference before and during the pandemic was 0.2. The performed t-test did not confirm a statistically significant difference in satisfaction ratings before and during the pandemic for the item work remuneration.

**Table 4.** Working conditions as a reason for going abroad (contingency table - length of experience)

Working conditions during Covid-19/ Practice	Average score up to 5 years	Average score 6 – 15 years	Average score 15 years +	Sum
Work remuneration	4,6	4,2	3,8	4,2

Source: own processing (questionnaire survey 11/2022 – 12/2022)

Table 4 shows that the assessment of work remuneration shows a higher mean score in the group of health professionals with less than 5 years of experience. We interpret the results as suggesting that better remuneration when working abroad is a reason to go abroad, especially for young doctors and nurses. This may have an adverse impact on the population for whom health care will be unavailable due to the lack of personnel.

**Table 5.** Working conditions as a reason for going abroad

Working conditions during Covid-19 with up to 5 years' experience and more than 5 years	Student t-test
Work remuneration	0,001

Source: own processing (questionnaire survey 11/2022 – 12/2022)

Table 4 shows that the conducted Student's t-test confirmed a statistically significant difference in the ratings of conditions as reasons for going abroad. Work remuneration for is a reason for going abroad, especially for personnel with up to 5 years of experience, i.e., young doctors and nurses.

The questionnaire also contained open questions. In one of them we investigated what suggestions doctors and nurses have to influence (prevent) the tendency to emigration, the departure of healthcare workers abroad. The most frequent item in the measures was the following: remuneration system - salaries, personal evaluation and benefits.

Based on the research objective, we formulated the research question: Which personnel activities influence the propensity of doctors and nurses to emigrate abroad for work? We found out that among the working conditions, it is the remuneration for work that most affects the emigration sentiment of healthcare professionals (mean score 4.2). The problem area of work remuneration was also reflected in the respondents' views as a possible measure to address emigration propensity. Our findings are in line with those of the Slovak Medical Chamber (2020) and Jankelova (2021).

#### 4. Discussion

The authors of the study (Gkioka, et al. 2018) who explored the motivation factors of doctors and nurses working in Greek public hospital came to the following results. Data were collected between September 2016 and January 2017 from 366 healthcare employees (149 doctors and 217 nurses) by administering the Paleologou questionnaire, which explores four motivation factors (job attributes, remuneration, co-workers, and job performance). On a questionnaire 5-point scale, lower values reflect bigger levels of motivation. The alpha index of the questionnaire ranges from 0.914 to 0.851 (job attributes index: 0.914, compensation index: 0.903, co-workers index: 0.853, job performance: 0.851). By measuring the motivational factors significance, the following values were found out for doctors: job performance 2.03, co-workers 2.65, job attributes 2.91, and remuneration 3.15. For nurses, job performance 1.88, co-workers 2.6, job attributes 2.64, and remuneration 2.89. The most important motivation factors for both doctors and nurses are recognition of their job performance and their co-workers, while the less important factors are remuneration and their job attributes.

Our findings are not consistent with the results of the Gkioka, et al. study, which we attribute mainly to the different period of empirical data collection. Regarding the limitations, the results of our research cannot be generalized to all healthcare workers because the respondents have been selected randomly. For example, a study (Lambrou, Kontodimopoulos, & Niakas, 2010) in which the medical and nursing staff in the Nicosia General Hospital was explored to see how they are affected by specific motivation factors along with their link between job satisfaction and motivation. The authors used a validated instrument focused on four job-related motivators (job attributes, remuneration, co-workers, and job performance). Two categories of healthcare workers, doctors and dentists (N = 67) and nurses (N = 219), participated in the survey, and motivation and job satisfaction were compared within the sociodemographic and job-related variables. The survey showed that job performance ranked first among the top four motivators, followed by remuneration, coworkers, and only in last place were job attributes.

Our findings are more in line with the study results of Lambrou, Kontodimopoulos, and Niakas, 2010. The remuneration factor revealed statistically significant differences by gender and hospital sector. Medical staff showed statistically significantly lower job satisfaction compared to nursing staff. The results are consistent with the literature that focuses on management approaches using both monetary and non-monetary incentives to motivate healthcare workers. Healthcare workers tend to be more motivated by intrinsic factors, hence this should be the goal to motivate employees effectively.

## Conclusions

Apart from wage incentives, countries usually use other strategies related to personnel activities to recruit and retain health professionals, as many healthcare workers are underpaid, poorly motivated and show high levels of job dissatisfaction. In the quantitative research, we found out that work remuneration got worse from the perspective of healthcare personnel (comparing the period before and during the pandemic). The category of healthcare personnel with up to five years of experience is more likely to consider working abroad. Emigration sentiment of doctors and nurses to work abroad is most influenced by work remuneration.

We believe that the main reason for young medical professionals to migrate abroad for work may not necessarily be higher salaries, but may be optimal work commitment, feeling of support in practice and quality training. The most important aspect of personnel management in healthcare sector is primarily to ensure the sufficient quality of human resources, and secondarily to ensure that healthcare personnel have adequate working conditions (including work remuneration). Changes in the remuneration system will be useless without modernizing hospitals, improving equipment and facilities, and empowering staff.

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