"Carol Davila" University of Medicine and Pharmacy, Bucharest

DOCTORAL SCHOOL

Field: Medicine

CAREER ANALYSIS OF DOCTORS TRAINED IN UMFCD

PHD THESIS SUMMARY

PhD supervisor:

Prof. Univ. Dr. Dana Galieta Mincă

PhD student:

Cristina Mirela Georgescu

2022

Content

Introduction. Motivation of the paper 1

I. Current state of knowledge 3

Chapter 1. Health systems and managerial approaches 3

1.1. General characteristics of health systems 3

1.2. General characteristics of the Romanian health system 6

1.3. Quality management in health services in Romania 8

1.4. Perceived quality 10

1.4.1. Patient satisfaction 11

1.4.2. Staff satisfaction 12

1.4.3. Technical and professional quality 12

1.4.4. Professional accreditation 12

Chapter 2. General issues and international policies on human resources in the health field 14

2.1. Migration of the Romanian health field human resources 14

2.2. Main problems in the Romanian health sector 17

2.3. The situation of health field human resources in Romania 21

2.4. Analysis of the legislative framework on medical professions and organization forms 24

II. Personal Contribution 34

Chapter 3. Research project 34

3.1. Purpose of the paper 34

3.2. Objectives of the paper 34

3.2.1. Analysis of the legislative framework on medical professions and their organization forms 34

3.2.2. Assessment of the coverage with human resources 35

3.2.3. Analysis of the current informational system regarding the availability and validity of data 35

3.2.4. Analysis of career preferences at the end of the university training period 35

3.2.5. Analysis of the opinions regarding the career path in the specialization period 35

3.3. Materials and methods 36

3.3.1. Qualitative analysis 36

3.3.2. Quantitative analysis 36

3.3.3. Empirical research 36

3.3.4. Data processing 36

Chapter 4. Analysis of the legal framework on medical professions and organization forms 37

4.1. Evaluation of the EU's policy on health field human resources 37

4.2. Critical evaluation of the WHO's strategy and tools for ensuring an adequate coverage with human resources in the medical field 44

4.3. Evaluation of the coverage with human resources in the Romanian healthcare system at present ……...……...46

4.3.1. The profession of medical doctor 51

4.3.2. The profession of dentist doctor 65

4.3.3. The profession of pharmacist 70

4.3.4. The profession of general nurse 73

4.3.5. The profession of midwife 77

4.3.6. Other professions 81

Chapter 5. Analysis of the current informational system regarding the availability and the validity of data on human resources in the medical field 89

5.1. The Tempo Online Database 91

5.1.1. Doctors (excluding dentists) 91

5.1.2. Dentists 100

5.1.3. Pharmacists 105

5.1.4. Nurses 110

5.1.5. Midwives 113

5.2. The OECD Database 115

5.2.1. Doctors 116

5.2.2. Nurses 119

5.3. External migration and the intention to emigrate 121

Chapter 6. Assessing career development intentions in healthcare professionals 126

6.1. Analysis of career preferences at the end of the university training period 127

Chapter 7. Scientific contribution, conclusions and future perspectives for further research 142

7.1. Conclusions 142

7.2. Limitations 146

7.3. Recommendations – future research directions 146

Bibliography 148

Annexes 158

PhD Thesis Summary

Career analysis of doctors trained in UMFCD

PhD supervisor: Prof. Univ. Dr. Dana Galieta Mincă

PhD student: Cristina Mirela Georgescu

From ancient times the idea of health care is directly related to people, those who do what is necessary for their peers, and much later we recall their tools, tools without which it is impossible to work, and it is only in the background that the framework of activity slips – the health system.

If this is the case talking about affective perception, in populational approaches the system is on the first place. It is its responsibility to develop strategies, to allocate resources, to generate services to be implemented and last but not least, to make them sustainable.

Among the resources used to organize and provide health services the resource with the most peculiarities, the most specific is represented by staff, the human resource. If we approach the situation from the perspective of the categories of indicators used to evaluate the performance of health services, we will find that in a practical way, the result indicators are directly dependent on the quantitative and qualitative coverage with staff (Number of patients treated per year; The number of surgical procedures performed per year; Number of patients addressing emergency services).

In Romania, the number of doctors per 100,000 inhabitants increased from 189 in 2000 to 198 in 2004 and decreased again, reaching 192 in 2006. The number of nurses per 100,000 inhabitants increased from 402 in 2000 to 418 in 2002 and dropped to 397 in 2006. Thus, of all the analyzed countries, Romania has the lowest number of doctors and nurses respectively (after Bulgaria). Although in recent years there has been a slightly upward

trend in the number of nurses in other countries, in Romania neither the number of doctors nor the number of nurses has increased.

Over the last decade, the phenomenon of medical staff migration has increased in magnitude and, although it is not in itself a cause of the healthcare system workforce global crisis, it favors the accentuation of this problem in some countries. Speaking in more details about migration, we can say that it is an important component of the demographic phenomenon and a fundamental characteristic of nowadays population's movements in the social process with an increasing influence in current societies. The phenomenon of labor migration in the health field has seen an upward trend, occurring mainly from countries with lower incomes and poor health systems to countries with higher potential. Medical staff left their birth country in search of better opportunities and better living and working conditions, settling in much more developed and with greater socio-economic potential countries.

Accession to the European Union has led to the accentuation of this phenomenon of external migration, the main reasons cited by health professionals being the following: lower incomes compared to other professions, a low satisfaction level, synchronized with the social status and the lack of recognition, the lack of opportunities or their limitation in terms of career development, but also the differences between the conditions of carrying out the professional activity (equipment, access to consumables, medicines and modern diagnostic tests) and the required level of training. Romania has thus become an exporting country, which due to this aspect faces a labor force shortage. Described as the "brain drain", the external migration of healthcare professionals represents in fact the loss of technically and intellectually highly skilled workforce.

The countries to which human resources in this field have migrated have fluctuated over the last 30 years. Immediately after the fall of the communist regime, in the '90s, the main destinations were the United States of America, Hungary, Canada, France and Australia. Their spectrum has changed following Romania's accession to the European Union, which opened more opportunities to these specialists, many of them preferring to stay on the continent and to focus on Western countries such as France, Germany, the United Kingdom, Italy, and Belgium. On the other hand, one aspect that favored the presented situation was the existence of recruitment policies. At this moment, the main destinations for doctors are France, Germany, and the United States of America, although

the general flow of emigration seems to be declining. What is certain is that the migration of the medical field workforce cannot be stopped, but it can and should be effectively controlled in order to improve the health system in its entirety.

Among the negative consequences of the migration of doctors the following can be listed: the lowered access to health care, especially in rural areas; the increase of inequities within the Romanian health system, through shortage of doctors in certain specialties; increasing inequities in health systems between countries, because Romanian doctors emigrate mainly to Western Europe; lack of social resources; the continuous decrease of young populations; the decrease of the birth rate as a result of the emigration of potentially fertile women; dysfunctions in the national health system and impairment of the economy in general, but also the vulnerability of the doctors remaining in the country. Another disadvantage related to the migration of medical staff is that some are medical specialists and at the same time notorious teaching staff, whose departure generates the loss of qualified doctors and mentors for future generations of students and residents. We also cannot neglect another important aspect – the impairment of the fundamental right of citizens to health.

At the same time, there are also positive consequences of the migration of doctors, applicable for those who return to practice in Romania – they have new qualifications, new general and managerial skills, new organizational cultures, solutions for different cases. Also, links with the diaspora are being created and more and more exchanges of experience are taking place.

The purpose of this research is to identify the key elements that can be used in the learning and training process of UMFCD students in order to increase their adherence to the educational process they are following, to build their loyalty in relation to the choice of specialty and residency training center, for the purpose of decreasing the rate of medical emigration from Romania.

The general objectives of the paper refer to: the analysis of the legislative framework regarding the medical professions and their forms of organization, with the following sub-objectives: the evaluation of the EU policy on human resources in the medical field; critical evaluation of the WHO's strategy and tools for ensuring an adequate coverage with human resources in the medical field; evaluation of the coverage with human

resources in the Romanian health system at present; analysis of the current informational system regarding the availability and validity of data on human resources in the medical field; analysis of career preferences at the end of the university training period; analysis of opinions regarding the career path during the specialization period.

The paper proposes a methodology that starts from the evaluation of the macrosystem:

- qualitative analysis of the legislative framework on medical professions and their forms of organization, with the following specific sub-objectives: at European level (the evaluation of the EU policy on human resources in the medical field and the analysis of the general European framework for professional recognition highlight the turning point in the Romanian medical training, through the alignment of the programs provided by universities to the European directives); at WHO strategy level (the critical evaluation of the WHO strategy and tools to ensure adequate human resource coverage in the medical field provides tools that facilitate the uniformity of the deontological framework for external workforce employment); the local situation (the assessment of human resources coverage in the Romanian health system at present through the prism of trades and professions working for health services).

- quantitative analysis of data from internal and external public bases that allow highlighting at country level the trends of temporal evolution, signaling key moments in terms of changes in the migratory behavior of health professionals, distribution peculiarities of human resources in relation to the existing infrastructure for development regions.

- empirical research, questionnaire survey for graduates of the 3 major programs, bachelor and integrated master level to analyze career preferences at the end of the university training period, and analysis of opinions on the career path during the specialization period. The instruments are presented in the appendix of the paper, their validation was done in a pilot research prior to this study, they were self-administered and their use on consecutive promotions identified the changes that occur at the moment. Data processing used descriptive statistical methods, calculation of trends, confidence intervals, testing of the statistical significance of

empirically observed differences, time series, trends. The SPSS software package was used for processing.

The first section of the personal research is dedicated to the evaluation of the EU's human resources policy in the medical field. The European Union (EU) has a number of policies (Article 3 (2) of the Treaty on European Union; Articles 4 (2) (a), 20, 26 and 45-48 of the Treaty on the Functioning of the European Union (TFEU)) that facilitate the phenomenon of professionals' movement and thus give them a chance to access more satisfying and profitable jobs. These policies complement the free movement within other areas – goods, capital, services.

In order to ensure the freedom of mobility of human resources, the EU has issued the following regulations and directives: "Reform of the system for the recognition of professional qualifications completed in other EU Member States in the view of harmonizing and facilitating the procedure: Directive 2013/55 / EU amending Directive 36 / EC 2.1.6, "Issuance in 2016 of a European professional card for testing an electronic recognition procedure for certain regulated professions". Thus, Directive 2005/36/EC becomes the most important regulatory document on the recognition of professional qualifications. This new directive covers all professional qualifications in all sectors not only the health sector and combines the sectoral system with the general system allowing the same mechanisms to be applied: detailing the general system governing the recognition of training records and the regulation of the complementary system, the sectoral system, referring to professional recognition based on minimum training conditions.

There is, however, a third new system that refers, in fact, to professional recognition based on professional experience, but which is not applicable to any field, only to fields like industrial production, crafts and trade, for example, in which the persons involved cannot hold official qualifications, but they still are qualified. In principle, for all human resources related to the health system (doctors, general practitioners and specialists, nurses responsible for general care, dentists, veterinarians, midwives and pharmacists), regulations contained in the former sectoral system apply: automatic recognition based on completion of minimum training requirements. Currently, this system is called "recognition on basis of coordination of minimum training conditions".

Critical evaluation of the WHO strategy and tools for ensuring adequate human resources coverage in the medical field

The World Health Organization estimates that by 2030, there will be a shortage of approximately 18 million health professionals globally, and that this deficit will be more pronounced in underdeveloped or developing countries, but it will not bypass rich countries either. Obviously, a health system cannot function without the field's necessary human resources. The WHO emphasizes the need to ensure an adequate coverage with human resources in the medical field, which means, on one hand, training quality professionals that possess the appropriate skills in order to work in this field, and, on the other hand, the avoidance of the "brain drain" and the retention of specialists in the country, achieving an uniform health services coverage that ensures the elimination of inequalities resulting from belonging to an environment or to a vulnerable social class.

Evaluation of human resources coverage in the Romanian health system at present

In order to be recognized as specialists abroad, in one of the EU member states, Romanian doctors need a single copy of the documents certifying their training – diploma, certificates, etc. and the mention of the profession in the Vth Annex to the Commission Delegated Decision (EU) 2016/790 of 13 January 2016 amending Annex V to Directive 2005/36 / EC of the European Parliament and of the Council, regarding formal qualifications and the names of training courses (notified under document number C (2016) 1). On the other hand, in order to practice the profession, the European Union has established a series of documents required from all the persons trained to pursue one of the recognized professions.

The required qualification level is PSM - post-secondary level diploma (more than 4 years) - Article 11 (e) of the Directive 36.

Specifically, according to Ordinance No. 18/2009 on the organization and financing of residency and the amendment by Law No. 212/2021 (art. 3, paragraph 2): "The enrollment figure for residency is at least equal to the number of places representing the total number of graduates in medicine, dentistry and pharmacy with a bachelor's degree from the current year's promotion, cumulated with the number of positions according to

art. 18, established by order of the Minister of Health. If the number of candidates for the Medicine field who pass the residency exam is higher than the initially announced enrollment figure, it can be supplemented until the distribution of candidates". Available places for candidates registered for the national residency exam have been supplemented, so that there is an available place for each candidate entered in the competition. This fact was designed to cover the need of doctors across the country, assuming that all those who were to obtain the minimum entrance score in the national residency exam would choose one of the available places to continue their training. Of course, this supplementation has been beneficial to admitted candidates who wanted a place or a position, but not all the graduates opted for the available places. This is due to the fact that in each exam session there are candidates from other promotions who want to change their specialty, university center or want a certain position released for competition in that year. For these reasons, although there are places available for all the graduates, a good part of them remains unoccupied.

On the other hand, starting on January 1st 2018, gross salaries of medical staff were increased by twenty-five percent compared to the salary level granted in December of the previous year, including in this situation the values of the granted bonuses, and then, starting on the 1st of March 2018, the salaries of doctors and nurses were increased to the level of basis salaries that had been set for 2022. In this situation, the increases ranged between 70 and 172 percent. This situation refers also to doctors doing their residency training, who since 2018, due to these salary increases have changed their migratory behavior. Fresh graduates from the faculties of medicine, dentistry, and pharmacy, who previously chose to leave the country to pursue residency programs in other countries of the European Union, in a fairly large number, have changed their preferences by choosing to continue their residency training in Romania. This fact could be easily observed from the number of candidates entered in the national residency exam both before and after the 2018 increase.

The global effort to achieve universal health coverage by improving access to affordable and effective care for all cannot be achieved without a well-trained workforce and without the "right staff". The migration of the medical workforce around the world, especially that of doctors and nurses, is one of the most important and oldest phenomena.

Health workers migrate from developing or less developed countries to developed countries to improve their economic or social situation or for career development.

In many cases, they are recruited by countries in Europe, the USA and Canada. As a result, moving from one country to another has positive and negative effects on both the source country and the recipient country. The departure of highly skilled workers is considered costly for the country of origin due to the loss of investment in education, high tax costs and the distorted labor market.

One of the biggest problems in Romania at the moment is the mass migration of the health workforce and we are mainly talking about doctors and nurses. After the fall of communism in 1989, many significant changes were made in the political and economic spheres. The fact that Romania has joined the EU has constituted a solid external anchor for the transformation of the country throughout its transition. According to official statistics from the beneficiary countries, the number of Romanian doctors in 2004 in the EU Member States increased from 977 in 2003 to 2433 in 2007 (the year of Romania's accession to the EU). The number of Romanian nurses in EU countries before 2004 increased from 811 in 2003 to 8481 in 2007, most of them being situated in Italy (7670 nurses).

The phenomenon increased after joining the European Union. The most common reasons for leaving the country include low salaries compared to the non-medical professions, especially in conditions of much longer training than for the rest of the Romanian labor market, with long-term postgraduate training through residency, low level social satisfaction and lack of recognition, limited career development opportunities and discrepancies between the level of required skills and working conditions (equipment, access to consumables, medicines and modern diagnostic tests).

Of course, it is not negligible that Romania is an exporting country, without labor force. These outputs (external migration) are associated with the so-called medical "brain drain". The term "brain drain" is the loss of an intellectually and technically skilled workforce by shifting the workforce to more favorable environments from a geographical, economic, or professional perspective. The permanent departure of skilled labor could deplete the human capital of the sending countries, thus reducing the possibility of economic growth and raising the level of inequality and poverty in the source country.

Another important concern is the migration of young doctors and nurses, as the health system may lose some of its best stock of young human resources, along with its innovative capacity. The migration of the Romanian medical workforce cannot be stopped in the near future, but it can be controlled and must be managed efficiently and used in the interest of all Romanian citizens.

The analysis of the human resources number in the health field is quite difficult due to the fact that it is not possible to identify a national, reliable and up-to-date database. Colleges and orders, as well as the Ministry of Health, do not report the total number of doctors leaving the country.

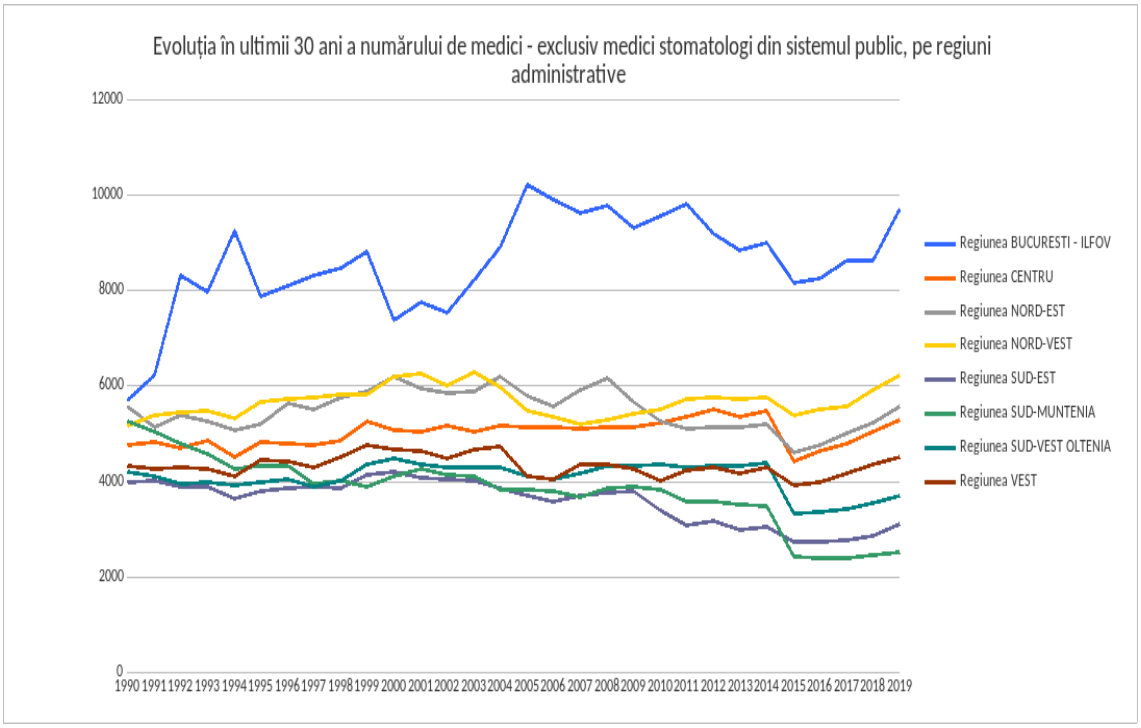
However, in order to get an overview of the medical workforce, the public databases, Tempo Online and OECD, were checked.

Analysis of the current informational system regarding the availability and validity of data on human resources in the medical field

The total number of doctors and their evolution were analyzed according to certain events that took place in Romania. A number of important elements are described, regarding both the variation of the number of doctors over time, but also by regions. It should be noted that since 1997, when complete data are available for the total number of doctors working in the private and public spheres, until 2019, their number has increased by more than 50%, from 41301 in 1997 to 63303 in 2019, according to Tempo Online. We can thus assume that the coverage with doctors has improved considerably during these years, although several sources show us that this coverage is unequal between the regions of the country and especially between urban and rural areas.

These aspects obviously lead to a multitude of inequalities, to areas where staff is deficient, and the necessary therapeutic act may become inaccessible or insufficient. It can also determine the necessity to move patients to regions with increased capacity, in terms of availability of both, human resources and the number of beds and technologies.

The number of resident population is an important aspect because, depending on it, some estimations are being made - the need for medical units, but also the need for human resources that must cover the demands of that population in all dimensions of the health system, whether we are talking about prevention, treatment or recovery.



In 2019, the North-East region was the most populous, with a population of 3,198,564 people. In the same year, in this region, 5562 doctors were working in the public sector and 2753 in the private sector respectively. In comparison, the Bucharest-Ilfov region, ranked 6th out of 8 in the ranking of regions according to the number of population (2,315,173 people in 2019), had the highest number of doctors (9719 in the public domain, 5270 in the private domain).

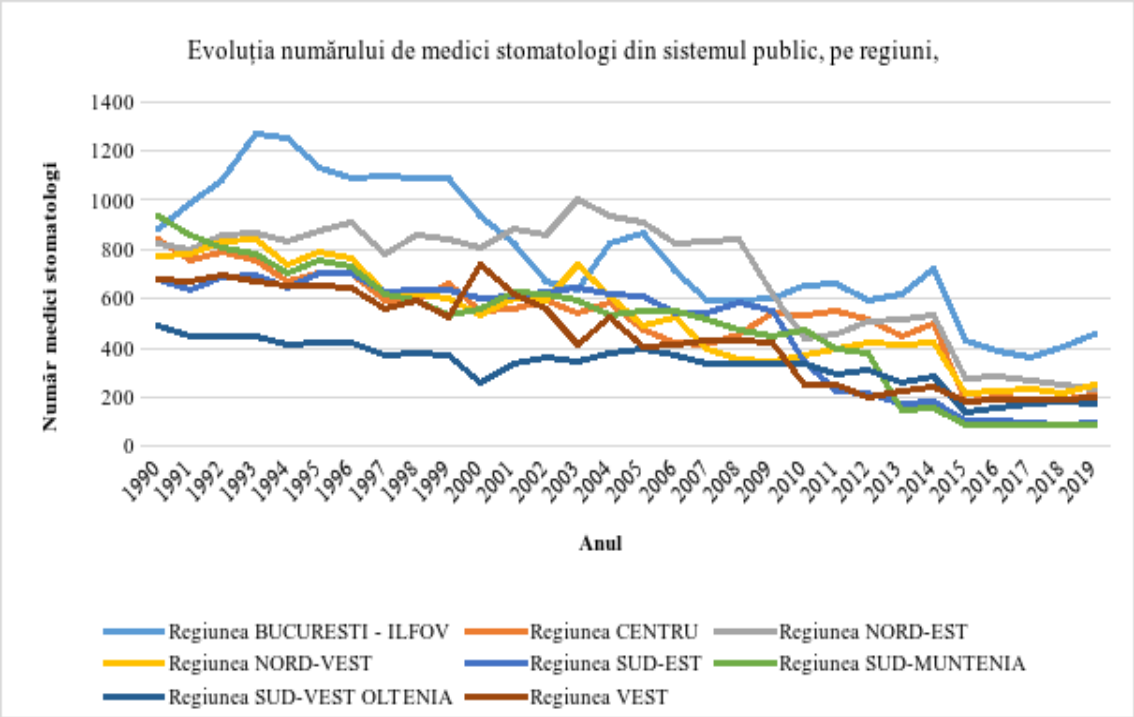
The discrepancies persist and even seem to increase. In 2019, it was observed that the extreme limits are being represented by the Bucharest-Ilfov region, with the highest number of doctors per 1000 inhabitants - 4 and the South-Muntenia region, with the lowest number of doctors per 1000 inhabitants - below 1.

The number of medical units can also be an influential factor of the number of doctors – obviously, more units imply more positions for this category of professionals. For the current analysis, several types of medical units were considered. The Hospitals Act (Law 146) of 1999 allowed them to have decision-making power over fixed assets.

Following the enactment of this law, hospitals have been able to manage their buildings individually for sale, full rental or in installments, hence many of them have closed, and starting from 2011 gradual closure of several health facilities began, especially of those from rural areas. This aspect has been accentuated by the opening of private medical units – more and more health units have started operating since 1996, and since 2015 their number has almost doubled in a period of approximatively 5 years.

Another important aspect are the places and positions available for residency training in each administrative region. It was also noticed here that most of the places are owned by university centers in the Bucharest-Ilfov, North-West, North-East, and Center regions. This can be considered another factor that influences the existence of discrepancies between the development regions.

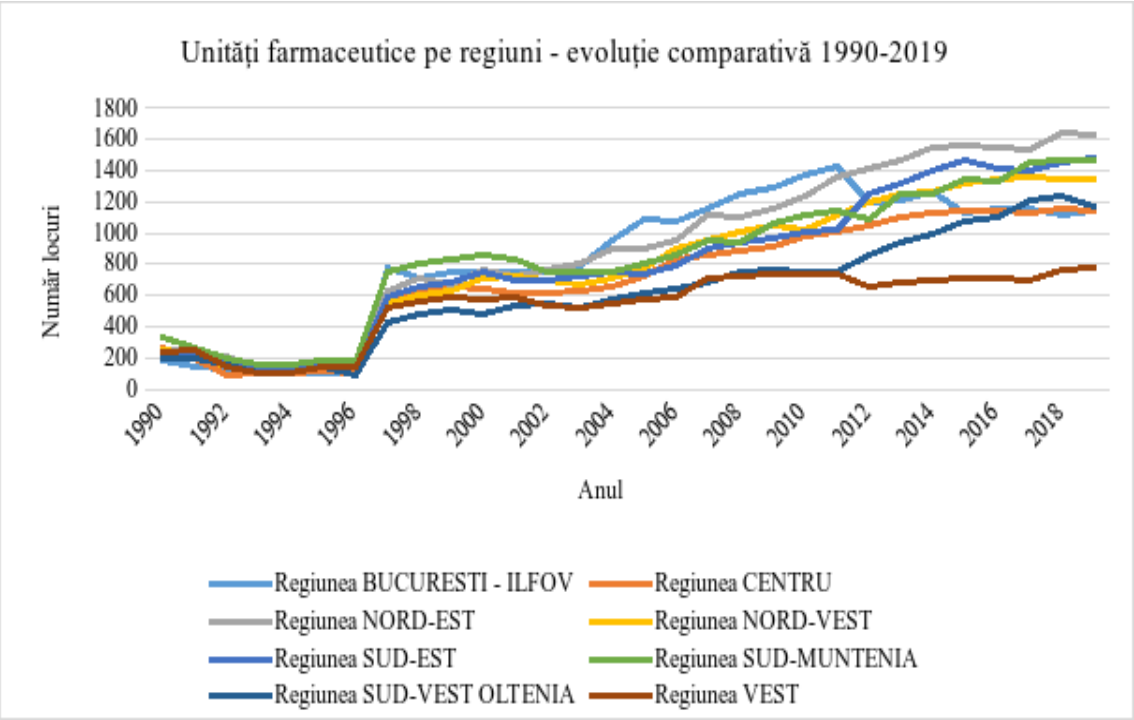
However, dentists have had a different fate, although they are influenced by the same elements as general practitioners and specialist doctors. An important aspect in their case is the number of dentists working in the private sector. Another consequence of the law 145/1997 is the reversal of the ratio between the number of dentists working in the private health system and those working in the public health system. So, since 1997, their number has grown at an accelerated pace, while the number of public dentists has gradually decreased.



In the last 30 years, the number of dentists in the public domain has decreased from about 6000 to almost 2000, about 3 times fewer doctors, while in almost 20 years, the number of dentists in the private health system has increased from about 1000 to over 15000, a 15-fold increase!

The number of those working in the Bucharest-Ilfov region is higher by about 200, the other regions being in a certain balance, in the area of about 200 dentists per region, with the exception of the South-Muntenia region and South-East region, that have the lowest number of dentists in the public system (about 100). The Bucharest-Ilfov region, in the public as well as in the private sectors, has 1.3 and 0.2 dentists per 1000 inhabitants, respectively. It is followed by the West region and, following the descending ranking, on the last position for the private but also public environment, is situated the South-Muntenia region with 0.49, respectively 0.03 dentists per 1000 inhabitants.

Pharmacists have the same training path as dentists – they can practice in different related fields of activity, with or without a residency program. Obviously, they were also influenced by the beforementioned 1997 law. Although the number of pharmacists working in the public sector has been on a downward slope until 1993, it reached a plateau, remaining somewhat constant. Since 1997, the number of public sector working pharmacists has started to decline again, while the number of pharmacists working in the private sector has increased almost 14 times.

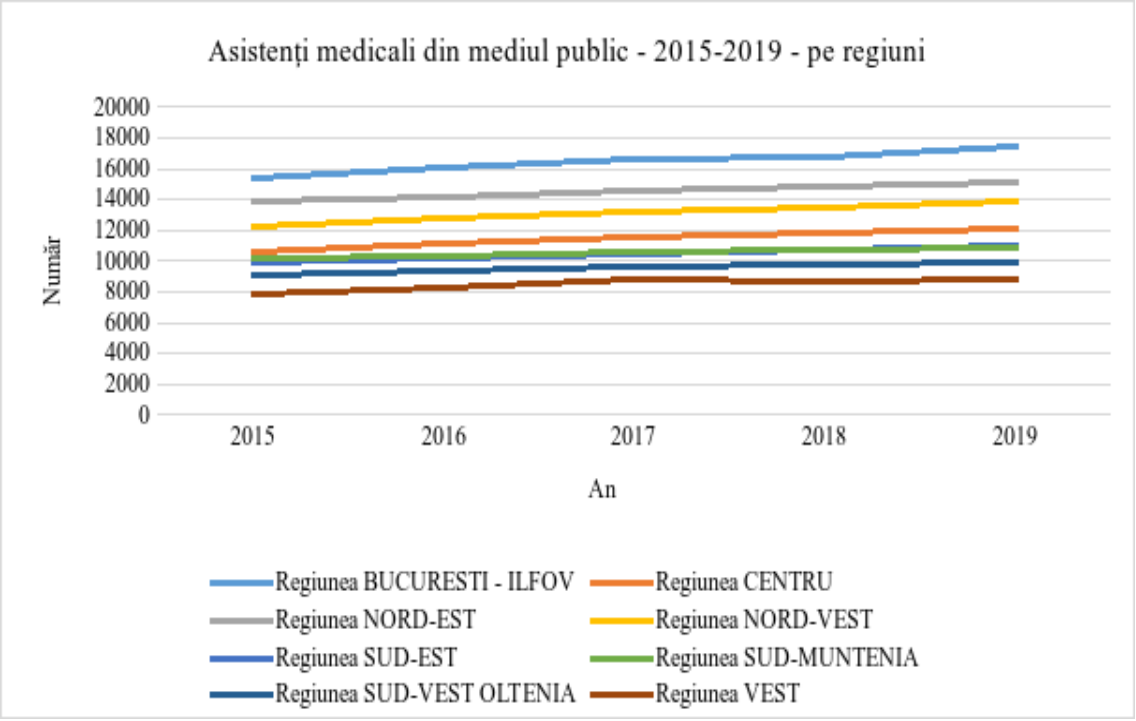


After an evolution of 30 years, the ranking seems to have been maintained, although the values have increased more than 4-5 times in some cases. In 2019, the regions are situated between 1500 and 2500, keeping the same leading values, the Bucharest-Ilfov region – over 4000 and the least, the West region – under 1000.

For the analysis of the evolution of the pharmaceutical units, the following facilities were merged by region: public and private pharmacies, public and private pharmaceutical points, and private pharmaceutical warehouses. The year 1997 brought an aggressive increase in the number of these units, reaching values of over 1500 in the North-East region. This time, the Bucharest-Ilfov region is overtaken by the North-East region mentioned above and occupies the 2nd place in the ranking. The other regions are in the range of 1000-1500, except for the Western region which has almost 800 such units, ranking the last.

In the case of nurses, we must mention that they may have different types of training. Data on their number are available only starting with 2015 and their number evolution over the last 5 years has been comparatively analyzed.

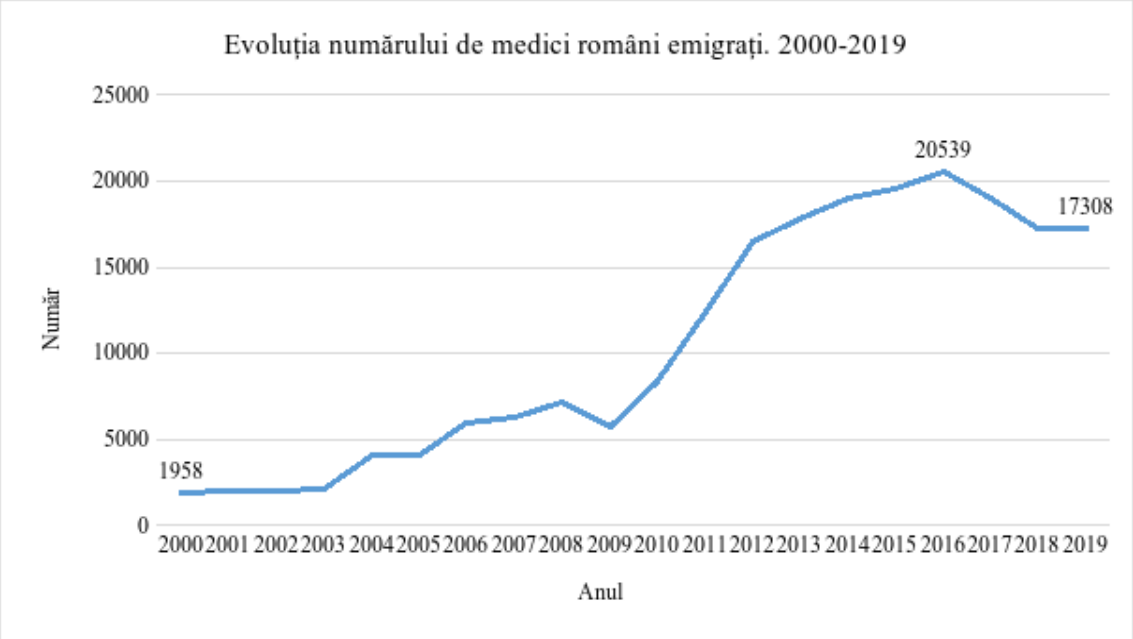
Nurses who work in the public sector have had a constant increase in their number during the 5 analyzed years, the top being led this time by the Bucharest-Ilfov region, and the West region being on the last place this time as well. In contrast, most regions have between 9000 and 13000 nurses.



The midwives come either from graduating from a specialized faculty or from obtaining a certificate or diploma from graduating from a post-secondary school specializing in obstetrics-gynecology.

The evolution of the number of midwives working in the public sector has dropped dramatically over the past 16 years. If in 2004 their number was in the range of almost 500 to 900, in 2019 it was in the range of 100 to 400. The most important loss in the number of midwives is the South-East, North-East and North-West regions, with a decrease of 527, 506 and 501 midwives respectively. In 2004 the number of midwives working in the private system ranged from 0 to 60 per region, reaching in 2019 significant increases in the case of 3 regions - Bucharest-Ilfov, South-East and South-West Oltenia, and a lower increase in other regions.

Also, regarding the international context, the emigration of doctors and nurses was analyzed.



In 2019, 24 countries reported that they had Romanian doctors that practiced their profession – 4 times more than in 2000. In 2019, 17308 Romanian doctors were practicing in these countries, noting that 7 countries did not report for the respective year, registering an increase of almost 9 times the number of emigrated doctors. In the top of the preferences are the following countries, in descending order: France, Germany, Hungary, Israel, Belgium, United Kingdom, Ireland, Switzerland, Canada, Italy. It should be noted that

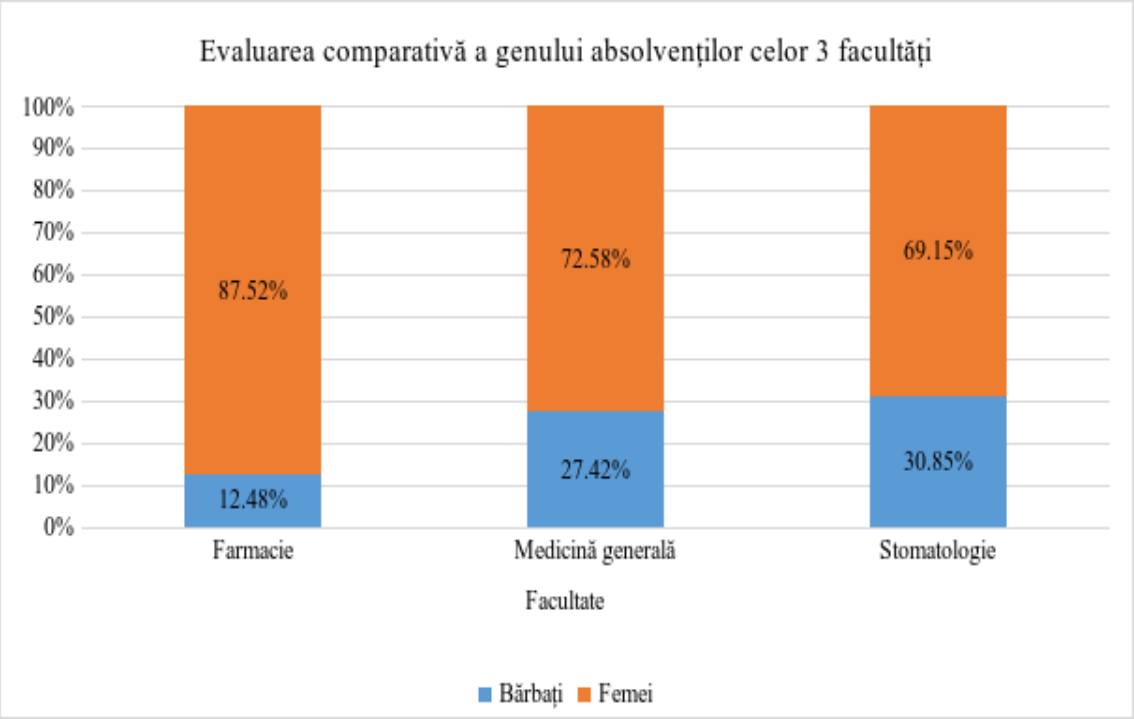
Sweden, Greece, and the United States of America, although they did not report in recent years, 2017, 2018 and 2019, had at that time a significant number of Romanian doctors, in the hundreds, in the case of the first mentioned country and in the thousands in the case of the other two.

The number of doctors practicing in Romania has increased by about 40% in the last 20 years, and this aspect can be another important factor of the increase in the number of emigrated doctors, the increase in their case being about 800%. All these aspects mentioned in the data analysis can be considered to be important, decisive factors, that led to such an increase in the number of medical professionals practicing abroad.

In 2000, only 4 countries reported the number of nurses from Romania working within their territory, cumulating a total of 452 nurses (in ascending order, the countries are: Israel, Italy, Canada, Belgium). In 2019, 15 countries reported the number of nurses of Romanian origin working on their territory. The top is led by Italy, with over 10,000 nurses, followed by the United Kingdom, Belgium, Hungary, and Canada.

In order to understand the context of emigration, a critical evaluation of the published literature was carried out and the official sources of routine data on health workforce (national and international databases) were investigated. Of the various categories of health professionals, only physicians (all specialties except dentists) were analyzed.

Through one of the questionnaires applied it was found that 17% of the respondents intended to emigrate, that is almost a fifth of all the respondents, a worrying number, due to the accentuation of this phenomenon during the residency or actual work as a specialist. This questionnaire was applied for three years (2016, 2017, 2018) to a total of 3424 students, of which: 2221 general medical students, 658 dental students and 545 pharmacy students.



Assessing career development intentions at health professionals' level

A career in the medical field can be shaped by a series of influences, which make their presence felt from the beginning of the specific training in this field. From the university years, students begin to understand how the health system works and, in addition, to focus on a specialty that they consider suitable for them, although later they may discover that their choice might not has been as expected.

The focus on medical studies is motivated by the pros and cons mentioned above, but when it comes to choosing a medical specialty, it seems to be much more influenced by students' lifestyles, personal interests, previous positive experiences, personal motives and job opportunities, while the influence of a mentor, financial rewards and geographical location are not of significant importance.

The tool used for the research was a three-section questionnaire that included pre-formulated, single or multiple-choice questions aimed at:

- the students' personal profile, which included a series of personal dimensions (marriage, income, family),

- the medical specialty they intend to pursue,

- the intention to leave the country.

This questionnaire was applied for three years (2016, 2017, 2018) to a total of 3424 students, of which: 2221 general medical students (778 in 2016, 799 in 2017, 644 in 2018); 658 dental students (219 in 2016, 193 in 2017, 246 in 2018) and 545 pharmacy students (198 in 2016, 150 in 2017, 197 in 2016).

The median age was 24-25 for each year of study, with extremes ranging from 22 to 51. The majority of the students enrolled in those faculties were women – about 74.3%, while male students represented 25.7%. Regarding the marital status, it was observed that most of the students were not married (91.94%). For 9.3% of the students who answered the questionnaire, the family does not matter when it comes to choosing a specialty, and the leaders in this regard are male students in dentistry, followed by those in pharmacy. 16.73% of the respondents take into consideration this aspect in their life, but without it having too much influence, so the male graduates from the Faculty of General Medicine and those from the Pharmacy Faculty consider the family to be less important.

Almost half of all students, 44.89%, consider the influence of this element important, most men and women, regardless of the faculty they belong to, have similar proportions. It is important to mention that, although in choosing the specialty, a quarter of the graduates do not take into account the influence of their family, in the case of finding a balance between family and career, much less, only 8% emphasize the latter (in this category the proportion of dental graduates being greater). 77% of the respondents would prefer the existence of a balance between the two, and almost 15% consider family more important, this category being led by women pharmacists. Due to the same reasons mentioned in the marital status chapter – lack of time, insufficient money, stressful life - most of them do not have children. This situation includes 97.5% of the graduate students of the three faculties, of all the three years, the share being similar between them. Most students enrolled in the three faculties do not have an additional income (83.4%).

When it comes to choosing a specialty, students seem to have similar guidelines. General medicine students chose the following top five specialties: Pediatrics - 6%, Endocrinology - 6%, Internal Medicine - 6%, Surgery - 7%, Cardiology - 7%. In the case

of dental students, the first five options were Endodontics - 12%, Dento-alveolar Surgery - 12%, Prosthesis - 12%, Periodontology - 14%, Orthodontics - 27%. On the other hand, pharmacology students have fewer opportunities when choosing their specialty. Due to this, half of them chose to become pharmacists (52%), while the other half (40%) chose clinical pharmacy.

Regarding the possibility of studying abroad, we can mention that some may want to have high-quality education and studies, while others just want to experience a new life. Among the respondents, 2847 students want to study abroad, while only 577 are thinking of staying in Romania. In the case of general medical graduates, the intention to leave the country can be found in 18% of them, while the rest want to stay and continue their training and career in the country. In the case of dental and pharmacy graduates, the shares of those who want to leave the country are similar, 14% and 15%, respectively.

Worryingly, one element that is often mentioned as influencing options is discrimination – this seems to be perceived as very important in terms of influencing students' lives, careers and other choices. Unfortunately, the main people who discriminate are teachers, with 23% of the respondents affirming this. However, we must take into account the fact that the largest share is held by non-discrimination (62%), fact that is gratifying. Still, the negative experiences that students have in relation to the people who should be their role models can negatively affect future decisions and guidelines. With a big difference there can be also cited, in decreasing order, the discrimination from colleagues - 6%, patients - 4%, management - 3% and older residents - 2%.

Scientific contribution, conclusions and future perspectives for further research

The legislation in Romania is vast - there are regulatory elements for each level, from the educational level (post-high school, university, post-university) to the level of practicing professions, forming of professional organizations, regulation of medical technologies, medicines, etc.

European legislation consists of two directives covering a number of aspects: temporary mobility, permanent establishment, partial access, language checks, the European professional card, access to information and procedures online, implementing acts and delegates.

Existing legislation worldwide is enforced by the World Health Organization, that brought into question the important international migration of health workers since 2008, at the G8 summit in Tokyo. The next logical step was to draft and adopt in 2010 the Global Code of Practice on the recruitment of medical staff (World Health Assembly).

What happened with Romania? It has become an exporter of medical human resources, thus emphasizing the already existing problems of an outdated health system, with more than half of the doctors emigrating from Romania between 2009-2015. This emigration has not decreased even as a result of the implemented measure – the salaries' increase, this fact being explained by the carried out analysis which shows that the salary element is not determinant and there are a number of aspects that motivate a health worker to choose the career path. Thus, in Romania the number of doctors and nurses is relatively low compared to EU averages: 2.8 doctors per 1000 populations, compared to 3.5 in the EU and 6.4 nurses per 1000 population compared to 8.4 in the EU.

Bibliography

1. Drăgoescu A, Furtunescu FL, Mincă DG. Development of integrated medical and social services at community level - Terminological and legislative brief on integrated medical and social services. “Carol Davila” University of Bucharest Publishing House, 2019 ISBN: 978-606-011-070-5.

2. World Health Organization. (2000). The World Health Report: 2000: Health systems: improving performance. World Health Organization. https://apps.who.int/iris/handle/10665/42281

3. World Health Organization. (2006). Scaling up health workforce production: a concept paper towards the implementation of World Health Assembly resolution WHA 59.23 - World Health Organization, concept paper. World Health Organization. https://www.who.int/workforcealliance/knowledge/resources/scalingup_conceptpaper/en/

4. Dana Galieta Mincă, Mihai Grigorie Marcu, Public Health and Sanitary Management, Second Edition Revised and Completed, “Carol Davila” University Publishing House, Bucharest, 2005

10. World Health Organization. (2010). SWHO Global Code of Practice on the International Recruitment of Health Personnel. World Health Organization. https://www.who.int/hrh/migration/code/WHO_global_code_of_practice_EN.pdf

11. World Health Organization. (2010). Workload Indicators of Staffing Need (WISN) Software manual. World Health Organization. https://www.who.int/workforcealliance/knowledge/toolkit/17_1.pdf?ua=1

12. World Health Organization. Global strategy on human resources for health: Workforce 2030.

13. World Health Organization. (2016). Health workforce requirements for universal health coverage and the Sustainable Development Goals. (Human Resources for Health Observer, 17). World Health Organization. https://apps.who.int/iris/handle/10665/250330

32. Georgescu, M. C., Furtunescu, F. L., Frumusachi, O., Lopatica, L., & Mincă, D. G. (2020). What is Known About Emigration of the Romanian Doctors and What We Should Expect in the Future, Acta Medica Transilvanica, 25 (3), 1-3. doi: https://doi.org/10.2478/amtsb-2020-0037

60. Directive 2013/55 / EU of the European Parliament and of the Council of 20 November 2013 amending Directive 2005/36 / EC on the recognition of professional qualifications and Regulation (EU) No 1095/2010 1024/2012 on administrative cooperation through the Internal Market Information System ("IMI Regulation").

LIST OF PUBLISHED WORKS

1. Georgescu, Mirela & Furtunescu, Florentina & Frumusachi, Otilia & Lopatica, Lavinia & Minca, Dana. (2020). What is Known About Emigration of the Romanian Doctors and What We Should Expect in the Future. Acta Medica Transilvanica. 25. 1-3. 10.2478 / amtsb-2020-0037.

http://amtsibiu.ro/component/content/article/69-nr-3-2020/index.php?option=com_content&view=article&id=3376:what-is-known-about-emigration-of-the-romanian- doctors-and-what-we-should-expect-in-the-future & catid = 69: nr-3-2020

2. Georgescu, Mirela & Furtunescu, Florentina & Frumusachi, Otilia & Lopatica, Lavinia & Minca, Dana. (2021). Motivation and Preferences of Human Resources in the Medical Field - Premises for Further Policies in the Medical Sector in Romania. Acta Medica Transilvanica. 26. 1-4. 10.2478 / amtsb-2021-0021.

http://amtsibiu.ro/index.php?option=com_content&view=article&id=3445:motivation-and-preferences-of-human-resources-in-the-medical-field--premises-for-further-policies-in -the-medical-sector-in-romania & catid = 72: nr-2-2021