MEDICAL UNIVERSITY
"Prof. Dr. Paraskev Stoyanov" – Varna
Faculty of Public Health
Department of Health Economics and Management

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CIRCULAR MIGRATION OF HEALTH PROFESSIONALS – ATTITUDES, CHALLENGES AND PERSPECTIVES IN BULGARIA

DISSERTATION SUMMARY

for the educational and scientific degree "Doctor"
Professional field 3.7. Administration and management
Doctoral program "Organisation and management outside the sphere of material production (in healthcare)"

Research supervisors:
Assoc. prof. Maria Rohova – Yordanova, PhD
Assoc. prof. Veselina Slavova, PhD

Varna, 2023

The dissertation is composed of 188 pages and is structured as follows: introduction (6 p.), main text in three chapters (139 p.), conclusion (2 p.), list of references (16 p.) and annexes (17 p.). The main text includes 29 tables and 29 figures. The list of references cited in the dissertation consists of 220 titles, of which 20 are in Bulgarian and 200 are in English.

The dissertation work was discussed at a meeting of the Department of Health Economics and Management at the Medical University of Varna, held on 23 October 2023.

The defense of the dissertation will take place on ……..2024 at ……..…h. at …… at the Medical University of Varna at a meeting of a Scientific Jury.

The defense materials are available at the PhD School at MU-Varna and are published on the website of MU-Varna.

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Varna, 2023

CONTENT

I. GENERAL CHARACTERISTICS OF THE DISSERTATION

1. Relevance and significance of the problem

Migration of health professionals is one of the significant contemporary issues developing at a dynamic pace worldwide. According to World Health Organisation (WHO), over the past decade, there has been a 60% increase in the number of migrant doctors and nurses working in the Organisation for Economic Co-operation and Development (OECD) countries[1]. These migratory movements confront the health systems of countries around the world with a variety of challenges, including shortages of health professionals, difficulties in forecasting and planning health professional needs, and uneven distribution of human resources at national and regional levels. These consequences extend to the countries that are sources of migration flows – the so-called "countries of origin"[2], to those to which they are directed – "receiving countries"[3], as well as the migrants themselves.

Considering how quickly this phenomenon is developing, a growing amount of research has been carried out in recent years to address both the positive and negative effects of migration, looking for adequate solutions for health systems. Recently, it has been argued that one of the most appropriate instruments to limit negative effects is circular migration. A Communication from the European Commission on circular migration and mobility partnerships between the European Union (EU) and third countries defines the phenomenon as "a form of migration that is managed in a way allowing some degree of legal mobility back and forth between two countries". The Communication also concludes that, if properly tackled, it could meet the needs of health professionals in the EU and help countries of origin optimise the benefits and limit the negative impacts of emigration[4].

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[1]World Health Organisation. Brochure: A dynamic understanding of health worker migration. Findings from the EU-supported brain drain to brain gain project (2014-2017). 2017. Available from: https://www.who.int/hrh/HWF17002_Brochure.pdf?ua=1.

[2]The phrase "source countries" is also used in the literature in addition to "sending countries." In this dissertation, the terms are used interchangeably.

[3]The phrase "destination countries" is also used in the literature in addition to "receiving countries." In this dissertation, the terms are used interchangeably.

[4]European Commission. Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions on circular migration and mobility partnerships between the European Union and third countries. COM (2007) 248. 2007. Available at: https://eur-lex.europa.eu/legal-content/BG/TXT/PDF/?uri=CELEX:52007DC0248&from=BG.

Health workforce shortage is also a concern for institutions and researchers worldwide. In 2010, the WHO adopted a Global Code of Practice on the International Recruitment of Health Personnel from other countries, which aims to present appropriate solutions for health systems. One of the main recommendations of the organisation is to facilitate circular migration so that the skills and knowledge of migrants benefit both countries of origin and host countries[5]. The phenomenon therefore is considered to be a crucial instrument on a European and international level, that can successfully address the shortage of health professionals and encourage the transfer of knowledge and skills between countries.

2. Extent of research

Health professionals' migration has been subject of research at European and international level for many years. The causes of migration and the possible approaches to regulate these processes are addressed by numerous studies conducted in countries of the European Union, sub-Saharan Africa, the Caribbean and India, as well as numerous reports from the WHO, the United Nations (UN), the International Organization for Migration (IOM), and the International Labour Organization (ILO). Many authors investigate the effects of health professionals' migration and search for appropriate solutions for health systems. These authors include Bach (2003), Chikanda (2005), Buchan (2006), Robinson (2007), Stewart, Clark D, Clark PF (2007), Dussault, Fronteira and Cabral (2009), Wiskow (2011), BRUYNEEL, Li, Aiken, Lesaffre, Van den Heede, Sermeus (2014), Walton-Roberts and Coll. (2017), and others. Building on the findings of these studies, a number of European and international organizations suggest that circular migration might be a possible approach that enhances the benefits of migration while limiting the negative consequences of emigration.

Different authors, including Vertovec (2008), Constant and Coll. (2013), Mekur (2014), Money and Lin (2014), Martin (2014), Zimmermann (2014), etc. systematise the main causes of circular migration and its effects on the development

[5]World Health Organisation. *WHO Global Code of Practice on the International Recruitment of Health Personnel.* Geneva: WHO; 2010.Available from: http://www.who.int/hrh/migration/code/WHO_global_code_of_practice_EN.pdf.

of health systems in host and sending countries and on migrants as well. As a consequence, in recent years, a number of organisations have developed measures (Directives, EU regulations, codes for ethical recruitment of health professionals, bilateral and multilateral cooperation agreements, projects and programmes) to regulate the international recruitment of health professionals and in particular to facilitate circular migration.

According to several Bulgarian publications on the topic, one of the primary reasons for the shortage of health professionals and inequalities in the distribution of human resources at the regional level is the migration of health professionals. These include the research conducted by Bekyarova (2008), Mutafova, Rohova, Kostadinova (2012), Terziev, Ninov, Ivanov (2019), Ivanova (2019), and others. However, little is known about circular migration and its potential for addressing these issues.

The relevance and significance of the problem, as well as the insufficient level of its study in Bulgaria, evoke research interest and are decisive in choosing the topic of the dissertation.

3. Object and subject of the study

The object of the study is the migration of health professionals, with a specific emphasis on circular migration.

Four groups of health professionals — doctors, dentists, nurses and midwives — are the subject of sociological studies (unit of study) in relation to the completion of some of the research tasks.

The subject of the dissertation are the factors for migration and remigration of Bulgarian health professionals as well as their incentives for engaging in circular migration.

4. Aim and tasks of the study

The aim is to study is to investigate the migration of health professionals in Bulgaria and based on the results obtained to formulate recommendations to promote circular migration. The findings of the study can serve as a basis for developing a health policy in the field of human resources and mitigating the adverse impacts of migration.

To achieve this overarching aim, the study will address the following research tasks:

(1) To analyse and systematise research related to the permanent and circular migration of health professionals, identifying the factors that influence circular migration decisions and its effects on the participants in the process.
(2) To explore instruments that are designed to promote circular migration at European and international level.
(3) To study statistical databases on the migration of health professionals in Bulgaria.
(4) To study the attitudes of migration among health professionals in Bulgaria and the potential motives for engagement in circular mobility.
(5) To propose a model designed to promote circular migration.
(6) Based on the research and analyses to formulate policy recommendations to promote circularity and limit the permanent migration of health professionals in Bulgaria.

5. Main thesis and research hypotheses

The main thesis of the dissertation is that by deliberately influencing the factors of migration and transforming them into motives for circular migration, the negative effects can be reduced to some extent and the positive outcomes can be enhanced. To support the main thesis the following research hypotheses are formulated:

(1) Health professionals' emigration is influenced by a number of factors, the primary ones being economic.
(2) The main remigration factors of the health professionals are those that have an impact at an individual level (personal reasons).
(3) There is a significant difference in satisfaction with living and working conditions in Bulgaria between health professionals who have experience working in foreign countries and those who do not have.
(4) Health professionals with less experience are more likely to engage in circular migration.

(5) The health professionals' attitudes towards participation in circular migration are influenced by the potential for generating triple-win effects for all parties involved in the process.

6. Research approach, research methods and used materials

The complex problem of health professionals' migration will be studied using a methodical approach that combines qualitative and quantitative methods. The study employs methods of analysis and synthesis of scientific literature, comparative analysis and evaluation of programmes, initiatives and policies in the field of circular migration. In order to gather the necessary primary information, sociological methods are used – a sociological survey of health professionals and interviews with health professionals involved in circular mobility. Statistical methods are utilized to analyse the quantitative data obtained from survey and to test hypotheses.

The statistical processing and analysis of data is carried out using specialized software *(Jamovi, version 2.2.5).*

In order to achieve the objectives and tasks of the dissertation, the necessary information is provided by:

- scientific publications of Bulgarian and foreign authors;
- reports and communications of national and international organisations and institutions;
- statistical information from Bulgarian and international databases;
- primary and secondary data from Bulgarian and international organisations and institutions;
- primary data from own sociological surveys.

The research process uses materials from the National Statistical Institute, Ministry of Health, Bulgarian Medical Association, Bulgarian Dental Union, Bulgarian Association of Healthcare Professionals, Bulgarian Pharmaceutical Union, WHO, World Bank, OECD, Eurostat, European Commission, etc.

7. Limitations of the study

The limitations accepted in the scope of the dissertation are as follows:

(1) In Bulgaria, no information is maintained on the number of health professionals who have emigrated and returned. At European and international level, most countries also do not have registries of circular migration. Therefore, there is a lack of statistics on migration and circular migration of health professionals.

(2) The analysis of data from OECD's statistical databases on the number of health professionals who graduated in Bulgaria and are currently working in OECD countries has some limitations. These limitations are due to the different methods used by individual countries to provide primary information to the organisation, as well as the lack of information for all categories of health professionals. Currently, information is only available for doctors and nurses.

(3) Only the most numerous groups of health professionals whose migration movements are investigated in other studies (doctors, dentists, nurses and midwives) are included in the scope of the sociological study.

(4) Given the approach of recruiting respondents in the qualitative research and the use of the respondent method, only a limited number of health professionals participate in the interview.

II. STRUCTURE AND CONTENT OF THE DISSERTATION

1. Structure of the dissertation

The dissertation consists of 188 pages and includes an introduction, three chapters, a conclusion, a list of references, and two annexes. There are 29 tables and 29 figures in the main text.

2. Content of the dissertation

INTRODUCTION

CHAPTER 1. THEORETICAL FOUNDATION IN THE STUDY OF HEALTH PROFESSIONALS' MIGRATION

1.1. The "migration" phenomenon – an overview of its main forms and aspects

1.1.1. Definition of the concept "migration"

1.1.2. Classification of the different forms of migration

1.2. Causes of migration and impacts on healthcare

1.2.1. Theories of migration

1.2.2. Classifications of migration theories

1.2.3. Causes of migration in healthcare

1.2.4. The impact of health professionals' migration

1.3. The significance of circular migration for health systems

1.3.1. The phenomenon's nature and key characteristics

1.3.2. Circular Migration: types and causes

1.4. Effects of health professionals' circular migration

CHAPTER 2. FROM PERMANENT TO CIRCULAR MIGRATION – INSTRUMENTS TO PROMOTE AND DYNAMICS OF MIGRATION MOVEMENTS

2.1. Methodology of the study

2.2. Analysis of instruments to promote circular migration

2.3. Bulgarian health professionals' migration profile

III. SUMMARY OF THE DISSERTATION

Chapter 1. Theoretical foundation in the study of health professionals' migration

Health professionals' migration is a phenomenon that raises a number of questions and poses different challenges to the health systems of countries across the world. This highlights the need to examine migration processes and find appropriate solutions for the participants. The theoretical part of the dissertation presents different concepts related to the migration of health professionals and analyses the specifics of the phenomenon. This chapter examines the factors that influence the attitudes of health professionals to move abroad, the main effects of this phenomenon on the condition and development opportunities of the health system, and the concept of "circular migration." The chapter is divided into four sections, some of which contains separate paragraphs.

Section 1.1 presents different definitions of the concept of migration as well as some classifications of the forms of the phenomenon. In **paragraph 1.1.1.,** various definitions of the phenomenon are compared and analysed based on scientific literature. Different researchers and international organizations have proposed definitions that focus on specific aspects of the phenomenon. However, in our view the definition suggested by IOM holds the most significance for understanding the phenomenon – *the movement of persons away from their place of usual residence, either across an international border or within a State*.

In view of the different perceptions of the nature of migration and its broad interpretation, **paragraph 1.1.2.** presents the different forms of the phenomenon. While most authors look at migration forms in a broader sense, Diallo (2004) identifies three forms that are particularly related to the movement of health professionals – internal, international, and cross-sectoral[6]. The current dissertation paper focuses on the international migration of health professionals.

Section 1.2 explains the causes of migration and its consequences for sending, receiving countries and individuals. To a large extent, the factors affecting healthcare and the effects of migration movements are explained in general

[6] Diallo K. Data on the migration of health-care workers: sources, uses, and challenges. *Bulletin of the World Health Organisation.* 2004; 82 (8).

migration theories. Therefore, **paragraph 1.2.1.** is devoted to the concepts put forth by experts from different scientific fields, each contributing to deeper understanding of migration. There are generally two groups of theories that attempt to explain migration – theories that focus on the causes of migration of individuals or societies (Neoclassical Theory, New Economy of Labor Migration, Dual Labor Market Theory, World System Theory) and others that aim to answer how the migration process is sustained over time (Network Theory, Theory of Migration Systems, Circular and Cumulative Causation Theory, Institutional Theory, Theory of Transnational Social Spaces). Each theory presents a different point of view depending on the level at which the subject is analysed. Since it is challenging to synthesize this knowledge into a single theory, we consider that concepts need to be seen as complementary rather than opposing each other.

Paragraph 1.2.2 outlines various classifications of migration theories. The authors categorize these theories based on their level of analysis (micro, macro, meso), their focus on certain areas (sociology, economics, geography), and whether they consider the causes and forms of migration or study the phenomenon as recurrent. A comparison of some of the most well-known theories of migration is given, and it becomes evident from this those processes with significant national and international drivers as well as those that develop at the micro level can both have an impact on the solution to migration. Theories that focus on the community often seek to explain migration by examining the social links between migrants in the countries of origin and destination, as well as the transfer of knowledge, information and capital resulting from the networks formed. Criticisms of these theories often center around their failure to consider certain factors, their lack of comprehensiveness, and their lack of a well-developed conceptual framework.

Paragraph 1.2.3. outlines the factors at micro and macro level that guide the individual towards the decision to migrate to a particular country or region. Similar migration causes have been found in the results of numerous studies over the years; the authors have frequently categorized these causes into two categories: *push factors and pull factors*. The main push and pull factors are systematised in a WHO

report on the migration of health professionals in the European region (Table. 1)[7]. Research results show that the factors that influence the movement of health professionals are different, with financial incentives providing the biggest stimulus.

Table 1. Key Mitigation Factors for Health Professionals

Push factors	Pull factors
Low pay	Higher pay
Poor working conditions	Better working conditions
Limited career opportunities	Career opportunities Opportunities for remittances
Limited educational opportunities	Better education opportunities
Lack of resources in the health system	Better resourced health systems
Unstable/dangerous working environment	Political stability
Economic instability	Travel opportunities
Impact of HIV/AIDS epidemic	Aid work

Source: Buchan and Perfilieva (2006)

Migration is driven by push and pull factors, with consequences for individuals, sending, and receiving countries. In **paragraph 1.2.4.,** the effects of health professionals' migration are systematised and are discussed in three distinct sections – for the individual, for the sending and for the host country. Special attention is paid to the consequences for health systems. These effects can be positive and negative, and very often one effect plays a dual role depending on the context in which it is considered. For sending countries, one of the most significant consequences is the loss of capital in the form of human and financial resources. In host countries, the greatest attention is paid to reduced shortages of health professionals. Among the most significant effects for the individual are the professional and financial opportunities that are gained from migration.

Many countries are concentrating their efforts on developing various programs and strategies to enhance the positive and reduce the negative effects of migration, given the large number of studies that present the polar characteristics of

[7] Buchan J, Perfilieva G. *Health Worker Migration in the European Region: Country Case Studies and Policy Implication*s. Copenhagen: Who Regional Office for Europe. 2006.

migration. Recently, circular migration has been discussed to be an appropriate human resources health policy instrument that can help address many of the issues raised by migration in sending and hosting countries and migrants themselves.

Section 1.3. is dedicated to circular migration and its importance for health systems. **Paragraph 1.3.1.** lays out its different definitions. They can vary by nature – some describe the migration process itself as a temporary and recurrent movement of individuals between at least two countries[8] (Global Forum on Migration and Development, Institute for Migration Policy), others focus on the legal form it takes place[9] (European Commission, European Migration Network, Council of the EU) and others combine the main features of the phenomenon and the mutual benefits of the process – the concept of triple win effects[10] (International Organisation for Migration). The definition that is most commonly cited, but yet the broadest is the one, given by the European Commission, which presents the phenomenon as "a form of migration that is managed in a way allowing some degree of legal mobility back and forth between two countries"[11].

Paragraph 1.3.2. lays out the main forms and causes of circular migration. Historically, spontaneous migration has been the dominant form of the phenomenon, but managed circular migration is starting to grow significantly as the phenomenon's political salience has increased over the past two decades. The factors of circular migration, similar to those of permanent migration, are different. The primary

[8] Agunias DR, Newland K. *Circular Migration and Development: Trends, Policy Routes and Ways Forward.* Washington DC: Migration Policy Institute. 2007; The Global Forum on Migration and Development. *Workshop on Creating Development Benefits through Circular Migration*. 2008. Available from: https://www.gfmd.org/files/documents/gfmd_manila08_contribution_to_rt2-1_workshop_mauritius_2008_en.pdf. Accessed 2021 February 20.

[9] Council of the European Union. *Press release No. 15966/07, 2838th Council meeting, Justice and Home Affairs, 6-7 December*. 2007; The European Migration Network (EMN). *Temporary and circular migration: empirical evidence, current policy practice and future options in EU Member States*. 2011 Available from: https://www.refworld.org/docid/4ece317e2.html. Accessed 2021 February 20; Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions on circular migration and mobility partnerships between the European Union and third countries. COM (2007) 248. 2007. Available at: https://eur-lex.europa.eu/legal-content/BG/TXT/PDF/?uri=CELEX:52007DC0248&from=BG

[10] IOM. Glossary on Migration. No. 25. 2011. Available from: https://www.corteidh.or.cr/sitios/observaciones/11/anexo5.pdf. Accessed 2021 February 20

[11] European Commission. Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions on circular migration and mobility partnerships between the European Union and third countries. COM (2007) 248. 2007. Available at: https://eur-lex.europa.eu/legal-content/BG/TXT/PDF/?uri=CELEX:52007DC0248&from=BG.

influence on the decision for migration is the personal motivation, with migrants typically acting as economic agents seeking to maximise the benefits and minimise costs by choosing the optimal time to stay in the host and sending countries.

The perception of circular migration of health professionals as an appropriate instrument to address the challenges faced by health systems is mainly due to the phenomenon's ability to generate triple win outcomes for the participants in the process (Triple Win Concept). The authors define this concept as a movement of highly qualified professionals between host and sending countries, which generates benefits for all involved parties in the process. On the other hand, along with the benefits, some authors point out that circular migration also has some negative consequences.

Section 1.4 analyses the effects of circular migration on the individual, sending and receiving countries. The results of the studies show that due to the temporary and repetitive nature of the phenomenon, circular migration has the ability to generate not only benefits for one country or negative effects for another. The phenomenon has the potential to address the challenges that emigration poses to countries' health systems, so that all participants can "win" from involving in the process. However, there is still insufficient evidence regarding the impact of circular migration on sending and receiving countries, as well as on health professionals themselves.[12].

As a result of the research, reports, health-political documents and other initiatives in the field of permanent and circular migration of health professionals, the following **conclusions** have been drawn, which are directly related to the aim and tasks of the current dissertation:

(1) The factors and conditions that influence the migration of health professionals can be economic, social, political, historical, etc., but with appropriate efforts they can be transformed into motives for inclusion in circular mobility.

(2) Circular migration is a complex and multifaceted process, as can be inferred from the range of definitions and characteristics that have been proposed. It is a combination of migratory movements that can vary in length and frequency,

[12] Zapata-Barrero R, Faúndez García R, Sánchez-Montijano E. Circular Temporary Labour Migration: Reassessing Established Public Policies. *International Journal of Population Research*. 2012; 1-13. doi:10.1155/2012/498158.

each of which can be caused by different factors acting at different times. This is most likely one of the causes of the lack of a single, unifed definition for the phenomenon.

(3) A leading concept related to circular migration is the one of the triple win outcomes. One of the most preferred mechanisms for limiting the negative and enhancing the positive effects for all parties involved, is this type of migration.

(4) Research on the migration of health professionals in Bulgaria is scarce, and studies on circular migration have not been done. However, data also indicates that there is a growing exodus of health professionals. This highlights the necessity of conducting a thorough study on the issue in order to develop recommendations for encouraging circular migration and reducing the permanent migration of health professionals within Bulgaria.

Chapter 2. From permanent to circular migration – instruments to promote and dynamics of migration movements

The shift in migration movements from permanent to circular migration is covered in **Chapter 2**. The methodology of the study is outlined, various tools for stimulating the phenomenon are analysed and an effort was made to track the dynamics of the Bulgarian health professionals' migration movements. The second chapter covers three sections, some of which are separated in paragraphs.

Section 2.1 outlines the methodology of the study. The research aim and tasks have been accomplished through the use of qualitative and quantitative methods, which include:

(1) **Systematic analysis** of specialised scientific publications in the field of migration and circular migration of health professionals, the factors causing it and the effects on health systems in sending and receiving countries and health professionals themselves. The sources of information include leading international and European organisations, specializing in the field of migration and healthcare, as well as relevant publications on the topic from foreign and Bulgarian authors.

(2) **Descriptive health policy analysis and comparative analysis** of international and national initiatives, policies and practices related to the promotion of circular mobility. The main sources of information are normative and health-political documents, such as directives, regulations, codes of good practice, as well as international agreements, bilateral and multilateral agreements, treaties, programmes and projects.

(3) **Analysis of quantitative data from secondary sources** on the availability of health professionals in Bulgaria and the dynamics of their migration patterns. The data sources include OECD, WHO, Eurostat as well as Bulgarian sources, such as the National Statistical Institute and Administrative Registers of professional organisations.

(4) **Sociological methods** to study the attitudes toward migration and possible incentives to engage in the exchange of knowledge, expertise, and good practices between the countries of origin and the host countries (a survey), as well as the health professionalists' experiences with circular migration (deep interview). The development of the survey and interview instruments for health professionals has been grounded in a methodical examination of scientific literature, international practices, and prior research.

The survey was conducted by a specialised sociological agency in the period May-June 2022 through a standardised online survey among health professionals in Bulgaria (doctors, dentists, nurses and midwives). The criteria for their inclusion in the sample are as follows:

- to be Bulgarian citizens;
- to practice in their specialty.

The sample was selected based on two representativeness criteria: the distribution of health professionals according to the type of settlement (capital, district city, small town, village) and according to profession (doctors, dentists, nurses, and midwives). The respondents were randomly included in the sample, and after removing incomplete questionnaires, there were 447 surveys included in the analysis.

The questionnaire design is based on migration theories and research as follows:

- Lee's push-pull model, which explains the causes of migration as push factors in the source countries and pull factors in the destination countries (see *paragraph 1.2.3. Causes of migration in healthcare)*;
- the approach that differentiates the factors on **macro** (generally in the country and health system), **meso** (health institution) and **micro level** (personal factors) (*see paragraph 1.2.3. Causes of migration in healthcare).*

The questionnaire includes 36 mostly closed-ended questions, grouped in several areas – career opportunities and living conditions in Bulgaria, attitudes towards migration and remigration, attitudes towards circular migration, impact of the COVID-19 pandemic on the health system and health institutions in Bulgaria and characteristics of respondents.

The aim of the qualitative study (interview) is to examine the experience of health professionals involved in the phenomenon. The interviewed health professionals were specifically chosen and were recruited through enquiries among acquaintances and on social networks rather than following the random selection principle. The inclusion criteria for the sample are akin to those of the quantitative study, with one addition - to have experience in circular migration.

The study was conducted between November 2022 and June 2023, with 6 doctors and 1 nurse agreeing to participate in it. The questionnaire includes three main topics related to objectives and motivations for the migration of health professionals; causes of circular migration, difficulties encountered and perceived benefits and negatives of participation in the phenomenon; assessment of conditions in the country for the development of circular migration.

The results of the interviews are summarised according to the methodology proposed by Green and et al. (2007).

The studies are approved by the Research Ethics Committee of the Medical University of Varna by Decision No 115/31.03.2022 and Decision No 121/06.10.2022.

(5) **Statistical methods** for analysing quantitative data from the sociological survey put focus on the establishment of the reliability of the results and revealing significant dependencies. The existence of statistically significant differences has been verified using Chi Squared Test. Binomal logistic

regression was used to identify the factors influencing the circular migration decision. The Mann-Whitney U test was also used to look at differences in satisfaction between health professionals who worked overseas for a specific amount of time and those who did not have similar experience. Statistical significance is determined at $p<0.05$ values.

Given the dynamics and the large scale with which migration has evolved in recent years, a number of organisations propose measures to regulate the international recruitment of health professionals and, in particular, to facilitate circular migration. **Section 2.2.** systematises and analyses some of the most commonly used instruments to promote circular migration at European and international level. These mechanisms include a European and national legislative framework in the field of circular mobility, codes for ethical recruitment of health professionals adapted to the unique characteristics of the health systems in particular countries, bilateral and multilateral agreements, various projects and programmes.

The review of the literature demonstrates the diversity of mechanisms available at European and national level for regulating and managing migration flows. However, data and research related to the problem are limited. Some of the proposed approaches do not directly address circular migration, but still manage to encourage participation in the process. Most of the bilateral and multilateral agreements, projects and programmes build on the principles found in the WHO Code of Good Practice. What they have in common is that they aim to achieve triple win outcomes and bring together representatives from universities, national and local authorities, nongovernmental organizations and other organisations.

The migration profile of Bulgarian health professionals is covered in **Section 2.3.** In terms of the number of health professionals per capita in Bulgaria compared to the average number in the EU, **paragraph 2.3.1** examines and analyses the availability of health professionals in Bulgaria and the EU for the period from 2010 to 2020, highlighting some specificities and trends. For this, information is gathered from the National Statistical Institute, OECD, WHO and Eurostat. Additionally covered are some sociodemographic traits of the Bulgarian health professionals as well as their distribution at the regional level. On this basis, the following **conclusions are made:**

(1) Bulgaria has more doctors per 1,000 people than the EU average, but there is a shortage of some types of specialists.
(2) Compared to an average of 2:1, Bulgaria has the lowest nurse-to-doctors ratio in the EU, at 1:1.
(3) There is an ageing population of health professionals, with Bulgaria reporting the lowest proportion of health professionals under 34 in the EU.
(4) There is an uneven distribution of health professionals at the regional level, with the highest concentrations in areas where medical universities and university hospitals are located in the country.

The health system in Bulgaria faces a number of challenges. The reasons for this are diverse, with migration being one of the most immediate impacts on the availability of human resources for national health systems. In this context, there is a growing need for research to inform policy making. Providing evidence for health policy requires research into the migration of health professionals and their willingness to participate in the transfer of knowledge and experience between countries (circular migration).

In Bulgaria there is no register and no summary information on the number of health professionals who have emigrated and returned to Bulgaria. This makes it very difficult to monitor the migration of Bulgarian health professionals. A partial picture of the emigration potential in health sector can be obtained from the number of certificates issued for work abroad by professional organisations. In addition, the OECD maintains information on the number of health professionals who have obtained their first higher medical qualification (degree) abroad and practice in OECD countries (foreign-trained health professionals). In an attempt to examine the emigration of doctors and nurses in **paragraph 2.4.2**, the OECD data on health professionals with a Bulgarian diploma working abroad and the certificates of good medical practice issued by the professional organisations were analysed and a comparison was made between them. It should be noted that the organisation only collects data on nurses and doctors.

The OECD registers the number of health professionals who have obtained their first higher education abroad, including in Bulgaria, and who are working on their profession in OECD member countries (stock). Every year, the organisation

also collects information on the number of health professionals who have obtained their first medical qualification (degree) in another country and are receiving a new authorisation in a given year to practice in the receiving country. (annual inflow)[13]. The analysis of these data makes it possible to trace the number of health professionals with a Bulgarian diploma abroad. It is important to note that both approaches have limitations due to the different methods used to collect primary data from OECD member countries.

According to OECD data, the total number of doctors trained in Bulgaria and working in another country (stock) has doubled in the last decade (2010-2020). These trends show that almost half of all health professionals go to Germany. Similar trends can be observed in the annual inflow of Bulgarian doctors (annual inflow), but their tracking allows to highlight some nuances in the dynamics and direction of movement. For the period 2010-2020, the number of Bulgarian nurses working in OECD countries has also increased. In a decade, the number has increased by about 30%. Although the share of nurses working abroad is not as high as for doctors, due to the shortage of nurses, this trend is extremely negative for the Bulgarian health system. Almost half of these professionals go to the UK, and for 30 % of them the preferred destination countries are Italy, Belgium and Canada.

According to the Bulgarian Medical Association in 2021 there are 30% fewer certificates issued for working abroad than in 2011. According to the association, certificates of recognition of professional qualifications are issued mainly to doctors specialising in obstetrics and gynecology, anesthesiology and intensive care, internal medicine, surgery, general medicine and ophthalmology. This trend is particularly unfavorable for specialists in anesthesiology and intensive care, as the association defines this specialty as deficient. Another trend can be seen in the certificates issued to residents. The data show that in the last few years of the period under review, the number of certificates issued to resident doctors began to increase and exceeded the number of certificates issued to specialists.

[13] OECD. *OECD. Health Statistics 2022 Definitions, Sources and Methods*. Available from: file:///C:/Users/iliya/Desktop/Downloads/HEALTH_WFMI_1_Foreign-trained%20doctors%20(1).pdf. Accessed 2022 November 14.

In an attempt to track the number of doctors going abroad, a comparison was made between the number of the certificates issued by the Bulgarian Medical Association and the inflow of doctors who have obtained higher medical education in Bulgaria and practice in OECD member countries. Thea results from the two independent sources are close, which is very good evidence of the reliability and accuracy of tracking the dynamics of migration movements.

The quantity of certificates issued by the Bulgarian Association of Healthcare Professionals that are required to practice the profession overseas has been trending downward over the last ten years. In 2021, the number of certificates issued was nearly four times lower than in 2011, with a greater disparity for midwives. Comparing the number of certificates issued by the association with the number of nurses trained in Bulgaria and practicing in OECD countries, it can be noticed that as the number of certificates issued decreases, the proportion of nurses who fulfil their migration intentions increases.

Similar to the trends for doctors and nurses, the number of the certificates issued by Bulgarian Dental Union has declined. Over the past decade, the migration potential of dentists has almost quadrupled. The OECD does not keep data on the number of the dentists trained in Bulgaria and practicing in the organisation's member countries. Therefore, no comparison can be made with the number of certificates issued by the union.

Based on the OECD data on health professionals with a Bulgarian diploma working abroad and the information provided on the number of certificates issued by professional associations, the following **conclusions can be drawn:**

(1) There has been a decrease in the number of certificates issued by the Bulgarian Medical Association, but at the same time the number of doctors with a Bulgarian diploma practicing in OECD countries is gradually increasing.

(2) In the first years of the period, doctors with acquired specialization had a higher migration potential compared to residents, while after 2016 this trend reversed.

(3) Fewer nurses are willing to move abroad. However, in recent years, an increasing proportion of them have followed through on their migration intentions.

(4) There is a decreasing migration potential of dentists. At the same time, Bulgaria has one of the highest dentists' availability in the EU, which means that the emigration of this group of professionals does not pose a major threat to the availability of the health system with human resources.

Most countries do not keep records on the migration movements of health professionals and there is no harmonised system for reporting data on their dynamics in the European and international context. The lack of information on incoming and outgoing migration flows makes it difficult to track circular migration.

Chapter 3. Attitudes towards migration among Bulgarian health professionals

The survey results on attitudes towards migration among Bulgarian health professionals are presented in **Section 3.1. Paragraph 3.1.1.** characterises the sample of the study. The profession and type of settlement play a major role in its formation. Among the respondents included in the survey, there is a predominance of older and experienced health professionals with a household income of BGN 1,501-3,000. Due to the specificity of the medical profession, the relative share of women is significantly higher than that of men, with a dominant share of respondents with families and children. According to the type of settlement in the sample, the inhabitants of the district towns and the capital are predominant.

In addition to demographic and socio-economic characteristics, professional characteristics are also taken into account. Among the sampled health professionals, doctors with recognised specialities and nurses, health professionals with more than 20 years of work experience and those working in multi-profile hospitals account for the largest share.

Paragraph 3.1.2 examines respondents' views on career opportunities and living conditions in Bulgaria. Health professionals' assessment of satisfaction with the organisation of health institutions and the health system in Bulgaria is calculated as an average based on responses given on an ordinal scale - from 1 (completely dissatisfied) to 4 (completely satisfied). The results show that the respondents are rather dissatisfied with the organisation of the health system (1.99) and the remuneration received in the health institution where they work (2.28).

Higher figures are observed for working conditions in the health institution (2.46), the organisation of work there (2.57) and access to modern diagnostic and treatment equipment (2.54). Based on the results of this question, it can be summarised that respondents are more dissatisfied with conditions at health system level than at hospital level.

One of the research hypotheses relates to differences in satisfaction between health professionals who have worked abroad for a certain period of time (n=109; 24.4%) and those without similar experience (n=338; 75.6%). Differences were tested using an independent samples Mann-Whitney U test. Null and alternative hypotheses are defined:

- H_0: There are no statistically significant differences in satisfaction with living and working conditions in Bulgaria between health professionals who have worked abroad for a certain period of time and those without similar experience.
- H_1: There are statistically significant differences between the two groups of health professionals.

The p-values of all variables exceed the accepted statistical significance threshold of 0.05, indicating that there are no significant differences in satisfaction with the organisation of the health system and health institutions between the two groups of health professionals. Therefore, there is no reason to reject the null hypothesis.

The factors that influence the choice of respondents to live and work in Bulgaria are studied. These are the factors that keep health professionals in the countries of origin (stick factors). At the same time, those that have little influence on respondents can also be interpreted as push factors. The factors are grouped at three levels – national (country and health system context), organisational (health institution) and individual level. The results are presented on an ordinal scale (from 1 – no influence to 4 – very strong influence). Average estimates are calculated for analysis purposes.

The results of the survey show that most national level factors (including the health system) have little impact on the choice of health professionals to live and work in Bulgaria. The least influential determinants include economic and political

(health policy) factors, with average values of 2.23 and 2.35 respectively. The organisation of the health system also has little impact on respondents' motivation to stay in Bulgaria (2.36). According to respondents, strong motivators to practice their profession in the country are the children's conditions for education (2.68), safety in the country (2.79), and at the level health institution's level – the opportunities for professional development (2.72), remuneration received (2.69), and working conditions in the health institution (2.62). Personal factors, such as the possibility of close contact with family, relatives and friends (3.39), and patriotism (2.89), have the strongest influence.

Based on the results of the analysis, Table 2 summarises the factors with the highest and lowest impact on the choice of health professionals to work in Bulgaria. Determinants that have high impact (with and an average score above 2.50) are grouped with the determinants that keep the health professionals in the country (stick factors), and those with a low impact (with an average score below 2.50) are grouped into the group of push factors. The average score of the language barrier factor is very close to the limit value and is therefore not included in the table.

Table. 2. Factors influencing the decision of respondents to work in Bulgaria

Stick factors	**Push factors**
State and health system	
Security and safety in the country Conditions for education of children	Economic stability Health policy Health system organisation Standard of living in Bulgaria
Medical institution	
Opportunities for professional and career development Remuneration in the health institution Working conditions in the health institution	Position and career
Individual level	

The opportunity to stay in close contact with family, relatives and friends Patriotism Opportunity for professional development of the partner	

Factors at the national level (country and health system) mostly motivate health professionals to go abroad, and those at **the organisational level (health institution) and micro level (individual factors**) keep them in Bulgaria.

Paragraph 3.1.3. examines the factors of migration and remigration of health professionals. According to the survey data, about one-third of the respondents state they had worked outside Bulgaria. The results show that among the health professionals who have been abroad, the largest proportions are nurses (66.1%), respondents with families (48.6%), women (89.9%) and those with more than 20 years of experience (56%) and those aged between 46 and 55 years. (36.7%). There are no statistically significant differences with regard to the type and ownership of the health institution, place of residence or income of the household. When considering the socio-demographic profile of the respondents to this survey, it should be noted that these are the characteristics of the health professionals at the time of filling in the questionnaire and not during the migration process, which rather reveals the profile of those who have returned to Bulgaria (return migration).

In terms of sources of information about jobs offered abroad, the largest proportion (42.2%) of all 109 health professionals said they had found work through friends and colleagues working outside Bulgaria. This highlights the key role of networks as a strong pull factor.

The study examined the causes of emigration for respondents who worked abroad and those who did not, the so-called "pull factors". For this purpose, the average values of all factors are derived and compared, and the degrees of influence are represented on an ordinal scale (from 1 – regardless, to 4 – very strong influence). At the macro level, the main pull factor for health professionals who have worked outside Bulgaria is the higher standard of living abroad (3.62). At the level of the health institution, the main reasons for emigration are financial, the most significant

being the attractiveness of the remuneration received (3.70), and at the personal level – the higher recognition of the health profession abroad (3.69) and the possibility of financial support for the family as the main reason for working abroad (3.59). **These results give us a reason to accept the first research hypothesis, according to which the main causes of migration are economic.**

Similar findings apply to the health professionals who have not been abroad. A specific feature for this group of health professionals is the lack of firm assessments of migration factors. Furthermore, economic motives have a greater burden on health professionals who have worked abroad. Health professionals without such experience, on the other hand, put greater importance on aspects of the state, the way the health system is organized, and their own profession.

The questionnaire also includes a question about the country to which health professionals would like to emigrate. Similar to the findings of other studies carried out in Bulgaria, the preferred destination countries for the largest proportion of health professionals are the developed EU member states (56.6%), of which Germany, Spain and Italy are the most frequently chosen.

There are statistically significant differences in the relative proportions of respondents with regard to professional realisation during the stay abroad ($\chi 2 = 42,7$; $p<0,001$). The vast majority of respondents indicate that they have worked in their field of expertise (56%), 26.6% noted that they have worked in a position requiring a lower qualification and around 12% combined work with training. It is noteworthy that a high percentage of the largest group of professionals working outside the country - nurses - have worked in a position requiring a lower qualification (30.6%). This trend is typical for nurses in Bulgaria, as many of them go abroad to work as caregivers.

The motives that influenced the decision of health professionals who have practiced abroad to return and work in Bulgaria (return factors) are also examined. The results are presented on an ordinal scale (from 1 – regardless to 4 – very strong). Average estimates are calculated for analysis purposes.

At the macro level (country and health system), health professionals consider that the organisation of the health system (1.8), the migration policy implemented in the country of destination (2.02) and the possibility of starting their own business

(2.32) have little impact on the decision to return to Bulgaria. Similar results are also observed at meso level (health institution), in which all factors have little impact on the decision of health professionals to return to Bulgaria. The factors with the lowest average are working conditions in the health institution (1.90), the attitude of the workplace towards foreigners (1.91) and the remuneration received abroad (1.96).

The results of the study show that personal motives have the most significant impact on the motivation of health professionals to return to Bulgaria. The impact of broken ties with family, relatives and friends (3.50), nostalgia for the homeland (3.12) and difficulties in adapting to work abroad (2.75) are assessed as the strongest by the respondents. **The results of the study give us reason to accept the second research hypothesis, according to which the main factors for the remigration of health professionals are the personal ones.**

When asked about their willingness to work abroad again, the results showed that 54.1% of all health professionals would go abroad again, which means that about ½ of the respondents with experience in another country have the potential to participate in circular migration.

The opinions of health professionals regarding circular migration are examined in **Paragraph 3.1.4.** According to the study's findings, 54.6% of health professionals would engage in circular migration, while the remaining professionals would not**.**

Binomial logistic regression was used to identify the factors influencing the circular migration decision. Three regression models are tested – the first including only demographic and socio-economic variables, the second including the perceived benefits of circular migration (for the sending country, the country-destination and health professionals), and the third including the expected changes in the organisation of health institutions, the health system and the standard of living in Bulgaria as a whole over the next 5-10 years. The selection of a model that best explains the factors influencing the circular migration decision is based on the determination factor (MacFaden's pseudo R^2) and the Akaike Information Criterion (AIC).

The first model shows that there is an association between willingness to migrate and age, occupation, work experience and place of residence. According to

the results of the logistic regression, the profession is a statistically significant factor in attitudes towards circular migration, with doctors with a specialisation being 1.67 times more likely to participate in this type of mobility than nurses (p=0.045). Health professionals with less professional experience are more likely to circulate between countries than more experienced health professionals (OR=4.27, p=0.023). Regarding place of residence, respondents participating in smaller cities are 3.19 times more likely to participate in the process (p<0.001) than those practicing in the capital city. Health professionals between the ages of 36 and 45 are more likely to migrate than their younger counterparts, demonstrating the influence of age on attitudes. There are no statistically significant associations found between the type and ownership of the health institution, marital status, and number of children and the likelihood of engaging in circular migration. According to the fourth research hypothesis, health professionals with less professional experience are more likely to participate in circular migration. **After the statistical checks we can accept the hypothesis, as according to the results, younger health professionals are more likely to participate in this type of mobility.**

One of the main advantages of circular migration is its ability to generate triple wins for countries of origin, destination countries and the migrants themselves. The second model therefore adds the expected benefits of circular migration to the socio-demographic characteristics of the respondents. The respondents' views on the financial benefits of circular migration are also examined. Binomial logistic regression shows that there is a correlation between the willingness to engage in circular migration and the respondents' professional experience, the type of health institution in which they work, their marital status, place of residence and the possibility of having savings to invest upon return to Bulgaria.

As in the first model, among the demographic and socioeconomic characteristics, professional experience (OR=3.76; P=0.052) and place of residence (OR=2.20; P=0.026) are statistically significant factors, but profession and age lose their significance. According to the results of the second logistic regression, respondents working in specialised hospitals were 2.93 times more likely to migrate than health professionals working in primary outpatient care (p=0.024). In terms of marital status, health professionals living with a partner are 1.90 times more likely

to participate in circular migration than those who are married (p=0.024). Health professionals who believe that engaging in circular migration will enable them to save money to invest on their return to Bulgaria are almost four times more likely to migrate (OR=4.15; P&0.001). The benefits associated with the development of health systems in destination countries, countries of origin and health professionals themselves have no impact on the decision to circularly migrate. The results show that health professionals tend to participate in circular migration mainly because of expected personal financial benefits. This leads us to **accept the fifth research hypothesis, according to which circular migration leads to positive and some negative consequences for health professionals, but the perception of circular migration is mainly influenced by the potential of the phenomenon to generate financial benefits for the participants.**

In the third model, the respondents' expectations of changes over the next 5-10 years in the organisation of the health institutions, the health system and the standard of living in Bulgaria are added to the factors influencing the decision of health professionals to go abroad. A three-point scale - "will improve", "will stay the same" and "will get worse" - was used to assess the attitudes of health professionals. The analysis reveals that in the third model, the values of determinants are strengthened and all statistically significant factors from the first two models—apart from the profession – retain their influence.

According to the results of the third logistic regression, respondents aged between 36 and 45 years (OR=2.96; p=0.046), those with less professional experience (OR=4.64; p=0.033), those working in specialised hospitals (OR=3.69; p=0.009), those living with a partner (OR=1.90; p=0.061) and those from small settlements (OR=2.21; p=0.029) are more likely to participate in circular migration. Health professionals who have a positive perception of the financial benefits of circular migration (OR=3.93; P<0.01) and who believe that the standard of living in Bulgaria will not change in the coming years (OR=3.06; p=0.012) are more likely to participate in circular migration.

The analysis shows that when factors are added to the second and third models, some of the variables lose statistical significance, but overall the primary factors influencing the decision to engage in circular migration are expressed in a

clear and concise manner. The determination factor does not significantly differ between the three models. However, the third model was the one that best met the conditions, as the included factors accounted for about 19% of the changes in the dependent variable (R^2MCF =0,1851), while minimising the impact of random factors (AIC=590).

Over the past few years, the COVID-19 pandemic has severely tested the health systems of countries around the world. Therefore, in **paragraph 3.1.5.,** the impact of the COVID-19 pandemic on the health system and health institutions in Bulgaria is discussed. The results show that health professionals perceive as negative the impact of the pandemic to be most negative on the organisation of the health system (73.2%), and slightly less on the organisation of work in health institutions (60.2%) and on their working conditions (60%).

Respondents are specifically questioned about the reasons behind their desire to work overseas in light of the coronavirus pandemic. According to the study data 39.8% of health workers increase their motivation to migrate, 40.9% stay the same and 19.2% become less motivated. The pandemic has the greatest impact on the intention to move abroad of the resident doctors (81.8%), nurses (51.2%), women (42.4%) and respondents in the third income quintile (47.6%). The results show that as the age of health workers increases, their motivation to migrate decreases. There are no statistically significant differences by place of residence.

The circumstances that would encourage health professionals to take part in circular migration are examined in **paragraph 3.1.6.** The findings indicate that none of the suggested initiatives are preferred by the respondents. Facilitated administrative procedures for migration (18.9%), the implementation of international programs that facilitate health professional migration by recognising the diploma (17.9%), and obtaining a residence permit with the right to multiple entry into the foreign country and periodic returns to Bulgaria (17.3%) are the conditions that would most encourage health professionals to participate in circular migration.

Based on the analysis of the survey results, the following **conclusions can be drawn**:

(1) The health professionals surveyed indicated that they are dissatisfied with the conditions in the health system. These factors are the same as those that push them to the destination countries. However, the potential for close contact with family and patriotism are the main determinants that keep respondents in Bulgaria. Personal factors are also behind the decision of health professionals to return to the country of origin after some time abroad.

(2) There are some differences in the stated motives for migration between respondents who have worked abroad and those who have not. The main attracting factors for health professionals who have been professionally active outside Bulgaria are the economic ones, while those without such experience cite reasons related to the country and organisation of the health system. However, for both groups of health professionals the main attracting factor is higher recognition of the medical profession.

(3) Among health professionals with experience abroad, nurses have the largest share. At the same time, the results of the survey on attitudes towards circular migration show that younger specialists, respondents with less professional experience and respondents from smaller towns, assessing positively the financial benefits of circular migration are more likely to participate in the phenomenon.

(4) For the vast majority of respondents, the COVID-19 pandemic does not change their attitude towards working abroad. However, according to the majority of health workers, the spread of coronavirus infection is having a negative impact on the health system, working conditions and the organisation of work in health institutions, which in turn are among the main factors influencing the migration attitudes of health workers. It can therefore be assumed that a change in these determinants in the short term will also have an impact on the motivation of health workers to migrate.

(5) The lack of consensus on the conditions that would encourage health professionals to participate in circular migration shows that the idea of regulated migration movements has not yet been sufficiently accepted among them.

Qualitative methods (in-depth interviews) are also used to obtain more in-depth information and understanding of the phenomenon, in order to explore the experiences of health professionals involved in circular migration. The results of the interviews are presented in **section 3.2**. Six doctors and one nurse responded to the invitation to participate in the study. The majority of interviewees are men, specialists involved in migration movements to Western European countries, whose primary motivations for leaving are career and financial advancement.

There are different approaches to analysing qualitative data, and in the current study we use a methodology proposed by Green et al. (2007)[14]. to interpret the information from the interviews. It includes the following stages:

(1) Transcription of the interview recordings and thorough reading of the text so as to understand the main and most important points of it;
(2) Coding the data by marking the most important and significant parts the text according to the main theme of the study;
(3) Creating categories by grouping the main units of meaning and using quotations from interviews;
(4) Identifying themes by interpreting the results of the study and comparing them with other studies carried out in the field.

In order to facilitate the analysis of the results, when developing the design of the questionnaire, the questions are grouped into several themes based on a literature review in this area – a description of the motives for migration, the transition from permanent to circular migration, the conditions for circular migration.

After marking and grouping the most important and significant parts of the text, 10 categories are created within the pre-identified t, which are summarised in Figure 1.

[14] Green J, Willis K, Hughes E, et al. Generating best evidence from qualitative research: the role of data analysis. *Aust N Z J Public Health*. 2007;31(6):545-550.

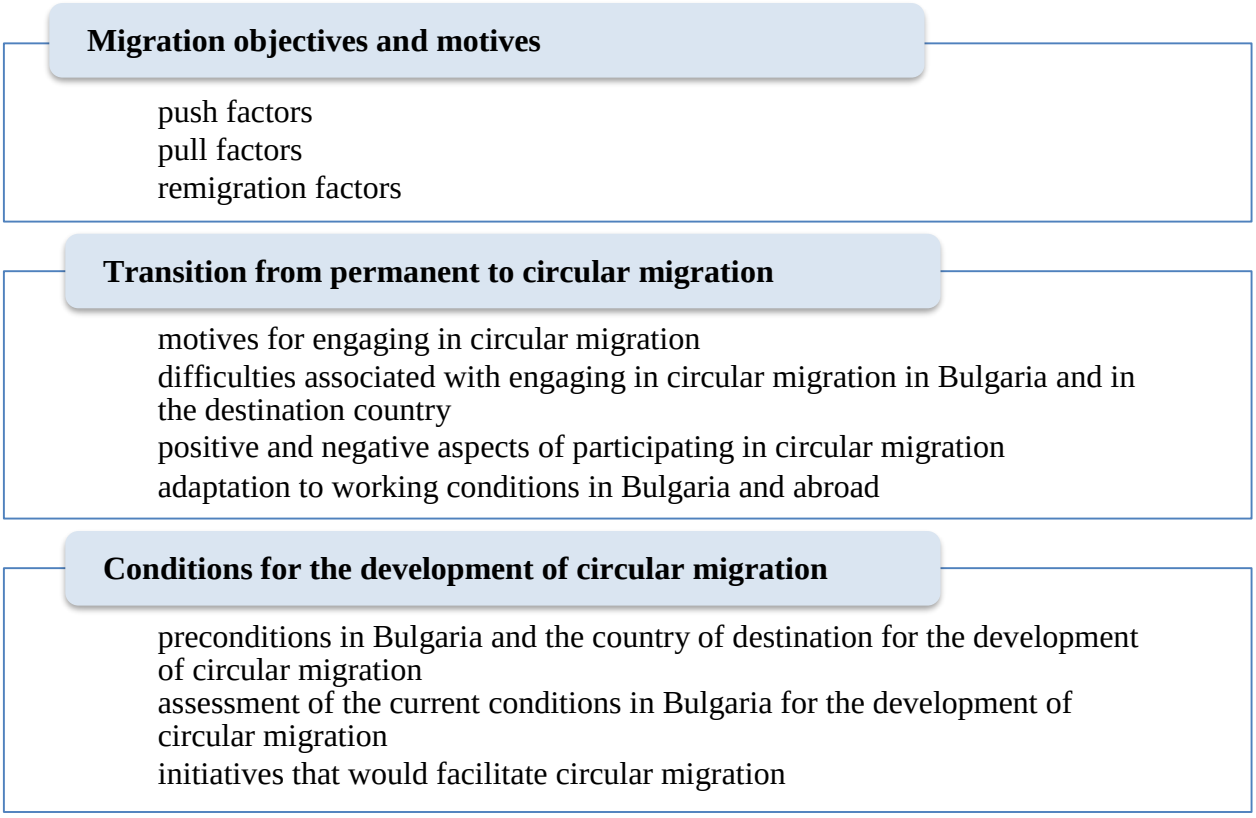

Figure 1. Main themes and categories of research

The results of the interviews with health professionals lead to the following **conclusions**:

(1) The main motives for emigration are related to higher remuneration and recognition of the medical profession in the countries of destination, as well as dissatisfaction with the conditions in the health system and the medical institution in Bulgaria. These factors have the strongest influence in the early years of the professional development of health professionals.

(2) The majority of health professionals emigrate at the beginning of their careers, and the motives behind their choice are subsequently transformed into circular migration factors.

(3) The strength of the impact of migration factors is comparable to that of remigration, as all health professionals work in Bulgaria and abroad for a limited period of time.

(4) The perceived benefits of participating in circular migration are broken down by the migration motivations of each of the participants.

(5) Medical professionals confirm the idea of the triple win outcomes of circular migration, but the lack of mechanisms for managing migration flows in the practice of medical institutions and in the health system makes it difficult to unleash the potential of the phenomenon in Bulgaria.

(6) The experience of health professionals in participating in circular migration shows that the conditions in the country do not help, but also do not hinder the development of the phenomenon. This implies that the development of tools to encourage and facilitate participation in such migratory movements would multiply the benefits of the phenomenon for the health professionals themselves, the countries of origin and the countries of destination.

Following the quantitative and qualitative study, Table 3 presents the main conclusions of the interviews and how they correspond to the results of the survey. The opinion of the respondents largely overlaps with that of the health professionals interviewed, with some of the results of the quantitative survey finding an explanation in the qualitative survey.

Table 3. Relationship between the survey conducted and interviews with health professionals

Main aspects of the comparison	Conclusions from the survey	Conclusions from interviews	Comment
Factors of migration	economic factors, dissatisfaction with the health system, higher recognition of the medical profession, professional development		The main causes of migration are the same in both studies.
Factors of remigration	personal reasons	remigration at a time when personal factors outweigh financial	In both studies, personal factors are an important motive for remigration, but the results of the qualitative study add that the desire to remigrate prevails when health professionals value personal benefits more than financial benefits.

Health professionals interested in or involved in circular migration	younger resident doctors		The results of the qualitative study show that migration factors have the strongest impact in the first years of the professional development of health professionals.
Benefits of circular migration	financial benefits	financial benefits and opportunity to improve professional qualification	The same benefits are highlighted. It is observed in the qualitative study that each participant's migration motives overrode their perceptions of the benefits of engaging in circular migration.
Instruments to promote circular migration	health professionals identify various instruments that would promote circular migration		The lack of agreement among health professionals on the conditions that would promote circular migration indicates that the idea of regulated movements is not sufficiently prevalent, but participation in the phenomenon would multiply its benefits for all countries

A model for promotion of circular migration is developed in **section 3.3.** and is based on the conducted research. The first **paragraph (3.3.1.)** presents some basic principles for the development of the model, adopted from the theories and conceptual models of Padarath et al. (2003)[15], Thomas et. al. (2011)[16] and Bhardwaj and Sharma (2022)[17]:

[15] Padarath BA, Chamberlain C, McCoy D, Ntuli A, Rowson M, Loewenson R. Health personnel in Southern Africa: confronting maldistribution and brain drain. Harare: Regional network for equity in health in Southern Africa (Equinet Discussion Paper No 3). 2003

[16] Foresight: *Migration and Global Environmental Change. Final Project Report*. The Government Office for Science, London. 2011.

[17] Bhardwaj B, Sharma D. Migration of Skilled Professionals Across the Border: Brain Drain or Brain Gain? *European Management Journal*. 2022. https://doi.org/10.1016/j.emj.2022.12.011

(1) The synthesis of pull, push, stick and remigration factors at micro, meso- and macro-levels is important to identify potential motives for engaging in circular migration.
(2) There is an association between the migration factors and its effects.
(3) Influencing the migration factors through appropriate instruments can change the effects for the parties involved in the process by minimising negative effects and enhancing positive ones.

In **Paragraph 3.3.2.** a model for promotion of circular migration of health professionals is presented and explained. It outlines the factors that influence the attitudes towards migration and remigration, the effects and the available instruments that can be used to promote circular migration (Figure 2). The basic principle of the model is that migration factors can be transformed into incentives to engage in circular migration, when appropriate instruments are applied. In this way, the phenomenon can be seen as more than a spontaneous phenomenon, and the factors as a tool that can be used to model its effects to some extent. The model's final results are intended to create mechanisms that promote circular migration, thereby enhancing the positive and limiting the negative consequences for the different parties engaged in the process.

The main **requirements** for the construction of the model are as follows:

(1) All of the factors in the model should be considered as interconnected, with each one's strength of influence fluctuating depending on the situation.
(2) The impact of the stick, push, pull and remigration factors on health professionals leads to the formation of circular migration as a spontaneous phenomenon. Therefore, instruments should be developed to specifically address these factors.
(3) The impact of circular migration depends on the type of instruments used and the extent of their impact on the migration factors. Thus, it is important to take into account the factors that have the biggest impact on health professionals' attitudes regarding migration and remigration when developing mechanisms to encourage circular migration.
(4) The effective management of circular migration should involve regional, national and international stakeholders.

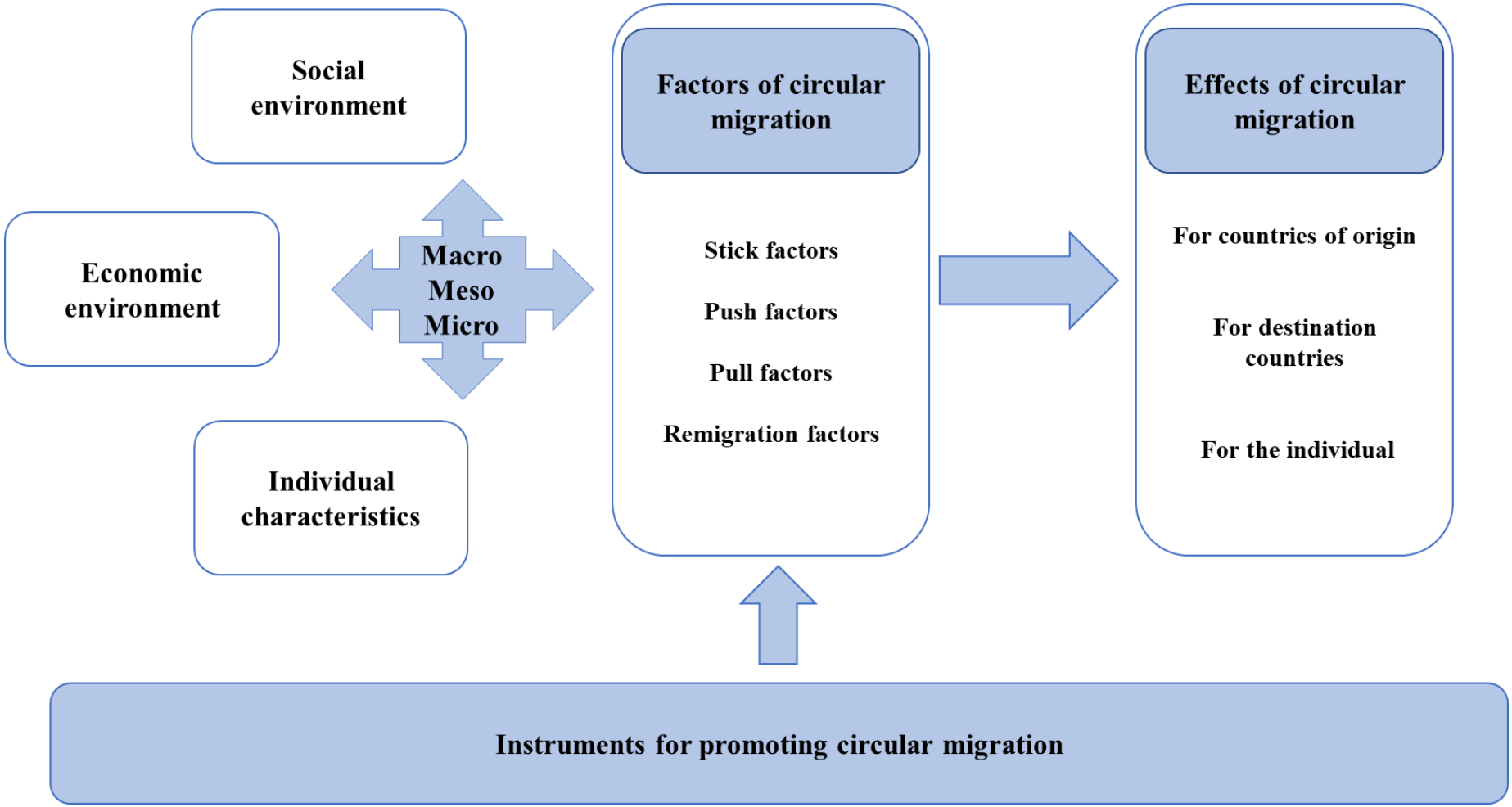

Figure 2. A model for promoting circular migration

1) **Factors of migration**

According to the results of the current study, the migration and remigration intentions of Bulgarian health professionals are influenced by conditions that are mostly inherent in the economic and social environment. In addition to these, individual characteristics also play a significant role in determining attitudes towards going abroad. These factors can be grouped according to the level at which they act (country and health system, health institution and individual level) and the direction in which they act (stick, push, pull and remigration factors).

Stick, push, pull and remigration factors can be seen as interrelated and influencing simultaneously the migration attitudes of health professionals. Identifying the group of determinants with the strongest influence is not possible, as in certain circumstances some factors have a greater overall impact than others. It is at this point that health professionals decide whether to stay in their home country, emigrate or return after a stay abroad. When these factors influence health professionals in a consistent manner, circular migration emerges as a spontaneous phenomenon. In order to identify the appropriate instruments to promote circular migration, in the proposed model we consider the impact of the factors in the sequence indicated.

2) **The effects of health pprofessionals' migration**

The reviewed studies indicate a relationship between the causes and consequences of circular migration. This relationship is also transferred to different levels. The ability of a factor influencing the micro level to have an effect on the meso and macro levels and vice versa is a defining characteristic. This suggests that influencing determinants at the lowest-level can lead to much greater changes in the health system. Most of the effects considered can be interpreted both as positive and as negative, which means that they would be influenced by initiatives to stimulate circular migration. In addition, some of the identified negative effects reflect the lack of initiatives supporting the phenomenon at the health institution and health system level. This reflects the need to develop mechanisms to promote circular migration.

3) **Instruments to promote circular migration**

The model presented for the promotion of circular migration is based on the relationship between the factors and the effects of circular migration. The latter

element therefore includes instruments that can influence the factors under consideration in order to maximise the benefits of engaging in regulated migration movements. The stick factors, the migration and remigration factors that affect health professionals' entire migration cycle should be taken into consideration when identifying initiatives to promote circular migration, i.e., they must be taken into account in all of their coherence and integrity.

Table 4 outlines the primary tools for promoting circular migration based on the various impact levels they can have, taking into account the findings of the surveys and interviews. In order to be successful, mechanisms to stimulate the phenomenon should first be applied at the highest level. This requires the support of all stakeholders, including Ministry of health, professional associations, medical universities, etc**.**

Table 4. Instruments to stimulate circular migration

Level	**Instruments**
Country and health system	Facilitated administrative procedures for highly qualified professionals to migrate abroad Obtaining a residency permit that grants multiple entry into the foreign country and the ability to return to the country of origin on a periodic basis International initiatives designed to ease health professionals' migration International training and upskilling programmes Facilitated mechanisms for recognition of years of specialisation abroad
Health institution/scientific organisation/employer	Programs that allow part of the training to be acquired abroad Facilitating the adaptation and reintegration of returnees to Bulgaria Facilitate the transfer of knowledge and skills Establishing a network of health professionals engaged in circular migration Supporting the professional development of the employees by the organisation

Section 3.4. presents the main conclusions of the study and makes recommendations for the promotion of circular migration. On the basis of the analyses and studies carried out on the attitudes of Bulgarian health professionals

towards migration, as well as the interviews with participants engaged in circular migration, the following conclusions can be made regarding:

- The factors and conditions that influence the attitudes towards permanent and circular migration of health professionals.
- The main migration episodes that comprise circular migration and the factors that influence and prevail in each of them.
- The opportunity to determine appropriate instruments that would motivate health professionals to engage in regulated (and stimulated) migration by identifying the factors that most provoke these movements.
- The main advantages of circular migration and the necessity of emphasizing its promotion as a health policy instrument in the area of human resources, which has the potential to generate, along with financial and other benefits, for countries of origin, destination countries and health professionals themselves.
- The design of instruments to promote circular migration and the need to take into account the socio-demographic profile of health professionals willing to participate in this phenomenon.

Based on the conclusions of the studies and analyses, some **recommendations** can also be made:

1) Recommendations at national level:

- Establish a unified system to monitor the health professionals' migration movements;
- Regulate temporary stays abroad in order to facilitate certain administrative procedures and extend the validity of issued certificates of good medical practice;
- Involvement of relevant organizations in the countries of destination, as well as institutions and organizations involved in the administration and regulation of the health system and other stakeholders
- Develop programmes and policies to encourage circular migration in the first years after graduation of higher medical education.

- Conduct further research to identify the instruments that would best promote the participation of health professionals in circular migration.

2) Recommendations at regional level:

- Develop strategies and policies to promote circular migration, tailored to the specific characteristics of health professionals in the region;
- Establish networks of health professionals who are professionally active outside Bulgaria.

3) Recommendation at the health institution level:

- Adapting the mechanisms for managing recurrent migration movements to the expectations of health professionals and the organisation of work in health institutions;
- Cooperation between health institutions in countries of origin and destination;
- Facilitating the organisation of mobility and reintegration on return from abroad.

In **conclusion,** the main results achieved in the dissertation are summarised. Quantitative and qualitative studies have been carried out to identify the main preconditions that influence attitudes towards migration and the polar effects of engagement in such movements. The suggested model presents the instruments that can influence the motives for migration and remigration in order to maximise the benefits of engaging in regulated migration movements. This leads us to accept the basic research thesis that by deliberately influencing the factors of migration and transforming them into motives for circular migration, the negative effects can be reduced to some extent and the positive outcomes can be enhanced, in order to fully realize the phenomenon's potential for all parties involved in the process.

IV. REFERENCE FOR CONTRIBUTIONS TO THE DISSERTATION

(1) As a result of the research and analysis of literary sources, the factors that lead to the emigration of health professionals, the factors that keep them in Bulgaria, as well as those that motivate them to come back after a specific period of time abroad (pull factors, stick factors and factors for remigration) are identified and synthesised.

(2) Based on analysis and synthesis of scientific literature the main effects of migration on countries of origin, destination countries and health professionals themselves are systematised. Additionally, the potential for circular migration to enhance positive effects and limit negative ones is explored.

(3) A methodological toolkit is developed to study the attitudes of Bulgarian health professionals towards migration, as well as the experience of those who have participated in circular migration.

(4) Based on the results of the research, a model for promotion of circular migration is developed, including factors that influence the attitudes of health professionals towards migration and remigration, the impact of circular migration and instruments to facilitate periodic movements between two countries.

(5) Recommendations for the promotion of circular migration at national, regional and health institutional levels are formulated.

V. PUBLICATIONS RELATED TO DISSERTATION

(1) Georgieva, I. (2020). Migration of health professionals – effects for participants in the process. Varna Medical Forum, 9(2), 207-216.
(2) Georgieva, I. (2021). Circular migration – an opportunity to overcome the challenges with migration of health professionals. Varna Medical Forum, 10 (2), 199-206
(3) Georgieva, I., Zlateva, M., Kirova, T. (2021). From permanent to circular migration of health professionals – instruments to promote circularity. Health Economics and Management, 2 (78), 33-40.
(4) Georgieva I. (2022). Challenges faced by the health system in the conditions of a pandemic – opinion of medical specialists in Bulgaria. Conference Proceedings from the International Scientific and Practical Conference "Human Resources Management", University of Economics-Varna, 315-322.
(5) Georgieva, I., Rohova M., Mihaylov, N.L. (2022). Attitudes towards circular migration among Bulgarian health professionals. Journal of IMAB – Annual Proceeding (Scientific Papers), 28 (Supplement 12 SEEC & 32 IMAB Section Varia), 1-4.

VI. ACKNOWLEDGEMENTS

I express my gratitude to my research supervisors - assoc. prof. Maria Rohova - Yordanova, PhD and assoc. prof. Veselina Slavova, PhD, for their help, guidance, constructive comments and patience at every stage of the dissertation development.

I would like to thank the entire team of the Department of Health Economics and Management for their recommendations, advice and motivation during the preparation and completion of the dissertation.

Last but not least, I would like to thank my family for their love, support and understanding over the years.