

Slovak Republic: Catching-up Regions 4

ADDRESSING HEALTH WORKFORCE CHALLENGES IN THE BANSKÁ BYSTRICA SELF-GOVERNING REGION: RECOMMENDATIONS AND FUTURE DIRECTIONS



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Contents

| | |
|--|-----------|
| Contents | 3 |
| List of Tables | 4 |
| List of Figures | 4 |
| Acknowledgments | 6 |
| Abbreviations and Acronyms | 7 |
| Executive Summary | 8 |
| 1. Background and Introduction | 10 |
| 2. Methods | 11 |
| 3. Human Resources for Health (HRH) | 13 |
| 3.1. Global Challenges of the Health Workforce..... | 13 |
| 3.2. Health Workforce in the Slovak Republic..... | 15 |
| 3.2.1. <i>Planning of HRH</i> | 15 |
| 3.2.2. <i>Education and Professional Development</i> | 16 |
| 3.2.3. <i>Staffing and Recruitment</i> | 17 |
| 3.2.4. <i>Economic Conditions</i> | 21 |
| 3.2.5. <i>Competencies and Skills of GPs</i> | 24 |
| 3.2.6. <i>Motivation and Attractiveness of the Profession</i> | 25 |
| 4. Health Workforce in the BBSK | 27 |
| 4.1. Availability | 28 |
| 4.1.1. <i>Availability in the BBSK Districts</i> | 32 |
| 4.2. Service Provision | 39 |
| 4.3. Unmet Needs for Healthcare | 42 |
| 4.4. Future Challenges | 43 |
| 5. Conclusions | 47 |
| 6. Implications for Policy | 48 |
| 6.1. International Best Practices | 48 |
| 6.2. Proposed Recommendations for the BBSK..... | 49 |
| References | 52 |
| Annexes | 55 |
| Annex 1: The Healthcare System in the Slovak Republic | 55 |
| Annex 2: Estimated Number of GP Visits in the Slovak Republic | 65 |

List of Tables

| | |
|---|----|
| Table 1. Main Data Sources and Limitations..... | 12 |
| Table 2. Global Common Challenges of HRH..... | 13 |
| Table 3. Payment Mechanism in General and Specialist Ambulatory Care..... | 21 |
| Table 4. Current Capitation Rates by Health Insurance Companies, 2023..... | 22 |
| Table 5. Selected Services Paid by Fee-for-service, 2023..... | 23 |
| Table 6. In- and Outflow of Health Professionals in Primary Care, by BBSK Districts, 2021..... | 38 |
| Table 7. Changes in Demographics in the BBSK, 2021–2035..... | 44 |
| Table 8. Areas of Intervention and Recommended Actions for HRH..... | 48 |

List of Figures

| | |
|---|----|
| Figure 1. Number of Medical Doctors Educated in the Residency Program..... | 17 |
| Figure 2. Practicing Nurses per 1,000 population, 2000 and 2019 (or nearest year)..... | 18 |
| Figure 3. Number of Health Professionals in the Slovak Republic, 2010–2020..... | 19 |
| Figure 4. Share of Foreign-trained Medical Personnel, 2019 (or Nearest Year)..... | 20 |
| Figure 5. Number of Foreign Health Workers per 100,000 People in the Slovak Republic and Neighboring Countries, 2020..... | 20 |
| Figure 6. Density of Doctors per 100,000 People in the BBSK and the Slovak Republic..... | 28 |
| Figure 7. Density of Nurses per 100,000 People in the BBSK and the Slovak Republic..... | 28 |
| Figure 8. Share of Ambulatory Doctors over 65 Years of Age, 2021..... | 29 |
| Figure 9. Age Distribution of Ambulatory Care Doctors in the BBSK and the Slovak Republic..... | 30 |
| Figure 10. Number and Share of Young (Ambulatory Care) Doctors Aged Between 25 and 39 Years in the BBSK..... | 30 |
| Figure 11. Share of Ambulatory Nurses over 65 Years of Age, 2021..... | 31 |
| Figure 12. Number of Foreign Doctors (Excluding Ambulatory Care) From Outside the European Economic Area (EEA) per 100,000 People, 2021..... | 32 |
| Figure 13. Number of Foreign Ambulatory Doctors From Outside the EEA per 100,000 People, 2021..... | 32 |
| Figure 14. Density of Ambulatory Care Doctors per 100,000 People, by BBSK Districts, 2021..... | 33 |
| Figure 15. Density of Doctors in All Settings per 100,000 Population, by BBSK Districts, 2021..... | 34 |
| Figure 16. Full-time Equivalent of GPs per 1,000 People, by BBSK Districts, 2021..... | 35 |
| Figure 17. Share of GPs (for Adults) Aged Above 65 Years, by BBSK Districts, 2021..... | 35 |
| Figure 18. Share of GPs (for Children and Adolescents) Aged Above 65 years, by BBSK Districts, 2021..... | 36 |
| Figure 19. Population per One PHC Practice Nurse in Ambulatory Settings, by BBSK Districts, 2021 (Estimated)..... | 36 |
| Figure 20. Nurse-to-doctor Ratio in Primary Healthcare, by BBSK Districts, 2021..... | 37 |
| Figure 21. Share of Primary Care Nurses Aged above 65 years, by BBSK Districts, 2021..... | 38 |
| Figure 22. Average Number of Unique Patients Visiting One GP..... | 39 |
| Figure 23. Number of GP Visits by Person and Age Category, 2019..... | 40 |
| Figure 24. GPs per 1,000 People, by Regions, 2021..... | 41 |
| Figure 25. Difference Between Required GP Providers (MOH 2022), Actual GPs (2022), and Estimated GP Providers, by Districts..... | 41 |

| | |
|--|----|
| Figure 26. Number of Students Specializing in General Practice and Pediatrics | 42 |
| Figure 27. Share of People Who Declared One or More Unmet Needs for Medical Examination in the Slovak Republic, by NUTS 2 Regions | 43 |
| Figure 28. Projected Population Changes in Percentages (Compared to Actual Situation in 2021)..... | 44 |
| Figure 29. Predicted Number of GP Visits in the BBSK Using the Same Average Number of GP Visits as in 2021, by Age Category | 45 |
| Figure 30. Predicted Number of GP Visits in the BBSK Using the Average Number of Two Annual GP Visits, by Age Category..... | 46 |
| Figure 31. Predicted Number of GP Visits in the BBSK Using the EU Average Number of GP Visits, by Age Category (Before COVID-19) | 46 |
| Figure 32. Self-reported Unmet Need for Healthcare, by Degree of Urbanization, 2019 | 56 |
| Figure 33. Self-reported Unmet Need for Healthcare, by Educational Attainment Level, 2019..... | 57 |
| Figure 34. Self-reported Unmet Need for Specific Healthcare-related Services, Due to Financial Reasons, 2019 | 57 |
| Figure 35. Self-reported Unmet Need for Specific Healthcare-related Services, Due to Financial Reasons, by Educational Attainment Level, 2019 | 58 |
| Figure 36. Organizational Overview of the Slovak Healthcare System | 59 |
| Figure 37. Public Spending on Health as a Share of GDP, 2019 and 2020 | 61 |
| Figure 38. Public Spending on Health per Person, 2019 and 2020..... | 62 |
| Figure 39. Total Spending on Health as a Share of GDP, by Type of Services, 2021 | 63 |
| Figure 40. Predicted Number of GP Visits in the Slovak Republic Using the Same Average Number of GP Visits as in 2021, by Age Category | 65 |
| Figure 41. Predicted Number of GP Visits in the Slovak Republic Using the Average Number of Two Annual GP Visits, by Age Category | 66 |
| Figure 42. Predicted Number of GP Visits in the Slovak Republic Using the EU Average Number of GP Visits, by Age Category (Before COVID-19) | 66 |

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Abbreviations and Acronyms

| | |
|-------|--|
| BBSK | Banská Bystrica Self-governing Region |
| CAPI | Computer-assisted Personal Interview |
| CAWI | Computer-assisted Web Interviewing |
| CSO | Statistical Office of the Slovak Republic |
| CuRI | Catching-up Regions Initiative |
| GDP | Gross Domestic Product |
| GP | General Practitioner |
| EHIS | European Health Interview Survey |
| ESIF | European Structural and Investment Funds |
| EU | European Union |
| FTE | Full-time Equivalent |
| HRH | Human Resources for Health |
| MoE | Ministry of Education |
| MoH | Ministry of Health |
| NCZI | National Health Information Centre |
| PHC | Primary Healthcare |
| SHARE | Survey for Health, Ageing and Retirement in Europe |
| ÚDZS | Health Care Surveillance Authority |

Executive Summary

Health workers play a crucial role in the health system to ensure everyone has access to comprehensive health services that are appropriate, timely, and of high quality. Despite the growing need for healthcare due to aging societies, health systems face human resource shortages due to migration, the aging health workforce, and the expected retirement rate.

The Catching-up Regions Initiative (CuRI) has selected the Banská Bystrica Self-governing Region (BBSK) in the Slovak Republic, due to its low economic development and rapidly declining demography. The BBSK has today the second-lowest gross domestic product (GDP) per capita nationally, the third-highest rate of unemployment, and the second-lowest wages. It has one of the fastest aging populations with a rapid outmigration of young people of childrearing age for better work prospects, which leaves aging people behind with increased health and social care needs. In the coming years, the BBSK overall population will fall faster than the rest of the Slovak Republic. The older population (aged over 65), however, is projected to increase by 25% in 2035.

Health workers in the Slovak Republic are unequally distributed across the eight self-governing regions and districts within the regions. The minimum general practitioner (GP)-to-population ratios cannot be guaranteed, the nurse-to-population ratios have steadily declined over the past 20 years, and the number of nursing graduates have more than halved between 2010 and 2020. National estimates show that the Slovak Republic requires over 1,200 new medical doctors and over 14,000 new nurses to meet health needs and increase the ratio of nurses to doctors—currently at 1.6—to the European Union (EU) average (2.7) or the best-performing countries (4.0).

The Slovak Republic faces serious challenges due to health worker shortages, migration, the aging workforce, and expected retirement. The average outpatient doctor is 55 years old. A nurse's average age ranges from 45 to 49 years old. Health worker shortages are particularly acute for nurses. Despite these challenges, the Slovak Republic has neither a national nor a regional general policy document on the planning and development of human resources for health (HRH).

The BBSK suffers from critical shortages of human resources in healthcare. In 2021, the density of all doctors and ambulatory doctors was lower than the national average by sixteen and seventeen percent, respectively. Similarly, the density of all nurses and ambulatory nurses was lower than the national average, by nine and eight percent, respectively.

The aging health workforce affects the BBSK Region more than other Slovak regions, with more than 30% of ambulatory care doctors aged over 65 years in 2021. The number of young doctors (aged between 25 and 39 years) has increased only by 2.2% since 2016. Despite the BBSK having one of the highest shares of foreign doctors from non-EU countries ('third countries') per population, specifically for ambulatory care, it has the lowest share, at only 0.32 per 100,000 people.

The number of GP visits is lower in the BBSK than in the Slovak Republic—on average 6.1 versus 6.6 annually—and people aged over 65 have the highest number of average GP visits—10.1 in the BBSK (and 10.4 in the Slovak Republic). However, in the BBSK, more health services are delivered by a GP to a patient (7.9 in 2019) than in the Slovak Republic (7.4 in the same year).

Positive trends in the number of doctors and nurses entering the health system are encouraging, but major differences remain across the BBSK districts. The Banská Bystrica District has the highest number of ambulatory care doctors per 100,000 people (181) while the districts of Detva and Poltár had the lowest (42 and 44, respectively). The nurse-to-doctor ratio in primary care in all BBSK districts is below the average of three nurses to every doctor for the Organisation for Economic Co-operation and Development (OECD) countries: it varies from 0.71 in Banská Štiavnica to 1.59 in Detva in 2021. Despite future educated GPs and pediatricians, there will still be a shortage of health workers in all BBSK districts by 2035.

The National strategy of general ambulatory care until 2030 strongly advocates increasing the attractiveness of the medical profession. The following are areas that need strengthening: the education and residence programs of health workers in general ambulatory care; the provision of short and specialized trainings; the facilitation of entry into the healthcare system for foreign health professionals; and the reduction of the barriers to enter general ambulatory care.

Targeted national and regional interventions will help address the shortages of health workers. At the national level, creating policies, building leadership, increasing funds, using digitalization (including telemedicine), and investing in education can be accelerators leading to a growing healthcare workforce. However, regional interventions are also important to increase the attractiveness of the medical profession and to be able to efficiently respond to local health needs. Interventions at the regional level include promoting work in rural areas, organizing recruitment campaigns for health-related professions (nurses, community workers, physical therapists, and others), stimulating task sharing, using digitalization and telemedicine, and creating an attractive work environment.

Factors that give GPs and nurses job satisfaction in their practice revolve around their own needs. These include the freedom to choose their working environment and to organize their practice to suit themselves, as well as the access to professional education to be able to develop specific skills and strengthen doctor-patient relationships.

The proposed recommendations for the BBSK Region are a combination of multiple interventions that span different areas, such as governance, education, work organization, scope of practice, financial incentives, data for informed policies, political economy analysis, and intersectoral governance. A solid financial situation, the ability to work independently, job stability, and the opportunity to use one's abilities on the job are all intrinsic and extrinsic factors that inspire the health workforce. Workplace organization—particularly the physical and mental stress that health employees face, as well as their workload—should be prioritized. ‘Task shifting’ to other allied health professionals, ‘medical assistants’ to help with the administration, and the use of digitization are tools for organizing the work differently and are worth exploring further. Attention should be paid to the work-life balance where access to innovations at work, improved access to public services, increased general pay, and administrative task reduction, all play an important role.

1. Background and Introduction

The Catching-up Regions Initiative (CuRI) aims to give the less-developed regions of the Slovak Republic practical technical assistance to overcome specific development barriers that are identified by the local authorities. The program aims to reduce obstacles to improve the efficient use of European funding and to support regional growth and innovation. CuRI was established in 2015 by Corina Crețu, Commissioner for Regional Policy at the European Commission (EC).¹

The Slovak Republic is a powerful example of national convergence and subnational divergence in the EU. In 2004, the Slovak Republic joined the European Union (EU) with its population of about 5.4 million people, and it officially became a high-income country in 2005 (the World Bank atlas, 2023).² As such, the Slovak Republic is one of the few countries that successfully transitioned and overcame the middle-income trap.³ Despite the Slovak Republic being one of the EU's economic successes for its impressive economic growth, it also has some of the EU's highest regional disparities in economic development. The Slovak Republic's impressive economic gains over the last two decades are largely concentrated in the capital region of Bratislava, while other regions lag behind, including the Banská Bystrica Self-governing Region (BBSK) (World Bank, 2020a).

In 2018, the EC offered the Slovak Republic the opportunity to participate in CuRI, due to its challenges in development and its low absorption of European Structural and Investment Funds (ESIF). CuRI's implementation is in collaboration with the Slovak Ministry of Investment, Regional Development and Informatization, local authorities, and the World Bank. An Administration Agreement was signed in May 2018 between the EC's Directorate-General for Regional and Urban Policy (DG REGIO) and the WB (World Bank, 2023).

The BBSK was selected as a less-developed region⁴ due to its low economic development, rapidly declining demography, and low absorption of ESIF funds. Today, the BBSK has the second-lowest gross domestic product (GDP) per capita in the Slovak Republic, the third-highest rate of unemployment, and the second-lowest wages. Historically, the region was one of the most cutting-edge industrial areas rich with mineral resources in Central Europe. However, the BBSK was severely affected by the collapse of the socialist regime, which wiped out most of the industry and failed to capitalize on EU accession by attracting foreign direct investment, which went almost exclusively to the Bratislava Region (World Bank, 2020a).

¹ This initiative was originally named "Lagging Regions Initiative".

² Measured by the gross national income per capita.

³ The middle-income trap refers to a situation whereby a middle-income country is failing to transition to a high-income economy, due to rising costs and declining competitiveness (Griffith, 2011).

⁴ Less-developed regions have a per capita gross domestic product (GDP) that is less than 75% of the EU average (Eurostat, 2023). However, for the purpose of CuRI, regions were targeted with below 50% GDP per capita of the EU average.

From 2020 to 2022, CuRI focused on the BBSK's challenges related to human capital, the business environment, and the infrastructure. In 2020, the healthcare sector was included in the initiative with the publication of a proposal for an integrated health and social care model in the BBSK, targeting people aged over 65 years (World Bank, 2020b). The current phase (2022–2023) focuses on improving the availability and efficiency of healthcare provision and aims to respond to the critical shortage of general practitioners (GPs) and nurses.

The following are the main identified challenges of the health workforce in the BBSK Region: the relatively low number of GPs and nurses; the older age of health professionals, and the expected retirement rate; migration; the unequal geographical distribution across districts; the only modest increase over time in the number of young doctors; and a general lack of interest from GPs in setting up their practice in the region, particularly in less attractive districts such as Detva, Krupina, Rožňava, Veľký Krtíš, Rimavská Sobota, and Žarnovica. These challenges, combined with a rapidly aging population (and hence, a potential considerable increase in age-related public expenditure), indicate that the BBSK will need to prepare for an aging society. However, it is important to emphasize that the shortage of GPs and nurses is a national problem, and not only an issue in the BBSK. Due to the classification of the BBSK as a lagging region and its challenges with human resources for health (HRH), the World Bank was asked to provide technical support and conduct a baseline assessment of the availability of medical personnel resources in the region.

The scope of this report is twofold: first, to conduct a situation analysis of HRH in the BBSK, with particular focus on GPs and nurses. Second, to identify effective policy and planning responses to support the region in tackling the challenge of having too few, too old, and too faraway GPs and nurses. This report is structured as follows: Section 2 sets out the methodology used to perform the HRH situation analysis. Section 3 provides a brief overview of the global and national challenges related to HRH. Section 4 presents the results of the HRH situation analysis, with a focus on availability, service provision, unmet needs for healthcare, and future challenges. Sections 5 and 6 conclude and highlight the implications for policy.

2. Methods

Availability of health data is fundamental for analyses and policy formulations. Standardization of data collection is essential for comparing geographic areas, population groups, supply of health services and of human resources, use of health services, and the trends over time. Data collection, analysis, and reporting allow policymakers to make more informed decisions about the health system.

Strengthening data on HRH is an important determinant for monitoring and ensuring health service provision. Following six years of the World Health Organization's (WHO) National Health Workforce Accounts (NHWA) global implementation, data availability has significantly improved in the Slovak Republic.

This report collected and triangulated healthcare data from multiple sources (see Table 1). It used the following sources: international publicly available datasets from Eurostat; the Survey for Health, Ageing, and Retirement in Europe (SHARE); the European Health Interview Survey (EHIS); national and regional data from the Central Statistical Office (*Štatistický Úrad Slovenskej Republiky*, [CSO]); the Ministry of Health (*Ministerstvo zdravotníctva Slovenskej Republiky*, [MoH]); the National Health Information Centre (*Národné centrum zdravotníckych informácií*, [NCZI]); the Chamber of Medical Doctors; the Chamber of Nurses and Midwives; and the BBSK Region.

Data limitations had an impact on the scope and depth of the analysis. These included the following: the lack of sex and age information for medical doctors and nurses; the absence of information on the full-time equivalent (FTE) of medical doctors and nurses; no data breakdown of doctors as generalists or specialists; and the availability of health needs data only for people aged over 50 and at the national level (see Table 1 below).

Table 1. Main Data Sources and Limitations

| Category of Data | National Data | Regional Data (BBSK) | Main Limitations |
|----------------------------|--|--|---|
| Medical Doctors | OECD, MoH, CSO, NCZI, Chamber of Medical Doctors | MoH, BBSK municipality, CSO, NCZI | <ul style="list-style-type: none"> • Lack of FTE information in MoH data • NCZI data and the Chamber of Medical Doctors data have no age and sex distribution • Differences between BBSK municipality data and MoH data • Number of doctors by nationality available in the Chamber of Medical Doctors data |
| Nurses | OECD, MoH, CSO, Chamber of Nurses and Midwives | MoH, BBSK municipality CSO, Chamber of Nurses and Midwives | <ul style="list-style-type: none"> • Lack of FTE information in MoH data • Differences between BBSK municipality data and MoH data |
| Health Needs | Eurostat, SHARE | N/A | <ul style="list-style-type: none"> • SHARE only has people aged over 50 years • Unmet needs for medical examination are available only for Central Slovakia and not per region |
| Patients | MoH | MoH | <ul style="list-style-type: none"> • N/A |
| Outpatient Services | | BBSK, NCZI | <ul style="list-style-type: none"> • No age and sex distribution |

Note: N/A: not applicable.

Source: World Bank, 2023.

To identify the health workers' motivation and the incentives to practice the medical profession, different categories of health professionals filled out a questionnaire carried out in the Slovak Republic. The survey data were collected between April and June 2023 and included 733 respondents (161 GPs; 183 medical specialists; 236 nurses; and 153 dentists)⁵ selected with quota sampling.⁶ Five main areas of interest were assessed: work motivation; work satisfaction; health and wellbeing; work organization; and cultural setting (work-life balance). The survey was self-administered and carried out with the computer-assisted personal interview (CAPI) and with computer-assisted web interviewing (CAWI).

3. Human Resources for Health (HRH)

3.1. Global Challenges of the Health Workforce

For health systems to work effectively, health workers must be available, accessible, acceptable, of a good quality, and properly distributed. It is not enough to have more health workers available; effective service coverage can only occur when they are fairly distributed and easily accessible by the population, have the necessary competency, are inspired and empowered to provide high-quality care that is appropriate and acceptable to the population's sociocultural expectations, and receive adequate support from the health system (WHO, 2016; WHO, 2022).

Shortages of human resources in the health sector are an issue faced by many countries, including high-income countries. The COVID-19 pandemic has further aggravated the problems and presented a normative question on how to best allocate health workers and resources during a pandemic (Emanuel et al., 2020).

The WHO estimates a shortfall of 10 million healthcare workers by 2030. Health professionals are essential to make the health system work. Countries at all levels of socioeconomic development, including the Slovak Republic, face, to a varying degree, different challenges in the education, employment, deployment, retention, and performance of their health workforce (WHO, 2023b).

The attainment of universal health coverage, one of the sustainable development goals (SDGs), entails the correct estimation of the number, type, and distribution of health workers required to meet the demand. The changing demography of a population is a determinant of the universal needs for healthcare (Szabo et al., 2020). Table 2 describes the main identified global challenges related to the HRH dynamics, the appropriate capacity at the national level for the implementation of human resources policies, and issues related to the content and policies of the health workforce.

Table 2. Global Common Challenges of HRH

| Challenge | Description |
|-----------|-------------|
|-----------|-------------|

⁵ The surveyed health professionals visit patients in all age groups.

⁶ Quota sampling is a nonrandom selection of subjects from population subgroups defined by the researchers.

| | |
|---|---|
| Shortages of health workers | Several factors play a role: aging health workforce; physical, emotional, and mental exhaustion leading to burnout among health professionals, particularly exacerbated during the COVID-19 pandemic; and a low inflow of health professionals, particularly of nurses. |
| Inadequate recruitment | Some areas of the health sector—typically primary care, mental care, and long-term care—attract too few health workers. |
| Low retention | Key reasons for low retention rates include the following: relatively low salaries, particularly for GPs and nurses as compared to medical specialists; lack of access to professional development and further education; lack of effective supervision; weak regulatory environments; isolation (for health workers in rural or remote areas); poor working conditions (including facility conditions, and a lack of medical equipment and technology); stress or large caseloads; lack of motivation and low job satisfaction; and, increasingly, a perceived lack of security in some settings (for example, ambulance personnel) (Castro Lopes et al., 2017). |
| Low attractiveness of the profession and working conditions | This is particularly true for those health professionals having to work in remote and underserved geographical areas. Unattractive employment and working conditions also lead to demotivated health workers who then leave the profession. |
| Internal migration and outmigration | Health workers tend to locate in the most attractive areas of the country, leaving unattractive geographical areas behind. Additionally, outmigration to foreign countries plays a role given the (often) higher salaries, better quality of life and professional perspectives, and the presence of a globalized labor market. |
| Skills mismatches and inefficient work organization | These are mostly due to poorly defined scopes of practice for some professions, the limited integration of services; lack of data; and the lack of teamwork and collaboration between employees. |
| Suboptimal governance | A suboptimal governance and management of the health workforce results in a mismatch between demand and supply of health workers. |
| Incomplete data on human resources | Statistics for the health workforces are exacerbated by a lack of accurate data to plan effectively. For example, data are not at all available for some health professions or the data collection is scattered across different institutions. |
| Limited investments | Financing solutions to scale up training, employment, and improve retention through the creation of decent work are essential to improve the resilience of health systems. |

Source: Adapted from WHO, 2022.

The newly adopted Bucharest Declaration on the Health and Care Workforce amplifies the need to tackle the challenges faced by health professionals.⁷ These include aging health professionals, migrations, low retainment, uneven geographical distribution, mismatches in skill-mix, insufficiencies in developing skills to meet evolving health and care needs, and new digital and other technologies (WHO, 2023c). WHO Europe has identified ten actions to address the challenges of human resources

⁷ WHO (2023). <https://www.who.int/europe/news/item/22-03-2023-the-health-workforce-crisis-in-europe-is-no-longer-a-looming-threat---it-is-here-and-now.-the-bucharest-declaration-charts-a-way-forward>

for health. It is important, however, that the Slovak Republic and the BBSK, design their own path of effective policy and planning responses as no ‘one-size-fits-all’ approach will work (WHO, 2022).

3.2. Health Workforce in the Slovak Republic

3.2.1. Planning of HRH

The Slovak Republic has neither a national nor a regional general policy document on the planning and development of human resources for health. However, the significance of human resources for health is acknowledged in three policy documents in the health sector (the Strategic Framework for Health 2014–2030, Health Expenditure Review, and the Strategy of general ambulatory care).

The Strategic Framework for Health 2014–2030 is the main document that should determine the medium- and long-term direction of Slovak health policy. The framework acknowledges the need for a tool and a strategic document to manage the health workforce. It is necessary to create a motivational environment for health workers to invest in their career development, and to increase financial resources for medical schools and universities to produce a sufficient number of trained health professionals (Ministry of Health, 2013). This document was updated in June 2022, with the inclusion of indicators stemming from other documents (the Recovery and Resilience Plan, Program Slovakia 2021–2027, and the Vision and Development Strategy of Slovakia until 2030) and a system of regular monitoring.

To increase the attractiveness of general medicine, a specific call under the “Recovery and Resilience Plan” provides financial support for new and existing general ambulatory care providers to establish general ambulatory care in underserved areas. Through this call, it is possible for the newly established GP and pediatrician practices in specified underdeveloped regions with a shortage of doctors to receive a one-time subsidy of € 50,000–60,000.

The 2022 Health Expenditure Review issued by the Ministry of Finance has estimated that the Slovak Republic requires over 1,200 new medical doctors and over 14,000 new nurses to meet health needs and increase the ratio of nurses to doctors—currently at 1.6—to the EU average (2.7) or best performing countries (4.0). The following are the primary areas of focus in the health system: raising the relatively low wages of health workers—especially nurses and midwives—for which the budget would need to increase from € 227 million to € 329 million; increasing the attractiveness of the medical professions (already during medical school education); and mentoring programs supporting young doctors and students (estimated at an additional € 10 million until 2025) (Ministry of Finance, 2022).

The strategy of general ambulatory care until 2030 strongly advocates increasing the attractiveness of the medical profession. Areas that need strengthening are the education and residence programs of health workers in general ambulatory care, the provision of short and specialized trainings, the

facilitation of entry into the healthcare system for foreign health professionals, and a reduction of the barriers to enter general ambulatory care (MoH, 2022).⁸

3.2.2. Education and Professional Development

Both the MoH and the Ministry of Education (MoE) have the authority for the training of healthcare professionals; however, the MoH awards minor grants while the MoE offers medium and large grants, mostly from EU funds. Medical research in schools and at the Slovak Academy of Sciences is coordinated by the MoH, with funding from the MoE. The Slovak Medical Association brings together professional medical and pharmaceutical societies organized as regional associations of doctors and pharmacists. It emphasizes professional and ethical concerns, as well as disseminating the most recent scientific findings. Within the Slovak Medical Society, professional societies assign their specialists to various professional or decision-making bodies.

Four medical faculties within three universities offer residency programs to medical graduates that are financially supported by the MoH. The following are the aims of the residency program: to ensure a sufficient number of doctors, and reduce the average age in the fields of general medicine and pediatrics to that of general clinics for adults, and general clinics for children and adolescents; to ensure a sufficient number of doctors and nurses in other deficient specialized fields designated by the MoH; and, to support the further education of healthcare workers. The residency duration is three years for general practice, longer for other fields of specialization.

In February 2023, the MoH announced that the residency education program for GPs who treat children and young adults (those under the age of 18) would be discontinued. The GP program for adults will still be in place; however, the official reason for the discontinuation of the program for children and young adults is unknown. Since 2014, the overall number of doctors enrolled in residency programs has varied, but with this recently announced step, it is anticipated to fall in the years to come (see Figure 1).

⁸ Among the main barriers are the lack of funding for a clinic's opening and first year of its operation, administrative challenges associated with starting a practice, a dearth of job opportunities in this sector, and the lengthy transition from new doctor to ambulatory practice (32 years of age on average).

Figure 1. Number of Medical Doctors Educated in the Residency Program



Note: No separate data for GPs and nurses are available.

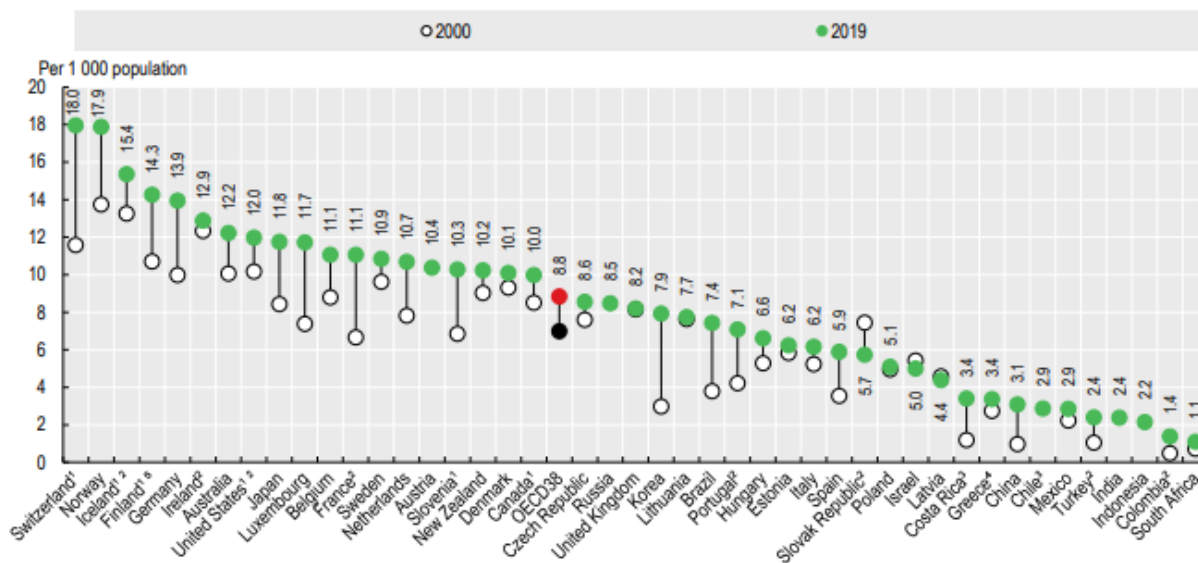
Source: Supreme Audit Office, 2023⁹.

3.2.3. Staffing and Recruitment

There is a growing need in the Slovak Republic for healthcare due to the adverse demographic developments. However, there are also serious issues due to health worker shortages, HRH migration, the aging workforce and the expected retirement rate of health professionals, and the low attractiveness of the GP and nurse professions. An outpatient doctor is, on average, 55 years old. A nurse's average age ranges from 45 to 49 years old. Health worker shortages are particularly acute for nurses. In the Slovak Republic, there are currently 3.6 doctors for every 1,000 patients—on par with the OECD average of 3.6—but there are only 5.7 nurses, against 8.8 for the OECD average (OECD/European Observatory on Health Systems and Policies, 2021) (see Figure 2).

⁹ https://www.nku.gov.sk/aktuality/-/asset_publisher/9A3u/content/rezidentske-studium-vseobecnych-lekarov-a-pediatrov-treba-namodelovat-nanovo?inheritRedirect=false.

Figure 2. Practicing Nurses per 1,000 population, 2000 and 2019 (or nearest year)



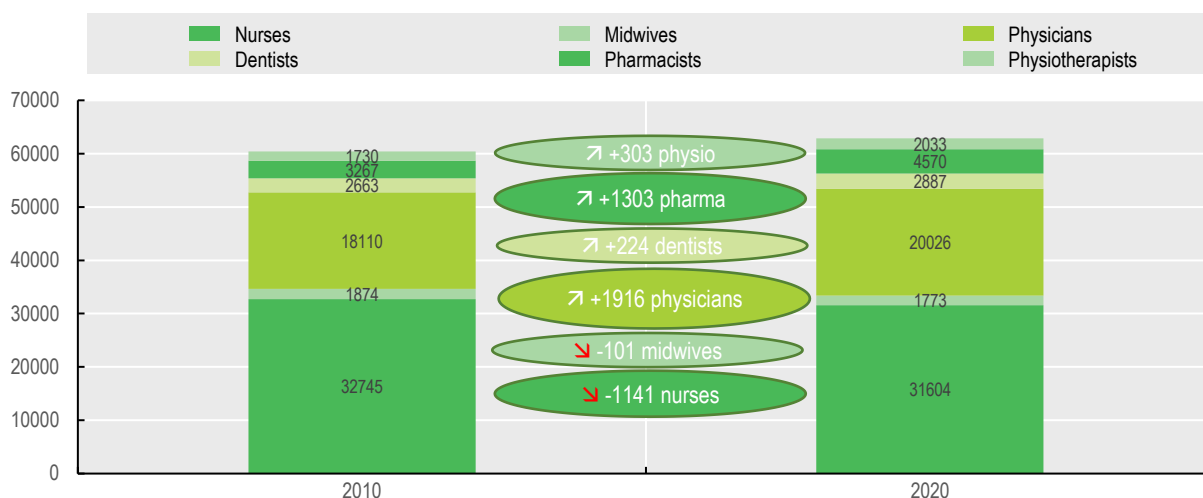
Source: OECD/European Observatory on Health Systems and Policies, 2021.

Health workers are unequally distributed across the eight self-governing regions where the minimum GP-to-population ratios cannot be guaranteed. Access to health services, particularly in primary care, is also reported to be more difficult in some geographical areas than others.

The nurse-to-population ratios have steadily declined over the past 20 years and the number of nursing graduates more than halved between 2010 and 2020. On the contrary, all other medical professionals have increased in the last decade (see Figure 3). The ratio of nurses and midwives to medical doctors in the Slovak Republic has slightly decreased over time, placing the Slovak Republic below the average of the WHO European Region and Subregion of Eastern Europe¹⁰ (data not shown here).

¹⁰ Belarus, Bulgaria, the Czech Republic, Hungary, Poland, Republic of Moldova, Romania, Russian Federation, the Slovak Republic, and Ukraine.

Figure 3. Number of Health Professionals in the Slovak Republic, 2010–2020



Note: Physicians include all medical specializations.

Source: OECD/European Observatory on Health Systems and Policies, 2021.

The number of new nursing graduates per 100,000 people in the Slovak Republic (18 in 2020) was more than twice lower than the OECD average (43 in 2020).¹¹ It decreased steadily by 50% in the last decade due to an aging workforce, relatively low wages compared to neighboring countries, poor working conditions, and the low status of the profession (OECD, 2023).

The number of graduating doctors in the Slovak Republic is higher than the OECD average, but it includes many foreign students. In 2020, there were 19.3 medical graduates per 100,000 people in the Slovak Republic against 13.2 for the OECD average (OECD, 2023).

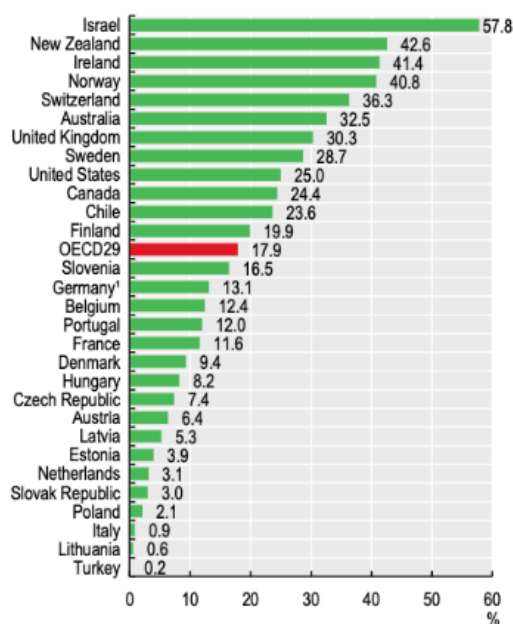
The Slovak Republic has a lower number of foreign-trained doctors (3%) compared to the OECD average (17.9%).¹² This share is lower than neighboring Hungary (8.2%) but higher than Poland (2.1%) (see Figure 4).

¹¹ Data are preliminary for some countries. Only 30 countries had data available for 2020. See <https://data.oecd.org/healthres/nursing-graduates.htm#indicator-chart>

¹² Foreign-trained doctors are Slovaks who have obtained their first medical qualification (degree) in another country and are entitled to practice in the Slovak Republic.

Figure 4. Share of Foreign-trained Medical Personnel, 2019 (or Nearest Year)

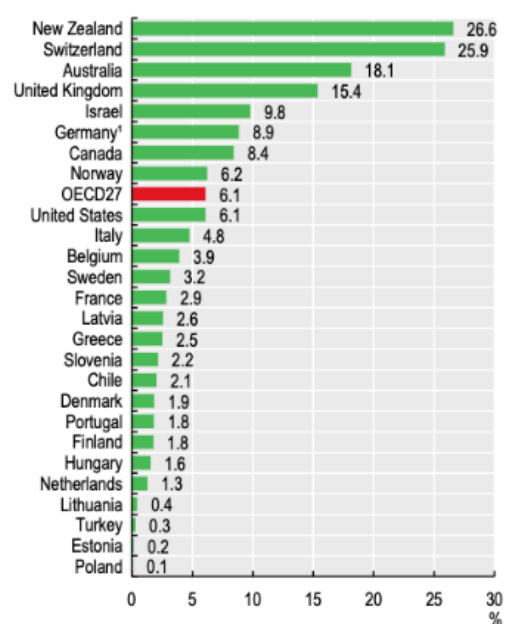
Figure 8.23. Share of foreign-trained doctors, 2019 (or nearest year)



1. In Germany, data based on nationality (not on place of training).
Source: OECD Health Statistics 2021.

StatLink <https://stat.link/h53hlo>

Figure 8.24. Share of foreign-trained nurses, 2019 (or nearest year)



1. In Germany, data based on nationality (not on place of training).
Source: OECD Health Statistics 2021.

StatLink <https://stat.link/bxymws>

The number of foreign medical doctors and nurses per 100,000 people is lower in the Slovak Republic (10.6 in 2020) than in neighboring countries, except for Poland (10.3). According to MoH data, 83% of foreign doctors in the Slovak Republic were from outside the EU, mostly from Ukraine (Figure 5). The recognition of the medical qualifications of Ukrainian doctors and nurses is not automatic; specific procedures are in place to register their qualifications and allow them to practice under supervision.

Figure 5. Number of Foreign Health Workers per 100,000 People in the Slovak Republic and Neighboring Countries, 2020

| | |
|--|---|
| <p>Czech Republic: <i>66% of all foreign doctors were from Slovak Rep., other 29 % were from Ukraine, Belarus, Russian Fed., Uzbekistan.</i></p> <p>Austria: <i>66% of foreign doctors were from Germany, other 30% was from EU countries (Hungary, Croatia, Czech Republic, Slovak Republic, Italy, Slovenia, Switzerland, Poland, Bulgaria).</i></p> <p>Hungary: <i>70% of foreign doctors were from Romania, other</i></p> | <p>Number of foreign health workers per 100,000 population in the Slovak Republic and neighboring countries, 2020</p> |
|--|---|

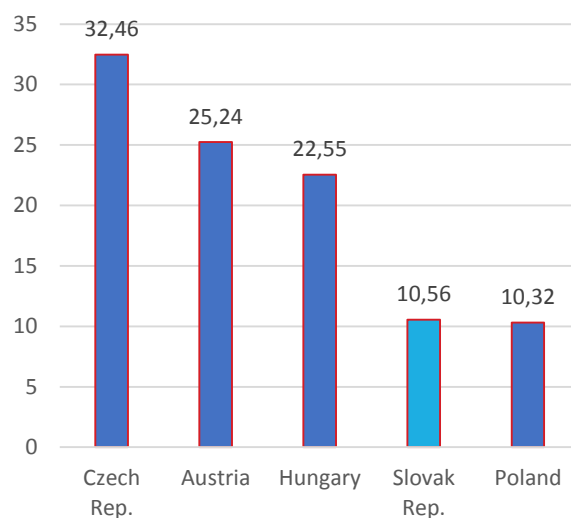
23% came from Ukraine, Russia, and Serbia.

Poland:

66% of foreign workers were from Ukraine, Belarus, and Russia.

The Slovak Republic:

According to the MoH data, 83% of the foreign doctors are from outside the EU. The Chamber of Doctors registry data show that 52% of all foreign doctors were from Ukraine.



Source: OECD, 2021.

3.2.4. Economic Conditions

General and specialist ambulatory care services are paid for using different payment methods, which include fixed capitation, variable capitation, and fee-for-service (see Table 3). GPs, pediatricians, and gynecologists fall under primary healthcare. All other services are specialist ambulatory care.

Table 3. Payment Mechanism in General and Specialist Ambulatory Care

| Service Area | Payment Mechanism | Description |
|--|-----------------------------|---|
| General ambulatory care (GPs, pediatricians, gynecologists) | Fixed capitation payment | Monthly payment for each person enrolled in primary care at a specific provider |
| | Variable capitation payment | As above; the amount is based on performance criteria set by the health insurance companies ¹³ |
| | Fee-for-service | Additional payment for a few selected services (preventive services, screenings, vaccinations, or selected laboratory and diagnostic tests) |
| Specialist ambulatory care | Fee-for-service | Based on list of services (catalog) ¹⁴ with weights (in points), issued by MoH but used voluntarily; negotiations on price per point between health insurers and providers |

Source: Based on Smatana et al. (2016).

¹³ Health insurance companies can decide to reward health providers for their treatment results, extensive data reporting, use of specific electronic systems, and so on.

¹⁴ See https://www.slov-lex.sk/static/prilohy/SK/ZZ/2004/776/20050101_3157175-2.pdf

The capitation payment is primarily age-dependent, potentially providing a disincentive to greater management of patients within general ambulatory care, instead of referral to specialists, particularly for overworked GPs (World Bank, 2018). However, some health insurers reward GPs with larger capitations if they meet certain standards of excellence. Selected contract terms of health insurance companies are published by the MoH twice a year, effective as of January 1 and July 1. The general ambulatory care provider's potential membership in a particular association is not considered by the stated price requirements (see Table 4 and Table 5).

Table 4. Current Capitation Rates by Health Insurance Companies, 2023

| Age Group of the Insured | Basic Capitation | Max. Additional Capitation / Capitation bonus |
|---|------------------|---|
| Public health insurance company: GENERAL | | |
| up to 19 years inclusive | € 3.52 | € 1.20 |
| from 20 to 28 years inclusive | € 2.80 | € 1.20 |
| from 29 to 39 years inclusive | € 2.60 | € 1.20 |
| from 40 to 44 years inclusive | € 2.64 | € 1.20 |
| from 45 to 49 years inclusive | € 2.69 | € 1.20 |
| from 50 to 54 years inclusive | € 3.12 | € 1.20 |
| from 55 to 59 years inclusive | € 3.24 | € 1.20 |
| from 60 to 64 years inclusive | € 3.62 | € 1.20 |
| from 65 to 69 years inclusive | € 4.32 | € 1.20 |
| from 70 to 74 years inclusive | € 4.47 | € 1.20 |
| from 75 to 79 years inclusive | € 4.62 | € 1.20 |
| from 80 to 84 years inclusive | € 5.06 | € 1.20 |
| from 85 years and older | € 5.15 | € 1.20 |
| Private health insurance company: TRUST | | |
| until the age of 19 | € 3.89 | € 1.47 |
| from the age of 19 to the age of 27 | € 2.50 | € 1.47 |
| from the age of 27 to the age of 45 | € 2.61 | € 1.47 |
| from the age of 45 to the age of 51 | € 2.71 | € 1.47 |
| from the age of 51 to the age of 53 | € 2.95 | € 1.47 |
| from the age of 53 to the age of 57 | € 3.53 | € 1.47 |
| from the age of 57 to the age of 61 | € 3.80 | € 1.47 |

| | | |
|--|--------|--------|
| from the age of 61 to the age of 64 | € 4.04 | € 1.47 |
| from the age of 64 to the age of 68 | € 4.43 | € 1.47 |
| from the age of 68 to the age of 72 | € 4.80 | € 1.47 |
| from the age of 72 to the age of 87 | € 5.28 | € 1.47 |
| from 87 years of age | € 5.21 | € 1.47 |
| Private health insurance company: UNION | | |
| from 18 years to 50 years of age inclusive | € 2.72 | € 1.36 |
| from 51 years to 60 years of age inclusive | € 3.12 | € 1.36 |
| from age 61 to age 80 inclusive | € 4.60 | € 1.36 |
| from the age of 81 | € 5.04 | € 1.36 |

Note: The maximum threshold of the additional capitation represents the individual purchasing policy of the health insurance company.

Source: Ministry of Health, 2023¹⁵.

Table 5. Selected Services Paid by Fee-for-service, 2023

| Name of the service from the Catalog | The cost of performance | | |
|---|--|--------------------------------------|--------------------------------------|
| | General health insurance company, a.s. | Trust health insurance company, a.s. | Union health insurance company, a.s. |
| Consultation via email, telephone, or SMS | € 4.16 | € 4.32 | € 4.16 |
| Consultation through extended electronic communication in an online environment (web application, video call) | € 5.46 | € 5.67 | € 5.46 |
| Pre-surgery checkup | € 16.00 | € 14.30 | € 16.00 |
| Medical reissuance of prescriptions or vouchers based on the policyholder's request via email, SMS, or phone | € 1.04 | € 1.08 | € 1.04 |
| Preventive examination for blood in the stool using the iFOB test in insured persons older than 40 years. | € 12.00 | € 11.70 | € 9.68 |

¹⁵ <https://www.health.gov.sk/?vas-vybrane-parametre-zmluvnych-podmienok-zp-vseobecne-lekarstvo>.

| | | | |
|--|---------|---------|---------|
| Preventive performances | € 25.35 | € 25.35 | € 23.73 |
| Examination and early recognition of impending loss of self-sufficiency in insured persons over 60 years of age (MoCA—Montreal Cognitive Assessment) | € 6.00 | - | € 6.00 |
| Vaccination | € 5.60 | € 5.60 | € 5.60 |
| Examination of C-reactive protein (CRP) | € 5.00 | € 5.00 | € 5.02 |
| Electrocardiographic (ECG) examination, standard 12-lead ECG recording | € 4.74 | € 4.78 | € 4.74 |
| Initial examination of the insured with a chronic disease | € 12.00 | € 12.00 | € 12.00 |
| Control examination of the insured with a chronic disease | € 12.00 | € 12.00 | € 12.00 |
| Targeted examination of the insured with an acute hypertensive condition | € 6.00 | - | - |
| Cardiovascular risk stratification | € 5.00 | € 5.00 | € 6.00 |
| Quantitative instrumental INR examination in the VLD clinic | € 5.20 | € 5.20 | € 5.88 |
| Determination of the ABI index by the oscillometric method, including the pulse wave | € 6.00 | € 6.00 | € 6.78 |

Source: Ministry of Health, 2023¹⁶.

3.2.5. Competencies and Skills of GPs

Primary care in the Slovak Republic is not defined by legislation in the publicly financed health system. Historically, it refers to care provided by GPs, pediatricians, outpatient gynecologists, and stomatologists.

A 2018 World Bank report found that despite an expansion of activities in preventive care and health promotion provided by GPs, it is not clear if these are sufficiently effective for the growing burden of noncommunicable diseases (World Bank, 2018). Additional areas for improvement are the availability of medical equipment, minor technical procedures, first contact care, and disease management.

GPs rarely have a full set of essential medical equipment in their practice, with the average number of items only half that of Europe. The number of minor procedures that could be carried out safely in

¹⁶ <https://www.health.gov.sk/?vas-vybrane-parametre-zmluvnych-podmienok-zp-vseobecne-lekarstvo>

primary care with nonspecialist training is limited, which leads to unnecessary referrals to secondary care.

The fee-for-service payments have enhanced a limited number of promotion activities at primary care as part of the regular practice, but the effectiveness has not been evaluated yet. For example, while GPs can carry out more screening activities than in the past, this competency is not linked with the management of those diseases detected through screening.

Due to the shortage of GPs in the Slovak Republic, other primary care professionals, including nurses and community pharmacists, could play a larger role in the provision of health services. GPs would have more time and resources if the roles of other primary care professionals were expanded, particularly in prevention and health promotion initiatives.

Primary care in the Slovak Republic needs strengthening to reduce referrals to specialist care and decrease rates of mortality from preventable and treatable causes. A 2013 study found that out of 31 European countries, the Slovak Republic's GPs are only able to handle about 70% of consultations without referring patients to specialists (the EU average is 90%), making the Slovak Republic primary care the least comprehensive. Relatively high numbers of hospital admissions and deaths from preventable and treatable conditions highlight the need to strengthen primary care (Kringos et al., 2013) and point to the low effectiveness of health services.

3.2.6. Motivation and Attractiveness of the Profession

The image and perceived attractiveness of health workers in primary care is a recognized global issue that affects the Slovak Republic and many other countries in Europe. Despite the recognition that strong and comprehensive primary healthcare leads to better health, access, and cost-containment (van Weel and Kidd, 2018), the Slovak Republic faces shortages and geographic imbalances of primary care professionals, including GPs and nurses.

The low attractiveness of the GP and nurse professions is influenced by different factors. The lack of a specific strategy or service specifications for primary care, which describes tasks and duties of primary healthcare professionals, is a barrier to a more comprehensive and attractive primary healthcare.

The unattractiveness of working in remote and underserved geographical areas is a challenge, because it limits career possibilities, particularly for young or new doctors and nurses. Practice populations in rural or disadvantaged areas often have more clinical demands than wealthier or urban areas, yet usually have fewer GPs per person. This leads to overburdened GPs who are not fairly financially compensated for their efforts.

Factors that give GPs and nurses job satisfaction in their practice revolve around their own needs. These include the freedom to choose their working environment and to organize their practice to suit themselves, and access to professional education to be able to develop specific skills and strengthen doctor-patient relationships. These needs are important especially because general practice and affiliated health professions seem to be perceived as less attractive throughout Europe (Le Floch et al., 2019).

The survey conducted in all regions of the Slovak Republic indicated certain potential areas of actions that, if addressed, might result in higher work motivation and satisfaction, the improved health and wellbeing of health professionals, enhanced work organization, and better work-life balance.

Respondents are motivated to work mostly because they enjoy their jobs and they feel that their work is exciting and is important to their patients. For 90% of survey respondents, the appreciation of patients and the community, as well as being a health worker as part of one's identity, are major job motivators. Eighty-five percent of respondents believe that their reputation is directly related to the work they conduct. A healthy financial situation is often a motivating extrinsic factor for health workers (91%).

The capacity to work independently, job security, and the opportunity to use one's skills on the job are the primary factors that contribute to job satisfaction. However, more than half of respondents are unsatisfied with the direct supervisor's decision-making authority (58%), the time spent on administration (51%), the supervisor's treatment and support of employees (51%), and the limited possibility of teamwork (51%). Dentists are the most satisfied of the groups studied. However, specialists and nurses expressed lower levels of satisfaction.

Ensuring the health and wellbeing of health workers is an important aspect worth investing in because it affects the quality of services provided, patient satisfaction, and overall productivity (Sigurdsson, 2021). Even though health workers are not required to work additional (paid or unpaid) hours than their contractual hours, approximately 10% of respondents, mainly nurses, claim one to five extra hours of unpaid work each week. Additional unpaid hours per week for medical specialists exceed six hours. Importantly, 28% and nine percent of respondents, respectively, reported some type of physical or mental condition because of work activities in the previous 12 months, with respondents over 50 years experiencing this substantially more frequently. Almost one-fifth of survey respondents, primarily doctors and nurses, reported experiencing work-related stress in the previous six months. Up to 30% of respondents, largely medical specialists and nurses, reported coming to work in the last six months, despite not feeling well enough to execute their duties, with less than 10% feeling pressured to do so by a superior. Discrimination, harassment, bullying, or abuse at work, do not occur on a broad scale, with only seven percent of survey respondents reporting such incidents. However, if discrimination, harassment, bullying, or abuse occurs, it is perpetrated by the patient or his/her family in 37% of cases, by the direct supervisor in 32% of cases, and coworkers in 22% of cases.

Organizational arrangements define the context within which health workers must operate and may create incentives for overall performance. In this regard, it is important to note that nearly one-fifth of health workers, especially medical specialists, are unable to notify if a potentially hazardous situation arises at work when this occurs (only six percent of workers experienced a risky situation at work). The general opinion toward one's organization is good, with most respondents (over 90%) satisfied with the standard of care provided at the workplace. eight percent of health employees are considering quitting the organization, with three percent looking for alternative positions in the Slovak Republic and only two percent considering emigration. Young medical specialists and nurses are typically more mobile. Better pay prospects (17%) and opportunity for professional development

(13%) are among the main reasons for quitting the current work. More than one out of every five nurses work alone, that is, without a work team. Direct supervision is lacking across the categories, for 80% of GPs, 71% of dentists, and 63% of medical specialists who reporting not having a direct supervisor.

Just over half of respondents (56%) are content with their work-life balance, but 28% are neither satisfied nor dissatisfied, and nine percent are (very) dissatisfied, with younger respondents (under the age of 49) and medical specialists being the most unsatisfied. The Bratislava Region is widely regarded as providing the best prospects for professional development for all types of health workers, the best living conditions, and the best place to live and work. However, when it comes to the region of the respondent's residence, following Bratislava, their own region is frequently considered as a good place to settle down and work. The most important factors for a good work-life balance are access to innovations at work, improved access to public services, increased general pay, and administrative task reduction. The most often reported difficulties among GPs are access to innovative ways of working and administrative burden reduction.

4. Health Workforce in the BBSK

The BBSK is divided into 13 districts, 516 municipalities, and 24 towns. Five out of 13 BBSK districts belong to the development program of the Slovak government for the least-developed districts (World Bank, 2020c). In 2022, more than 90% of the municipalities have less than 1,000 people (471 municipalities), with an average population density of 68 people per square kilometer (World Bank, 2022b).

The BBSK, with a population of approximately 621,000 people in 2022, is among the least economically and socially developed regions in the Slovak Republic, with the second-lowest GDP per person among the eight Slovak regions (€ 13,949 versus the national average of € 18,098 per person in 2021), the third-highest rate of unemployment (8.5% in 2022), and the second-highest share of population at risk of poverty (19.1% in 2021)¹⁷ (CSO, 2023).

The limited competitiveness of the BBSK's economy underlines the lack of dynamism and low productivity in the private sector and the lack of competitive jobs. In 2019, over a quarter of employed people were public sector employees (World Bank, 2020a).

With one of the fastest aging populations across the eight regions, in 2021 the BBSK had an aging index¹⁸ of 142 against the average of 108 for the Slovak Republic. A rapid outmigration of young people of childrearing age for better job opportunities leaves aging people behind with increased health and social care needs. The demand for health and social services is hard to meet in the most

¹⁷ Note that the Region of Prešov has the highest share of people at risk of poverty with 19.2% in 2021.

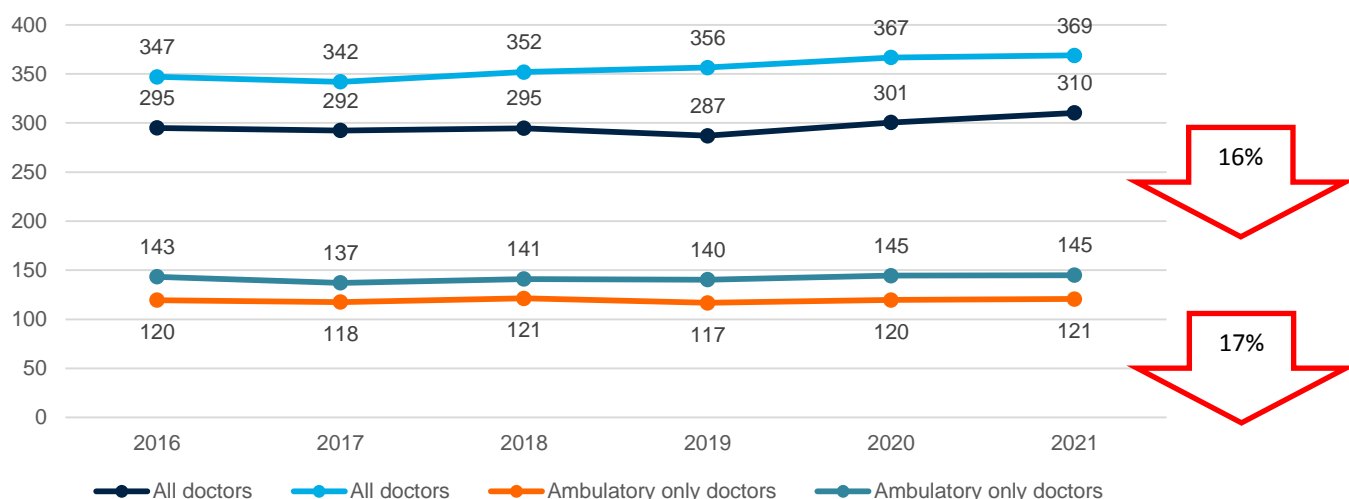
¹⁸ The aging index measures the relationship between the population over the age of 65 and under the age of 14.

rural and remote parts of the BBSK, which suffers from the highest levels of outmigration (World Bank, 2022b).

4.1. Availability

Between 2016 and 2021, the density of all doctors and ambulatory doctors was lower in BBSK than the national average. In 2021, it was lower by 16% and 17% respectively (see Figure 6).

Figure 6. Density of Doctors per 100,000 People in the BBSK and the Slovak Republic

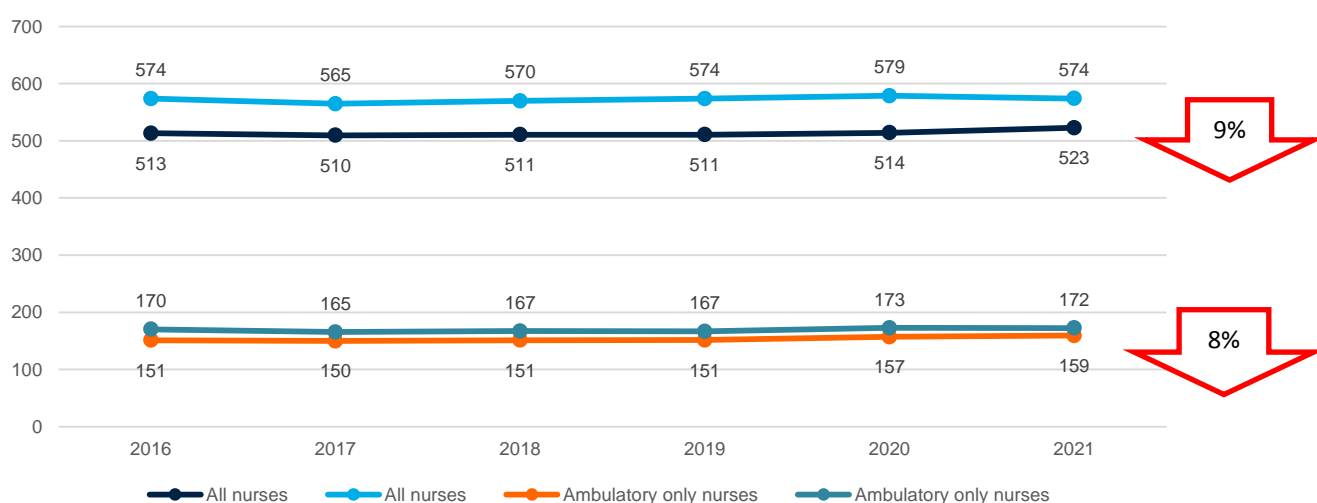


Source: MoH and CSO, 2022.

Similarly, the density of all nurses and ambulatory nurses was lower than the national average in the same period (2016–2021) (see

Figure 7). In 2021, the BBSK had nine percent and eight percent less nurses and ambulatory nurses than the Slovak Republic had, respectively.

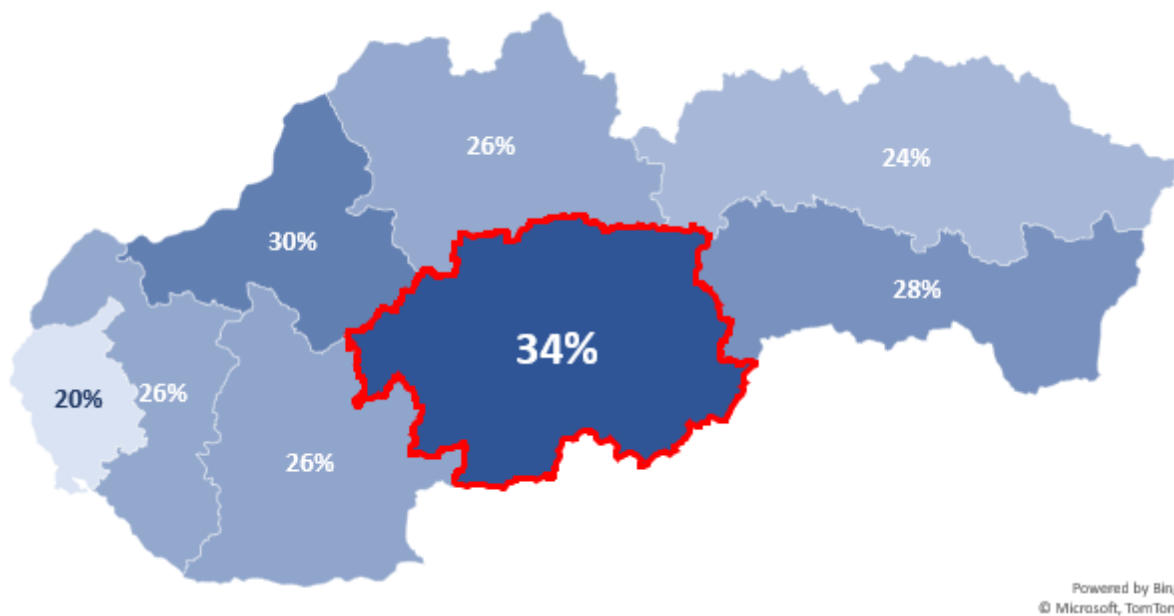
Figure 7. Density of Nurses per 100,000 People in the BBSK and the Slovak Republic



Source: MoH and CSO, 2022.

An aging health workforce affects the BBSK more than other regions of the Slovak Republic, with more than 30% of ambulatory care doctors aged over 65 years in 2021 (see Figure 8). Between 2016 and 2021, the share of ambulatory care doctors aged above 65 years has increased by almost 54% in the BBSK (49% in all the Slovak Republic).

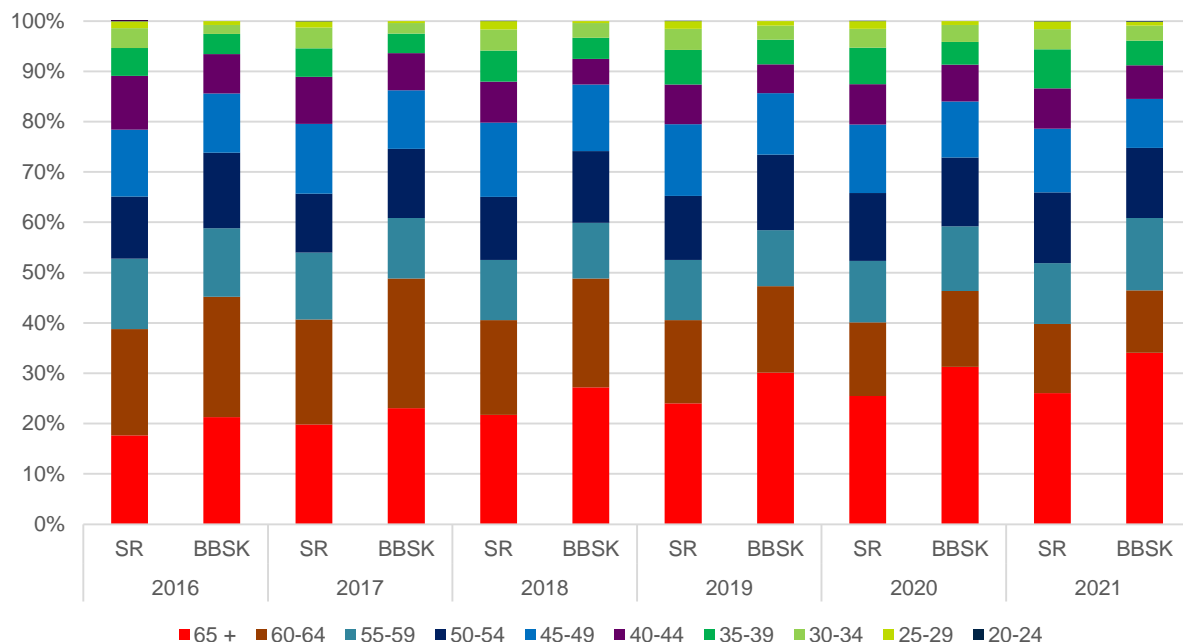
Figure 8. Share of Ambulatory Doctors over 65 Years of Age, 2021



Source: MoH and CSO, 2021.

The number of young ambulatory care doctors (aged below 34 years) is relatively low in the BBSK, compared to the Slovak Republic. Less than ten ambulatory care doctors under the age of 29 and an average of 20 doctors between the ages of 30 and 34 were active in the BBSK over the whole period of analysis (see Figure 9).

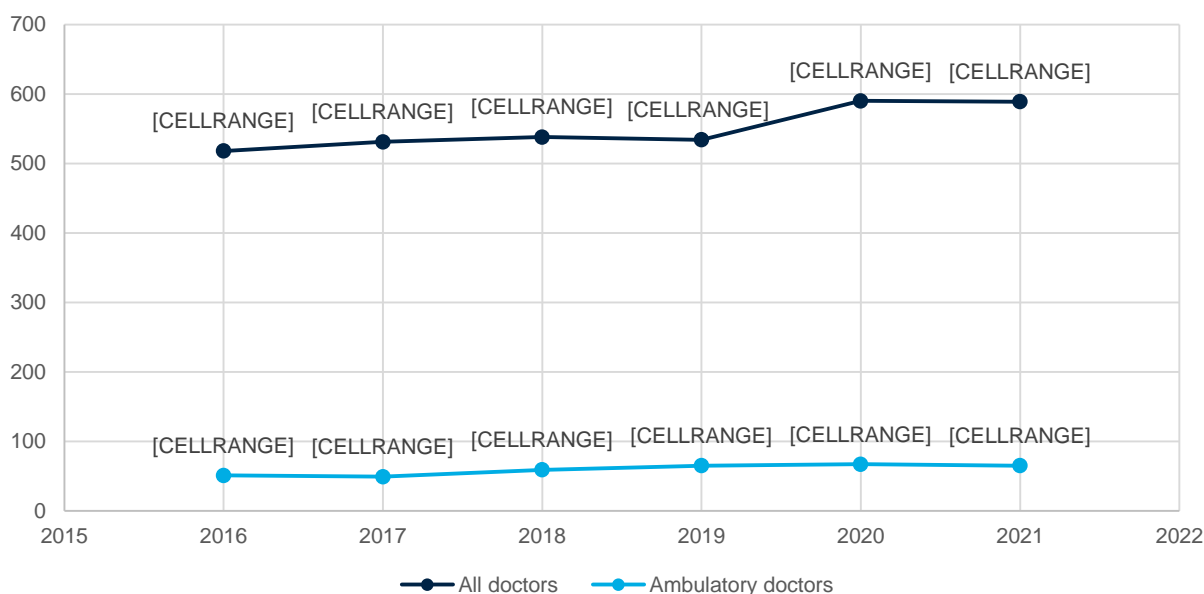
Figure 9. Age Distribution of Ambulatory Care Doctors in the BBSK and the Slovak Republic



Source: MoH and CSO, 2022.

In the BBSK, the number of young doctors (aged between 25 and 39 years) has increased only by 2.2% since 2016 (see Figure 10).

Figure 10. Number and Share of Young (Ambulatory Care) Doctors Aged Between 25 and 39 Years in the BBSK



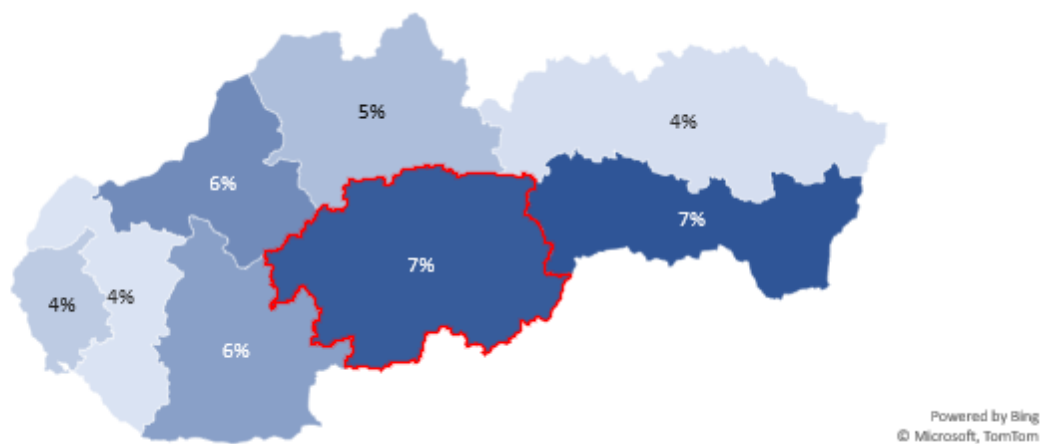
Source: MoH and CSO, 2022.

The number of ambulatory care nurses in the BBSK is low, but relatively stable between 2016 and 2021. In 2021, there were 3,246 nurses (a three percent decrease compared to 2016), including 989 ambulatory care nurses representing about 30% of all nurses. The median age of ambulatory care nurses was between 45 and 49 years for all years of analysis.

The number of doctors in the BBSK is stable (a 0.03% increase since 2016). In 2021, there were 1,927 doctors including 749 ambulatory care doctors (about 39%). The median age of ambulatory care doctors was between 60 and 64 years, while the median age of all other doctors (excluding ambulatory care doctors) was between 40 and 44 years.

In 2021, seven percent of all ambulatory care nurses (989 in the BBSK) were above 65 years of age (see Figure 11).

Figure 11. Share of Ambulatory Nurses over 65 Years of Age, 2021

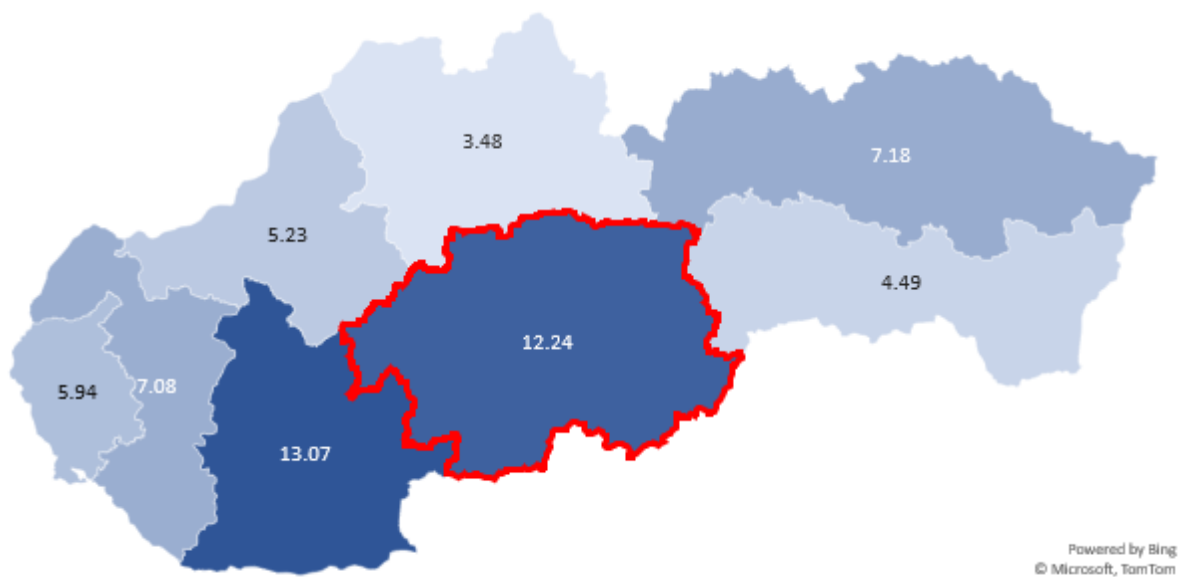


Source: MoH and CSO, 2021.

Despite the BBSK having one of the highest shares of foreign doctors from third countries per population (

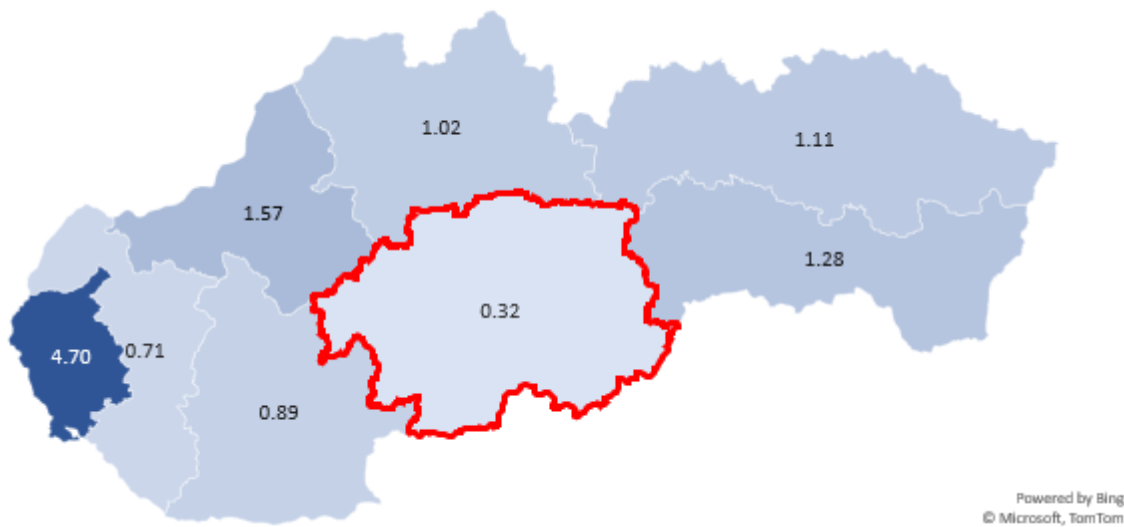
Figure 12), for ambulatory care it has the lowest share, at only 0.32 per 100,000 people (see Figure 13).

Figure 12. Number of Foreign Doctors (Excluding Ambulatory Care) From Outside the European Economic Area (EEA) per 100,000 People, 2021



Source: MoH and CSO, 2022.

Figure 13. Number of Foreign Ambulatory Doctors From Outside the EEA per 100,000 People, 2021



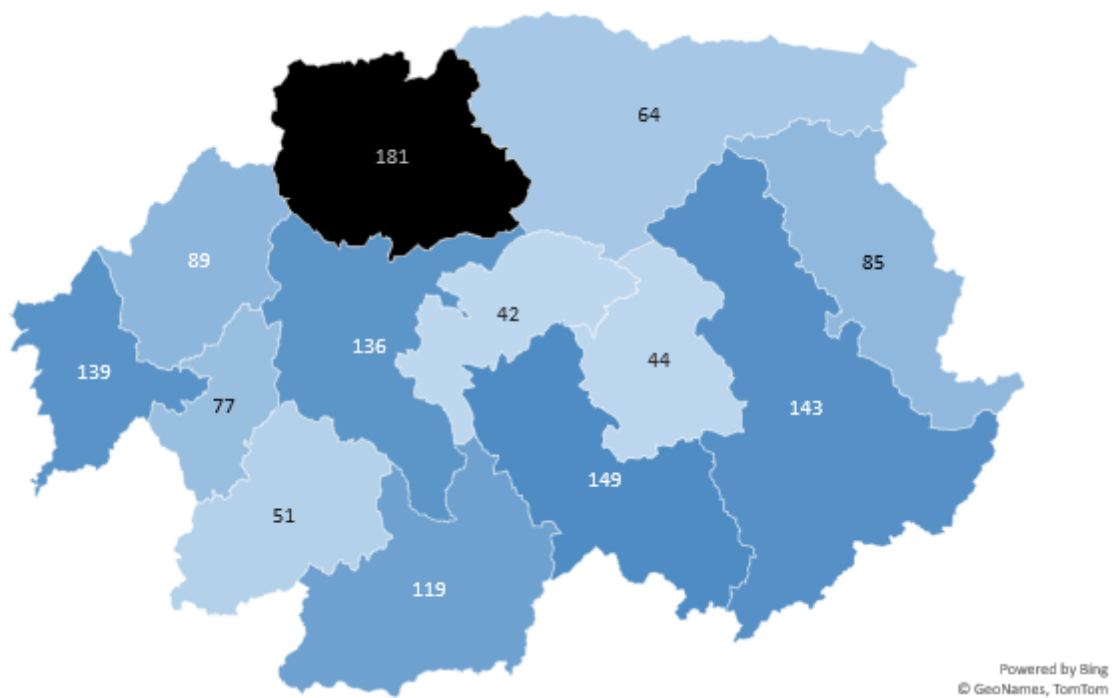
Source: MoH and CSO, 2022.

4.1.1. Availability in the BBSK Districts

In the BBSK Region, there is a significant variation in the number of ambulatory care doctors across the districts. In 2021, the Banská Bystrica District had the highest number per 100,000 people (181), while the districts of Detva and Poltár had the lowest (42 and 44, respectively) (

Figure 14).

Figure 14. Density of Ambulatory Care Doctors per 100,000 People, by BBSK Districts, 2021

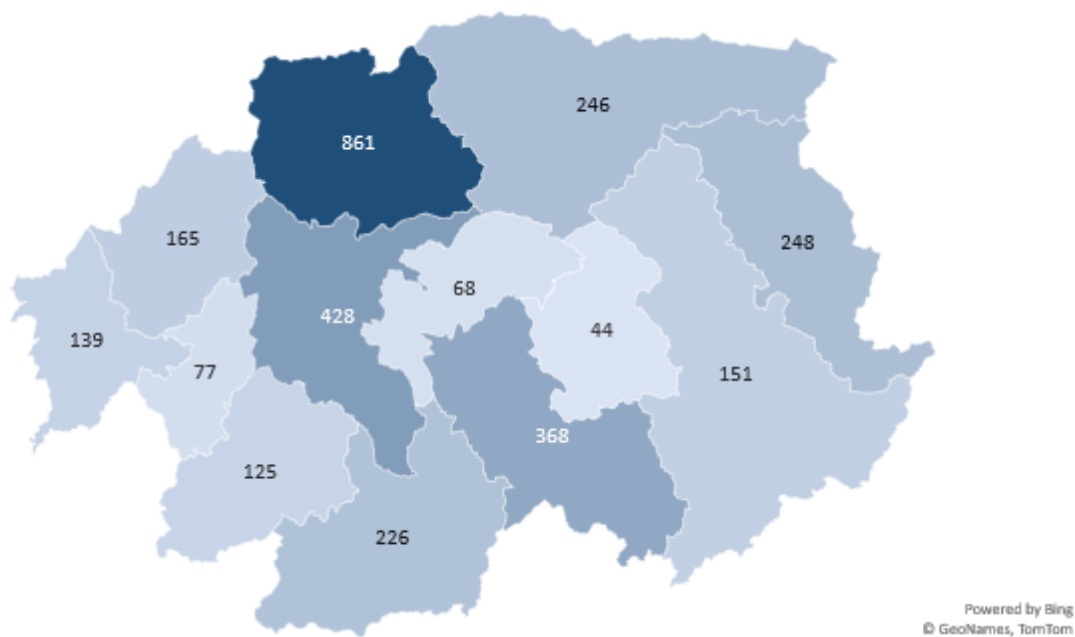


Note: The BBSK districts' darker colors indicate a higher ambulatory care doctor count.

Source: MoH and CSO, 2021.

A similar variation exists for the density of doctors per 100,000 people. In 2021, Banská Bystrica District had the highest number of doctors per 100,000 people (861) while the districts of Detva and Poltár had the lowest (68 and 44, respectively) (see Figure 15).

Figure 15. Density of Doctors in All Settings per 100,000 Population, by BBSK Districts, 2021

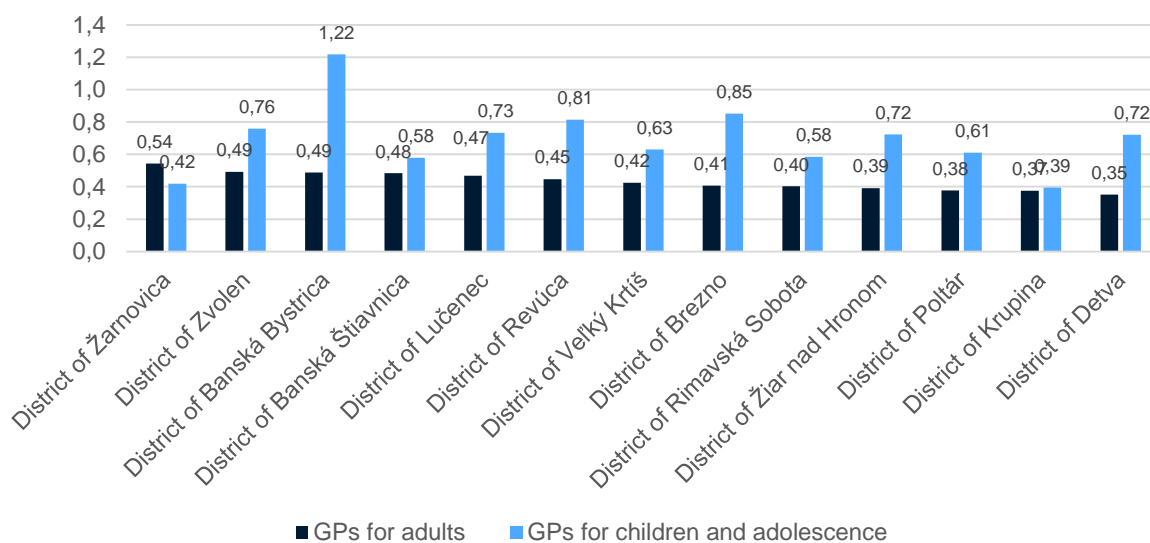


Note: The BBSK districts' darker colors indicate higher doctor counts.

Source: MoH and CSO, 2021.

The distribution of GPs across the BBSK districts also highlights important variations. In 2021, Žarnovica had the highest rate of full-time equivalent (FTE) GP doctors for adults (0.54), while Detva (0.35), Krupina (0.37), and Poltár (0.38) had the lowest rates. Banská Bystrica had the highest rate of FTE GPs for children and adolescents (1.22), while Krupina (0.39), and Žarnovica (0.42) had the lowest (see Figure 16).

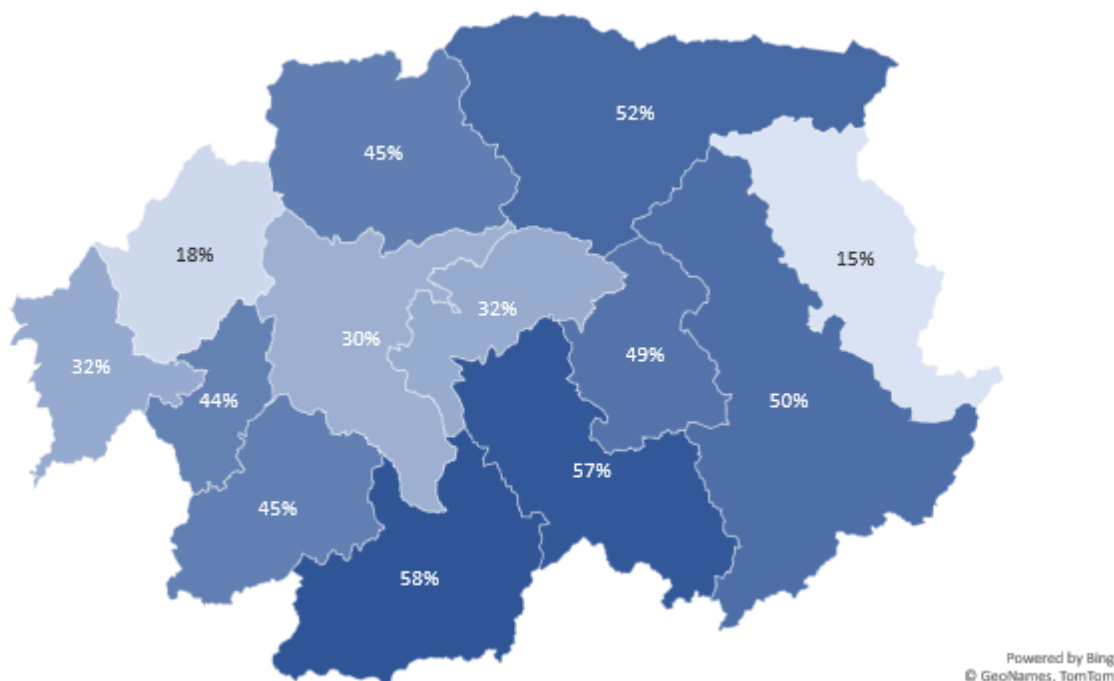
Figure 16. Full-time Equivalent of GPs per 1,000 People, by BBSK Districts, 2021



Source: BBSK providers database, 2021.

In 2021, Lučenec and Veľký Krtíš had the highest share of older GP doctors for adults (57% and 58%, respectively); Brezno and Veľký Krtíš had the highest share of older GP doctors for children and adolescents (see Figure 17 and Figure 18).

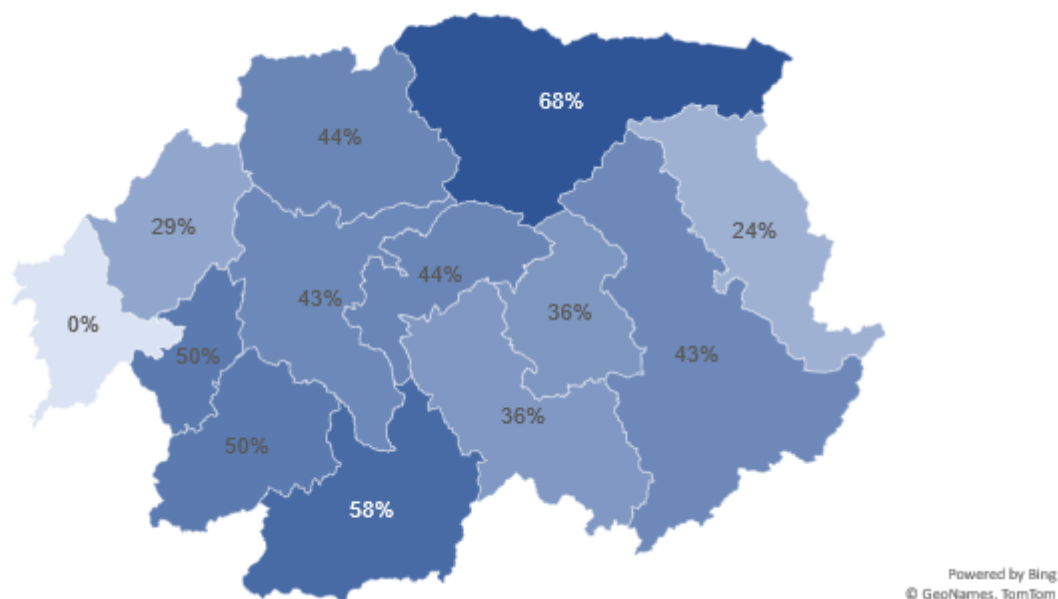
Figure 17. Share of GPs (for Adults) Aged Above 65 Years, by BBSK Districts, 2021



Note: The BBSK districts' darker colors indicate higher shares of GPs for adults aged over 65 years.

Source: MoH and CSO, 2021.

Figure 18. Share of GPs (for Children and Adolescents) Aged Above 65 years, by BBSK Districts, 2021

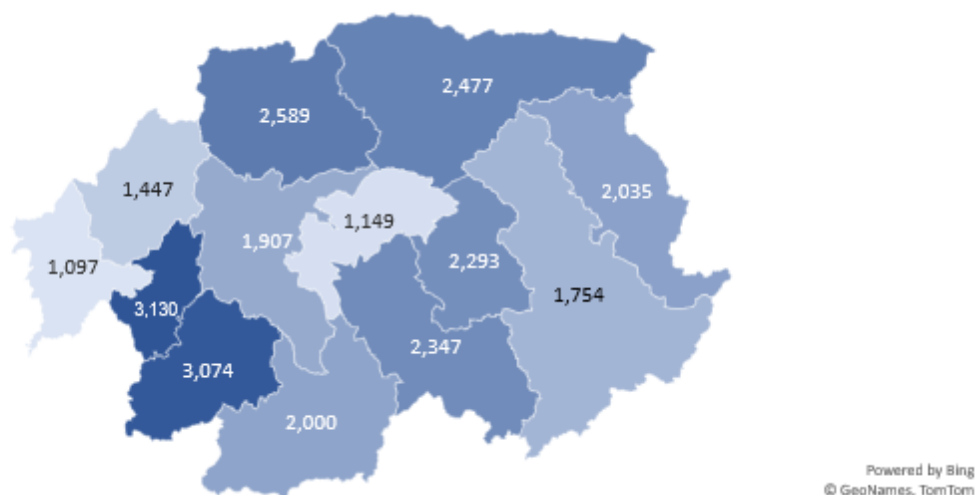


Note: The BBSK districts' darker colors indicate higher shares of GPs for children and adolescents aged over 65 years.

Source: MoH and CSO, 2021.

Banská Štiavnica (3,130) and Krupina (3,074) had the highest number of people per primary healthcare (PHC) nurse in 2021 (see Figure 19). The WHO standard is three nurses per 1,000 people.

Figure 19. Population per One PHC Practice Nurse in Ambulatory Settings, by BBSK Districts, 2021 (Estimated)



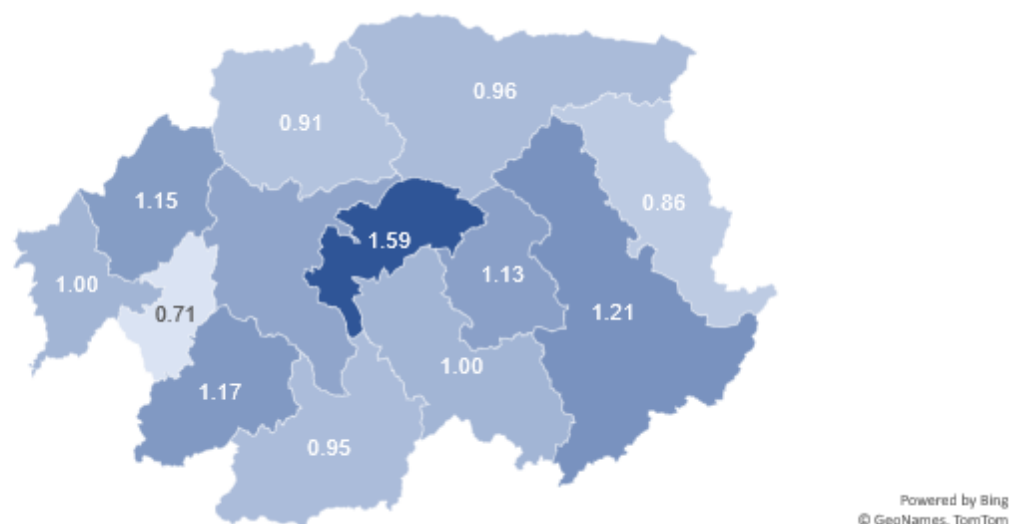
Note 1: Definition of the methodology for estimating the number of nurses and doctors in primary care centers: first, the provider code (ICO) from the MoH database of individual workers was mapped with the same code from the BBSK providers database; and then the providers were filtered according to the service provided. Only workers in ambulatory care settings (according to the MoH database) were included.

Note 2: The BBSK districts' darker colors indicate higher population counts per one PHC practice nurse.

Source: MoH and CSO, 2021.

The nurse-to-doctor ratio in primary care is, in all BBSK districts, below the average of three nurses to every doctor for the OECD countries.¹⁹ In 2021, it varied from 0.71 in Banská Štiavnica to 1.59 in Detva (see Figure 20).

Figure 20. Nurse-to-doctor Ratio in Primary Healthcare, by BBSK Districts, 2021



Note 1: Definition of the methodology for estimating the number of nurses and doctors in primary care centers: the first, the provider code (ICO) from the MoH database of individual workers was mapped with the same code from the BBSK providers database; and then the providers were filtered according to the service provided. Only workers in ambulatory care settings (according to the MoH database) were included.

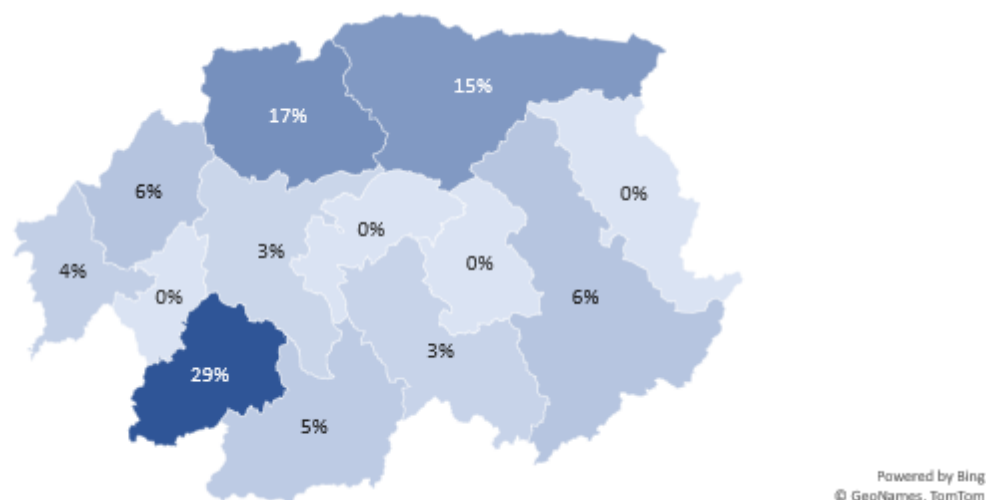
Note 2: The BBSK districts' darker colors indicate a higher nurse-to-doctor ratio in PHC.

Source: MoH and CSO, 2021.

The share of primary care nurses aged over 65 years was relatively low in all BBSK districts, except for Krupina (29%), Banská Bystrica (17%), and Brezno (15%) in 2021 (see Figure 21).

¹⁹ Nurses outnumber doctors in most OECD countries. There are on average three nurses to every doctor (OECD, 2019).

Figure 21. Share of Primary Care Nurses Aged above 65 years, by BBSK Districts, 2021



Note 1 : Definition of the methodology for estimating the number of nurses and doctors in primary care centers: first, the provider code (ICO) from the MoH database of individual workers was mapped with the same code from the BBSK providers database; then providers were filtered according to the service provided. Only workers in ambulatory care settings (according to the MoH database) were included.

Note 2: The BBSK districts' darker colors indicate higher shares of PHC nurses aged over 65 years.

Source: MoH and CSO, 2021.

The in- and outflow of health professionals was positive for most districts in 2021. This results in more primary care nurses and doctors starting to provide health services than those who are leaving the health system. Only Detva, Rimavská Sobota and Ziar and Hronom had a greater outflow of health professionals than an inflow (see Table 6).

Table 6. In- and Outflow of Health Professionals in Primary Care, by BBSK Districts, 2021

| BBSK District | PHC nurses* who finished working due to retirement, death, and other reasons | PHC nurses* who started working in 2021 —all reasons | PHC doctors* who finished working due to retirement, death, and other reasons (not maternity leave) | PHC doctors* who started working in 2021 | Nurses inflow / outflow—PHC nurses* | Doctors inflow / outflow—PHC doctors* |
|------------------|--|--|---|--|-------------------------------------|---------------------------------------|
| Banská Bystrica | 1 | 6 | 0 | 4 | 5 | 4 |
| Banská Štiavnica | 0 | 2 | 0 | 0 | 2 | 0 |
| Brezno | 0 | 3 | 0 | 1 | 3 | 1 |
| Detva | 12 | 8 | 19 | 11 | -4 | -8 |

| | | | | | | |
|-----------------|---|---|---|---|----|----|
| Krupina | 0 | 1 | 0 | 0 | 1 | 0 |
| Lučenec | 0 | 0 | 0 | 1 | 0 | 1 |
| Poltár | 0 | 1 | 0 | 0 | 1 | 0 |
| Revúca | 1 | 1 | 0 | 0 | 0 | 0 |
| Rimavská Sobota | 6 | 4 | 1 | 2 | -2 | 1 |
| Veľký Krtíš | 0 | 1 | 0 | 2 | 1 | 2 |
| Žarnovica | 0 | 2 | 0 | 4 | 2 | 4 |
| Žiar nad Hronom | 1 | 2 | 2 | 0 | 1 | -2 |
| Zvolen | 2 | 3 | 0 | 2 | 1 | 2 |

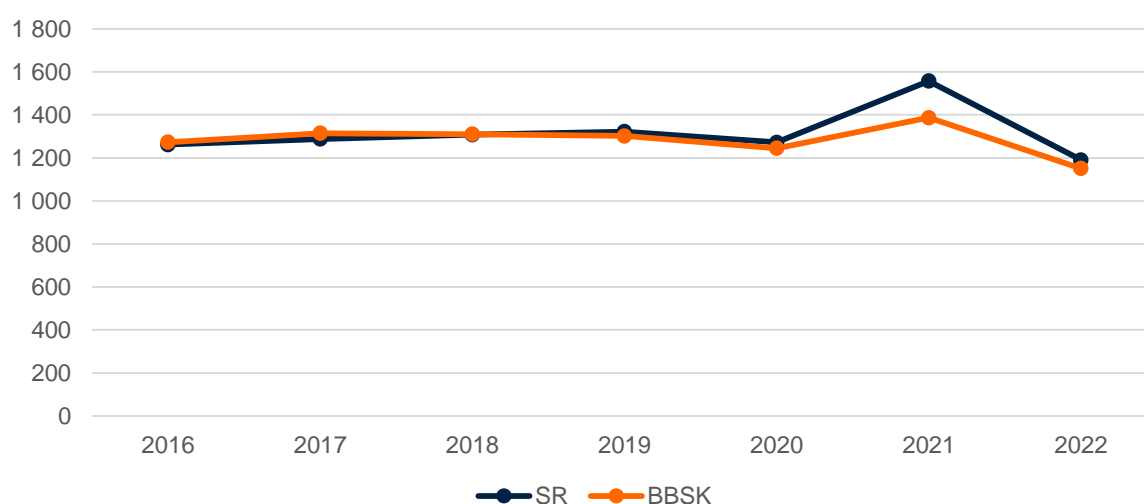
Note: Definition of the methodology for estimating the number of nurses and doctors in primary care centers: first, the provider code (ICO) from the MoH database of individual workers was mapped with the same code from the BBSK providers database; and then providers were filtered according to the service provided. Only workers in ambulatory care settings (according to the MoH database) were included.

Source: MoH, 2021.

4.2. Service Provision

The number of unique patients visiting a GP was similar in the BBSK to the rest of the Slovak Republic between 2016 and 2022. In 2021, there was a peak in the number of unique patients visiting a GP. This could be explained by a higher number of people registering at a GP practice due to the COVID-19 pandemic (see Figure 22).

Figure 22. Average Number of Unique Patients Visiting One GP



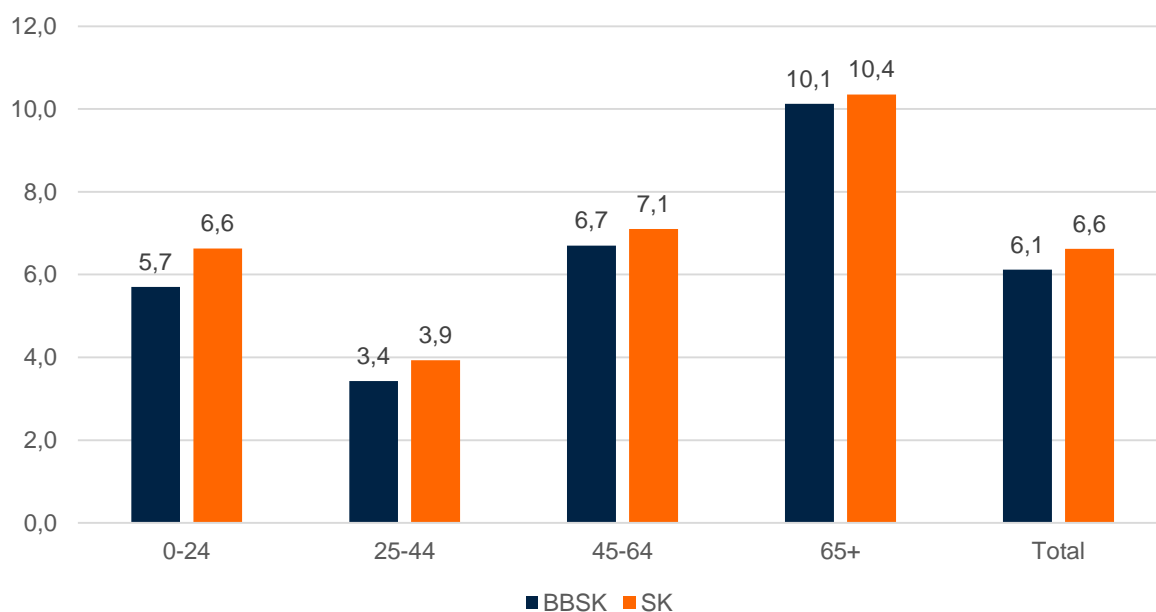
Source: MoH, 2022.

Despite the BBSK and the Slovak Republic having a similar number of unique patients visiting a GP, BBSK GPs provide more health services to a patient than in the Slovak Republic. National data for

2017–2020 show that this pattern is consistent over time, except for a drop in the number of health services provided by GPs in 2020, likely due to the COVID-19 pandemic. In 2019, the average number of services per one patient was 7.9 in the BBSK and 7.4 in the Slovak Republic (data not shown here). Specific data on the types of services delivered to a patient are not available.

In 2019, the age category with the highest number of average GP visits were people aged over 65 years (10.1 in BBSK and 10.4 in the Slovak Republic). This pattern is similar to the national average for all age categories (see Figure 23).

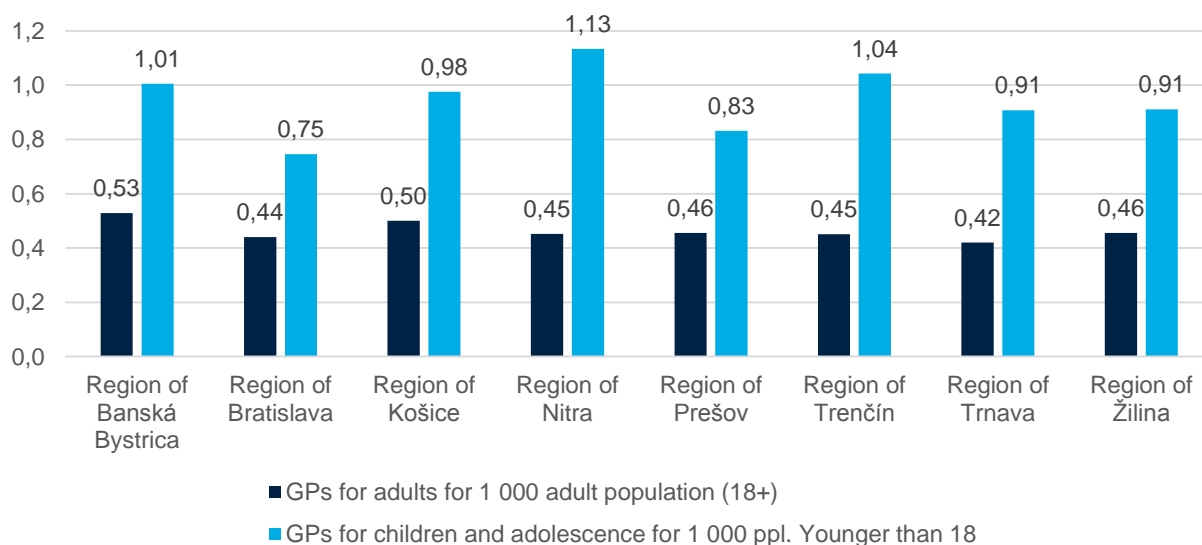
Figure 23. Number of GP Visits by Person and Age Category, 2019



Source: MoH, 2022.

The BBSK has the highest number of GPs per 1,000 people for adults (0.53 in 2021) and the third-highest for children and adolescents below 18 years (1.01 in the same year). (see Figure 24).

Figure 24. GPs per 1,000 People, by Regions, 2021

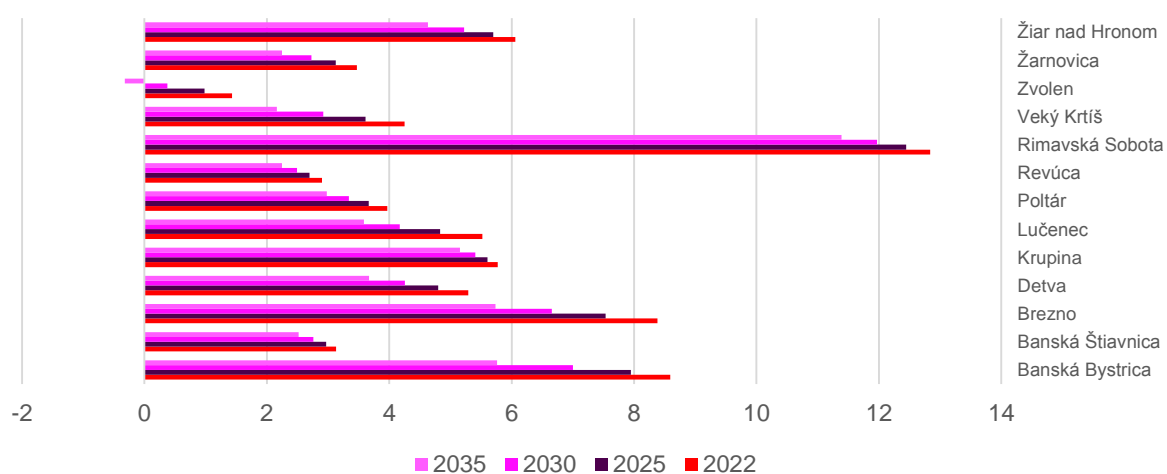


Source: MoH, 2021.

The BBSK is well-positioned in terms of primary healthcare facilities, but the current number of GPs is insufficient. International standards suggest that a primary healthcare facility should employ one GP, two nurses, and one administrator for 2,400 patients. However, based on the MoH minimum network of general ambulatory care providers, all BBSK districts suffer from GP shortages (see Figure 25). In recent years, however, more students have chosen to specialize in pediatrics and general practice (see Figure 26).

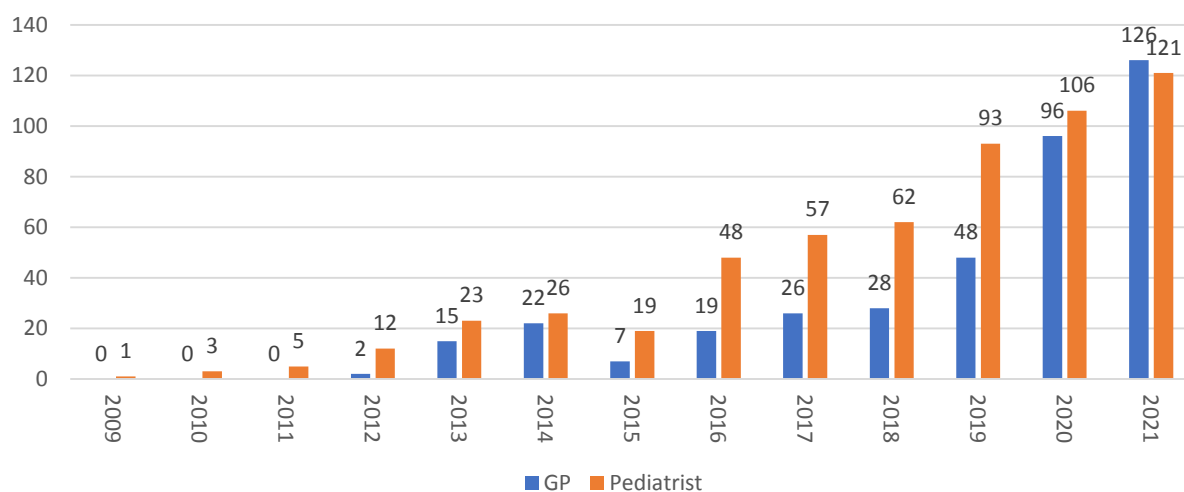
Despite the number of currently trained GPs and pediatricians, there will still be a shortfall of health workers in 2035 in all BBSK districts (see Figure 25 and Figure 26).

Figure 25. Difference Between Required GP Providers (MOH 2022), Actual GPs (2022), and Estimated GP Providers, by Districts



Source: MoH, Evaluation of the minimum network of general ambulatory care providers, 2022.

Figure 26. Number of Students Specializing in General Practice and Pediatrics



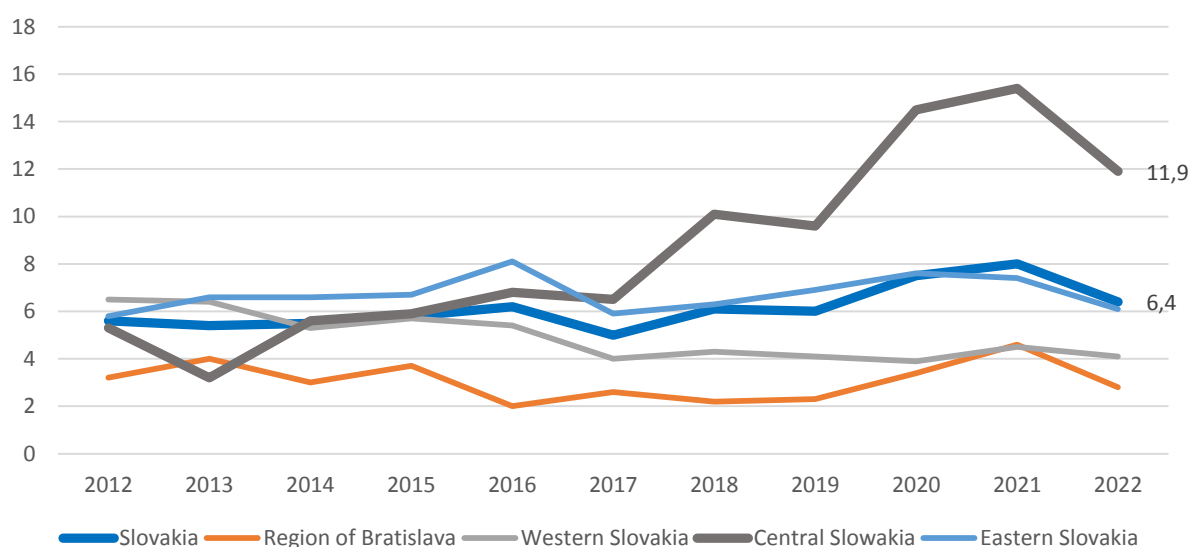
Source: MoH, university data, 2022.

4.3. Unmet Needs for Healthcare

The category of ‘unmet needs for healthcare’ measures the access to quality care when needed. Unmet needs can arise for various reasons, including barriers related to the availability, affordability, accessibility, and acceptability of services. Especially among older people, unmet needs often result in poorer health status, increased mortality (Lindstrom et al., 2020), and depression (Stein et al., 2019). Unmet needs are a proxy to measure the health system performance since they relate to health outcomes, financial risk protection, improved efficiency, and responsiveness to people’s expectations (Ramos et al., 2019).

Central Slovakia, which includes the BBSK and Žilina regions, reports unmet needs for health services more than twice as frequently as the Slovak Republic (see Figure 27). In 2021, self-reported unmet needs were 6.1% in Central Slovakia against 2.9% in the Slovak Republic. Regional data on the BBSK alone are not available due to Eurostat’s collection of data for regions between 800,000 and three million people. Data to examine the root causes for unmet needs were not available at the time of writing this report.

Figure 27. Share of People Who Declared One or More Unmet Needs for Medical Examination in the Slovak Republic, by NUTS 2 Regions



Note: Eurostat collects data per Nomenclature of Territorial Units for Statistics (NUTS) 2 regions, which usually have between 800,000 and 3 million people. The regions of Banská Bystrica and Žilina form Central Slovakia.

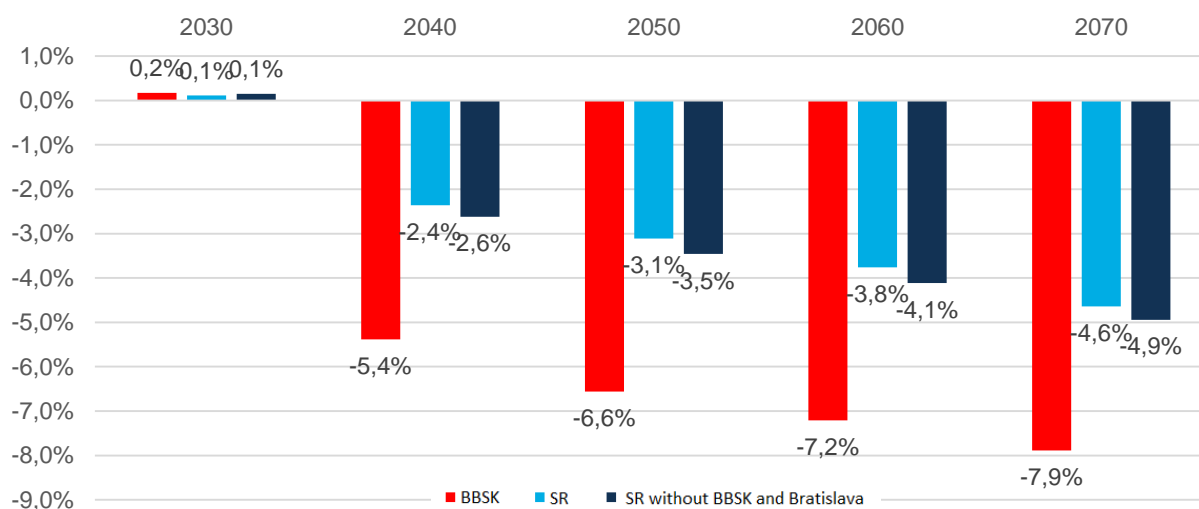
Source: Eurostat, 2023c.

4.4. Future Challenges

The demographics of BBSK will change, with a population decline in the future years occurring at a quicker rate than in the rest of the Slovak Republic, due to outmigration and mortality. This will affect the size, composition, age, and gender structure of the population and, as a result, the demand for health and social services. In response to the changing demand, the supply of health services should be adapted by considering changes in the education system, and in the organization and types of services delivered.

The BBSK overall population is expected to decline at a steady pace from 2040 to 2070, but the share of older people is expected to increase in the same period. Models estimate that the decline of the overall population will be between 5.4% in 2040 and 7.9% in 2070 (see Figure 28) and the share of people aged above 65 years will expand to almost 25% in 2035 (see Table 7). The expected growth of the older adult population will impact the healthcare system. The aging of the population will affect the skills with which the health workers should be equipped (for example, geriatric nursing), the type of health services to provide, and the settings of care (community-based or institutional care).

Figure 28. Projected Population Changes in Percentages (Compared to Actual Situation in 2021)



Source: World Bank, own estimates.

Due to demographic changes, the number of GP visits is expected to increase for older people and decrease for younger people in the BBSK. Projections up to 2035 show the following: an increase by almost 25% of the older population (aged over 65 years); a rise by about seven percent for people aged between 45 and 64; a drop by about 28% and 12% for people aged between 25 and 44, and below 24 years, respectively (see Table 7).

Table 7. Changes in Demographics in the BBSK, 2021–2035

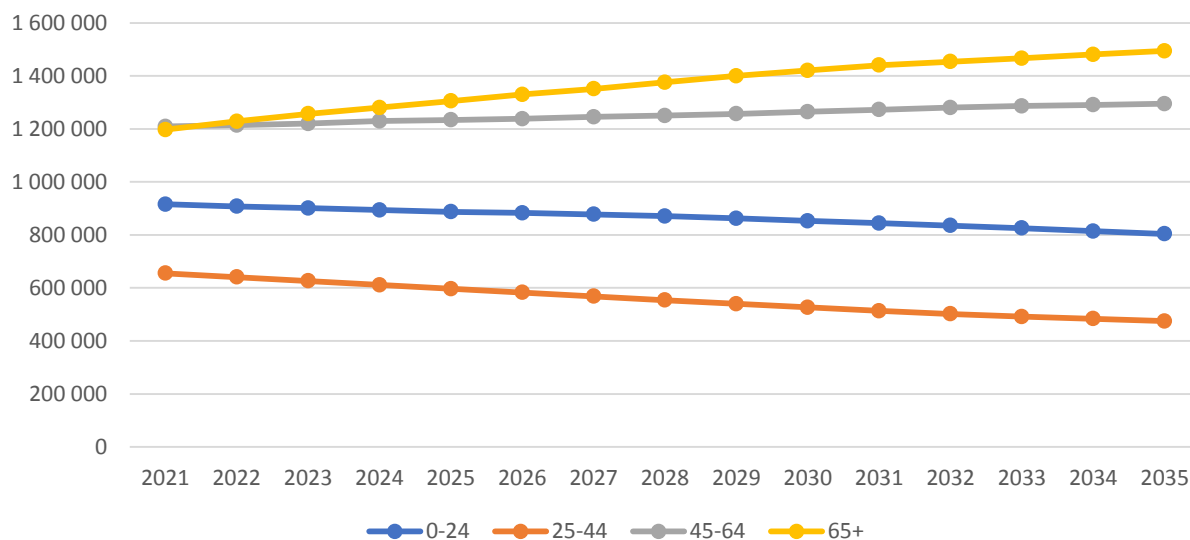
| Age groups (years) | Population 2021 | Population 2035 | Percentage change |
|--------------------|-----------------|-----------------|-------------------|
| < 24 | 160,607 | 141,017 | ▼ -12.2% |
| 25–44 | 190,867 | 138,233 | ▼ -27.6% |
| 45–64 | 180,432 | 193,255 | ▲ 7.1% |
| >65 | 118,272 | 147,589 | ▲ 24.8% |
| Total | 650,179 | 620,093 | ▼ -4.6% |

Source: World Bank, own estimates.

Assuming that the average number of GP visits for all age groups remains the same as in 2021, forecasts for 2035 suggest that people over 45 years of age will increase the GP visits from 2.4 million to 2.8 million, with a substantial increase from 1.2 million to 1.5 million for people aged over 65 years. For people aged under 44 years, the average number of GP visits in the BBSK is expected to decline from about 1.5 million in 2021 to 1.3 million in 2035 in the same time period (see Figure 29).

Annex 2: shows the estimates for all of the Slovak Republic.

Figure 29. Predicted Number of GP Visits in the BBSK Using the Same Average Number of GP Visits as in 2021, by Age Category



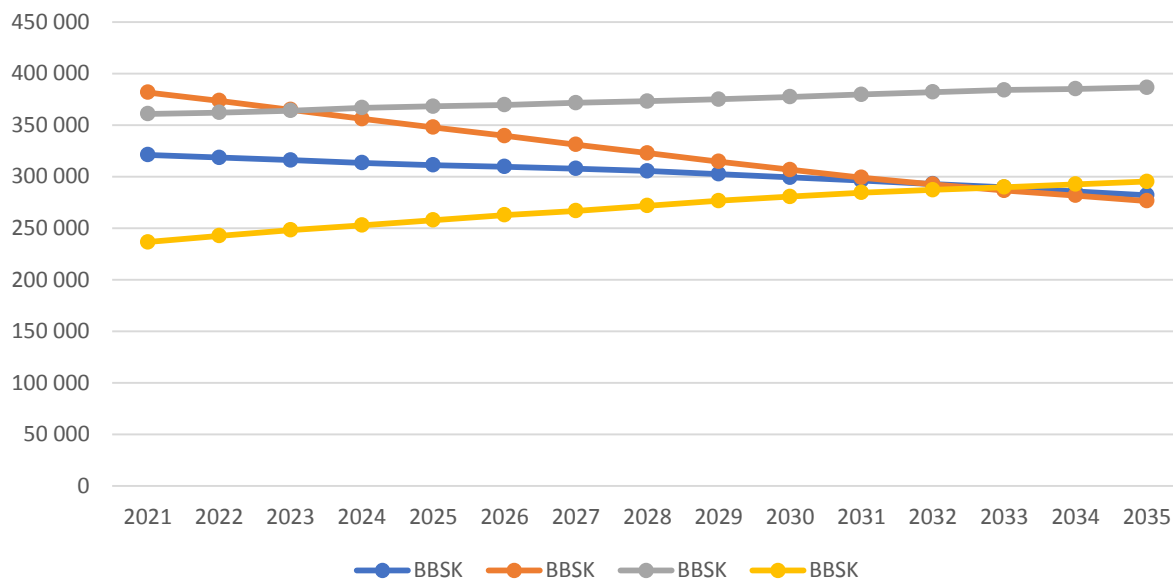
Note: For this forecast, we assumed that the average number of GP visits will remain the same as in 2021, in the BBSK by age category: 5.7 visits for people under the age of 24; 3.4 visits for people between the ages of 25 and 44; 6.7 visits for people between the ages of 45 and 64; and 10.1 visits for people beyond the age of 65.

Source: World Bank own estimates.

With the assumption of two annual GP visits for all age categories, like the example of Sweden, modeling the predicted GP visits in the BBSK reveals a dramatic fall for people aged between 25 and 44 years (see Figure 30). The visits will decline from about 382,000 in 2021 to about 276,000 in 2035.

Annex 2: shows the estimates for the Slovak Republic.

Figure 30. Predicted Number of GP Visits in the BBSK Using the Average Number of Two Annual GP Visits, by Age Category



Note: This forecast assumes that the average number of annual GP visits will be two per person for all age groups.

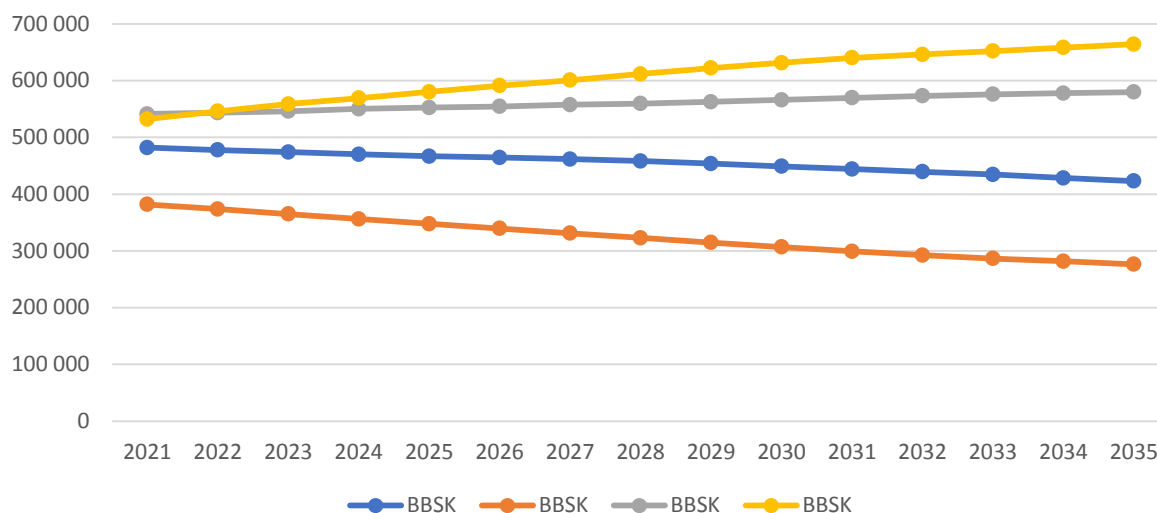
Source: World Bank, own estimates.

A third forecast of the use of health services, based on the median number of GP visits in the EU countries in 2019, suggests that in the BBSK the number of visits for people over the age of 65 will

rise from about 500,000 to 665,000 between 2021 and 2035 (see Figure 31Chyba! Nenašiel sa žiaden zdroj odkazov.).

Annex 2: shows the estimates for the Slovak Republic.

Figure 31. Predicted Number of GP Visits in the BBSK Using the EU Average Number of GP Visits, by Age Category (Before COVID-19)



Note: For this forecast, we used the average number of GP visits in the EU in 2019 (Eurostat) by age group: 3 visits for people under the age of 24; 2 visits for people between the ages of 25 and 44; 3 visits for people between the ages of 45 and 64; and 4.5 visits for people beyond the age of 65.

Source: World Bank, own estimates.

5. Conclusions

Due to health worker shortages, migration, the aging workforce, and the expected retirement rate, the Slovak Republic faces serious health system challenges, and the BBSK Region is no exception. Health workers in the BBSK are unequally distributed across districts, the density of doctors and nurses is below the national average, the number of young doctors has increased only modestly in the last few years, and the average age of general ambulatory doctors and nurses in BBSK is 55 and 45–49 years, respectively.

Despite these challenges, there is neither a national nor a regional general policy document on the planning and development of human resources for health. The national strategy of general ambulatory care until 2030 strongly advocates increasing the attractiveness of the medical profession. The 2022 Health Expenditure Review issued by the Ministry of Finance estimated that the Slovak Republic requires over 1,200 new medical doctors and over 14,000 new nurses to meet current and future health needs.

The number of visits is high for ambulatory care and is relatively similar at both the national and regional (BBSK) levels, but in the BBSK more health services are delivered by a GP to a patient than in the rest of the Slovak Republic. The BBSK is well-positioned in terms of primary healthcare facilities, but the current number of GPs is not enough. Despite the number of current trained GPs and

pediatricians, there will still be a shortfall of health workers in 2035 in all BBSK districts. The distribution of GPs and nurses across the BBSK districts also highlights important variations. The forecasted increase of the older population in BBSK will affect the demand for health and social services, and as a result, the supply of such services should change accordingly.

Self-reported unmet needs for healthcare are 2.5 times lower in the Slovak Republic than in the EU; however, Central Slovakia, which includes the BBSK and Žilina regions, reports unmet needs for health services more than twice as frequently as the entire population in the Slovak Republic. In 2021, self-reported unmet needs for healthcare were 6.1% in Central Slovakia against 2.9% in the Slovak Republic.

6. Implications for Policy

A larger aged population will put more financial strain on the healthcare system, but it will also have an effect on the health workforce who is growing older. In this context, the Slovak Republic and the BBSK Region should prepare for the extra future demands on the healthcare system. This section introduces some international best practices with a variety of actions in different areas of interventions and then presents some proposed recommendations for the BBSK Region.

6.1. International Best Practices

European countries are facing similar challenges to their health workforce and are addressing these by using a variety of interventions. It should be emphasized that the areas of intervention and the specific actions can be deployed both at the national and regional levels.

National actions include interventions such as creating policies, building leadership, increasing funds, using digitalization (including telemedicine), and investing in education. These interventions have been implemented, for example, in North Macedonia, Poland, the Czech Republic, Scotland, Austria, and Belgium (see Table 8).

Regional interventions include promoting work in rural areas, organizing recruitment campaigns for the health-related professions (nurses, community workers, physical therapists, and others), stimulating task sharing, and creating an attractive work environment. Finland, Norway, and Denmark are some good examples of countries that have used some of these interventions to address the challenges in human resources for health (see Table 8).

Table 8. Areas of Intervention and Recommended Actions for HRH

| Area of Intervention | Recommended Action | Examples of Good Practices |
|----------------------------|---|---|
| Education | Align education with population health needs and health service requirements | Bridging courses (Poland); Flying Start program (Scotland, Austria); recruitment campaign (Denmark); online training platform for PHC nurses (North Macedonia); Subsidized education to become nurse specialists (Denmark) |
| Professional development | Strengthen professional development to equip health workers with new knowledge and skills | |
| Organization of work | Change how work is organized to make it more efficient and of better quality | The PHC Plus pilot model of integrated care (Poland); the PHC integrated care program (Slovenia); multiprofessional teams to better align PHC services with needs of the population (Kazakhstan); the Enhanced Community Care (ECC) Programme (Ireland); the nurse-oriented care provision project (Finland) |
| Task sharing | Implement teamwork and strengthen primary healthcare, promote rural medicine | |
| Attractive environment | Create working conditions that are attractive and promote rural areas | Increasing attractiveness of the healthcare-related professions (Belgium); the pay-for-performance system in primary care (Kyrgyzstan); the Pacte Territoire Santé (France); the internship support project Finnmark (Norway); the PAIME program (Spain); the GP Return to Practice Programme (England) |
| Healthy/balanced workplace | Protect the health and mental wellbeing of the workforce | |
| Digitalization | Expand the use of digital tools that support the workforce | Planning HR requirements informed by data analysis (Malta); the REAL Centre (England); Primary Care Teleconsultation-PCT (Poland); the APP MEDIQUO (Spain) |
| Data | Strengthen health information systems for better data collection and analysis | |
| Governance | Build leadership capacity for workforce governance and planning | Contribution of nursing leadership to the health and care workforce (HCWF) governance system (Israel); Scotland's National Performance Framework (Scotland); the national council of staffing and education in health services (Iceland); the Workforce Planning Leadership Development program (Georgia); simplified access to practice medical professions in Poland (Poland) |
| Policy | Optimize the use of funds through innovative workforce policies | |
| Investments | Increase public investment in workforce education, development, and protection | |

Source: World Bank, based on literature review and workshop, 2022.

6.2. Proposed Recommendations for the BBSK

National and regional interventions can address health worker shortages by creating policies, building leadership, increasing funds, utilizing digitalization, investing in education, and promoting work in rural areas. Regional interventions, such as recruitment campaigns, task sharing, digitalization, and telemedicine, will enhance the medical profession's attractiveness and responsiveness to local health needs.

Multiple interventions can help address the current and future gaps of health professionals. These interventions can be broadly summarized under several main areas.

- **Governance:** Since there is neither a national nor a regional general policy document on the planning and development of HRH, the first step is to work on a BBSK strategy on HRH with a costed action plan to provide a framework and clear path toward the attainment of an adequate and competent health workforce.
- **Education:** This is the foundation for producing adequate health professionals. Models to estimate HRH should consider future demands of, and needs for, health services based, among others, on demographic trends, chronic conditions evolution, development of digital trends (including artificial intelligence), evolving community and government expectations, and the increase of the work in multidisciplinary teams. Facilitating the recognition of medical qualifications and training of medical professionals from third countries should only be viewed as a temporary measure, that is, a one-time event, rather than a long-term strategy. It raises ethical concerns and is not a long-term solution to the shortage of health professionals. As the number of older people in the BBSK is projected to grow significantly, GPs, nurses, and other health professionals will require a highly specialized skillset to be developed with specific gerontology training. Some of the common geriatric health issues include dementia, depression, osteoporosis, heart disease, diabetes, and cancer. Therefore, it is crucial for health workers, particularly in outpatient care, to understand the symptoms and characteristics of these conditions. Specific training on verbal and nonverbal communication should be part of the academic curriculum to best communicate with older patients. Most importantly, the composition of the health workforce should change according to the future population health needs: more specialists in gerontology, oncology, and internal medicine, and less specialist in pediatrics.
- **Work organization:** Work must be organized differently. Health professionals feel a burden in administrative duties, even though their primary attention should be on caring for their patients. Task shifting to allied health professionals, the introduction of so-called "medical assistants" to help with administrative work and free up doctors and nurses to care for patients, and the deployment of novel ways to organize work through digitization, should all be implemented. One of the key motivators highlighted in the survey of health professionals is access to innovations at work, which needs further consideration. With almost 20% of survey respondents reporting feeling poorly because of stress in the previous six months, changing workplace policies and practices at the organizational level to address stress issues (such as excess workloads) becomes critical.
- **Scope of practice:** Prevention is better than cure, and greater efforts in this area are needed to reduce the physical and financial tolls of chronic disease in an aging population. The Slovak Republic has one of the highest rates of mortality from preventable and treatable causes. Amenable mortality can be avoided through a combination of public health, primary and secondary prevention interventions, and through sustained investments in primary healthcare. Yet, the Slovak Republic spends the least on prevention in the EU. It is recommended to increase the budget earmarked for prevention and health promotion activities. An evaluation of the current fee-for-service scheme that covers the prevention and disease management activities of GPs should be conducted to assess its effectiveness.

Campaigns to promote active and healthy lifestyles could yield tangible results to improve health outcomes. (Allied) health professionals in outpatient care could play a much larger role in prevention and health promotion activities, thereby unburdening the GP workload.

- **Financial incentives:** The effectiveness of financial measures to recruit health workers and retain them, particularly in rural and underserved areas, give mixed results, but the survey results point to the direction that increased salaries would help create a better work-life balance and improved health and wellbeing at work. Increased general pay will not completely address the health personnel shortage in certain geographical areas, but a combination of measures, such as improved access to public services, reduced administrative load, and use of digitization, may have the intended effect.
- **Data for informed choices:** In order to make informed policy decisions, data collection, analysis and use must become a priority. Regular surveys to monitor work motivation and satisfaction can serve as an instrument to make health professionals feel valued and empowered. Additionally, health providers may streamline operations, better balance staff and patient demand, and ease the burden placed on health workers by strategically deploying data-driven solutions.
- **Use of political economy analysis:** The shortage of health workers involves more than a technical response. The capacity of the public sector in the Slovak Republic and the BBSK Region and the incentives driving policymaker actions need to be considered. Likewise, the influence of the medical associations and nurses' association is fundamental to attract and retain health workers.
- **Intersectorality:** Intersectoral collaboration is essential to develop and strengthen a sufficient and resilient health workforce (Caffrey et al, 2023). This requires the following: political leadership across the finance, economy, education, and health sectors; sustained investments to build trust and collaboration with other sectors; and, emphasizing the co-benefits of investment in the health workforce for other sectors.

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Annexes

Annex 1: The Healthcare System in the Slovak Republic

Health Status of the Slovak Population

Life expectancy in the Slovak Republic is among the lowest in Europe and fell significantly in 2020 and 2021, due to the impact of COVID-19. Between 2010 and 2019, life expectancy at birth in the Slovak Republic increased from 75.6 years to 77.8 years. It fell to 77 years in 2020 and 74.6 years in 2021 due to COVID-19. Life expectancy in 2021 remains 5.5 years below the EU average (80.1 years) and lower than in neighboring the Czech Republic (77.2 years) and Poland (75.5 years). Women live on average seven years longer than men (71.2 versus 78.2 years in 2021). This gender gap is more pronounced than the EU average (5.7 years) (Eurostat, 2023a).

Behavioral and environmental risk factors contribute to nearly half of all deaths. In 2019, dietary risks contributed to 26% of all deaths, significantly above the EU average (17%). Deaths related to tobacco consumption (17%), alcohol consumption (six percent), and lack of physical activity (two percent) are similar to the EU averages (OECD, 2021). The prevalence of overweight and obese people is a public health concern.

In the EU, the Slovak Republic has one of the highest rates of mortality from preventable and treatable causes.²⁰ In 2020, the Slovak Republic had 262 preventable deaths per 100,000 people (above the EU average of 178/100,000), and 169 treatable deaths per 100,000 people (almost twice the EU average of 92/100,000). Despite these high numbers, the Slovak Republic spends the least on prevention in the EU. Men are particularly at risk of high mortality from preventable and treatable causes.

Cardiovascular diseases are the main cause of death, hospitalizations, and disabilities. In 2022, nearly half of all deaths (45%) were attributable to circulatory system disorders, followed by neoplasms (22%), and diseases of the respiratory system (nine percent), digestive system (six percent), and COVID-19 (five percent) (CSO, 2023).

Health Service Provision and Unmet Needs for Healthcare

In comparison to the EU average of 7.6 days, the Slovak Republic's average hospital stay was slightly shorter, at 7.3 days in 2020. The care of people aged over 65 years is responsible for more than 45% of all hospital costs in the Slovak Republic. However, national data show that the average

²⁰ Preventable mortality refers to mortality that can mainly be avoided through effective public health and primary prevention interventions (that is, before the onset of diseases/injuries, to reduce incidence). Treatable mortality can mainly be avoided through timely and effective healthcare interventions, including secondary prevention and treatment (after the onset of diseases to reduce case fatality) (Eurostat, 2023).

hospital stay increased to 7.7 days in 2021, with a significant spread between the shortest hospital stay (3.4 days) registered in ophthalmology and the longest (25.5 days) in psychiatry (CSO, 2022).

The number of visits is high for ambulatory care, including for primary healthcare. People visit their doctor on average 6.6 times a year, which is approximately twice as often as in the EU. People over 65 years visit the doctor even more frequently (10.4 times annually). GP visits in the Slovak Republic are expected to increase among people over 65 years and decrease among people under 44 years, due to population aging. The high number of GP visits by older people in the Slovak Republic is remarkable: Sweden, for example, has the same average number of visits (2.0) for all age groups, while 47% of people over the age of 75 see their doctor only once or twice a year.

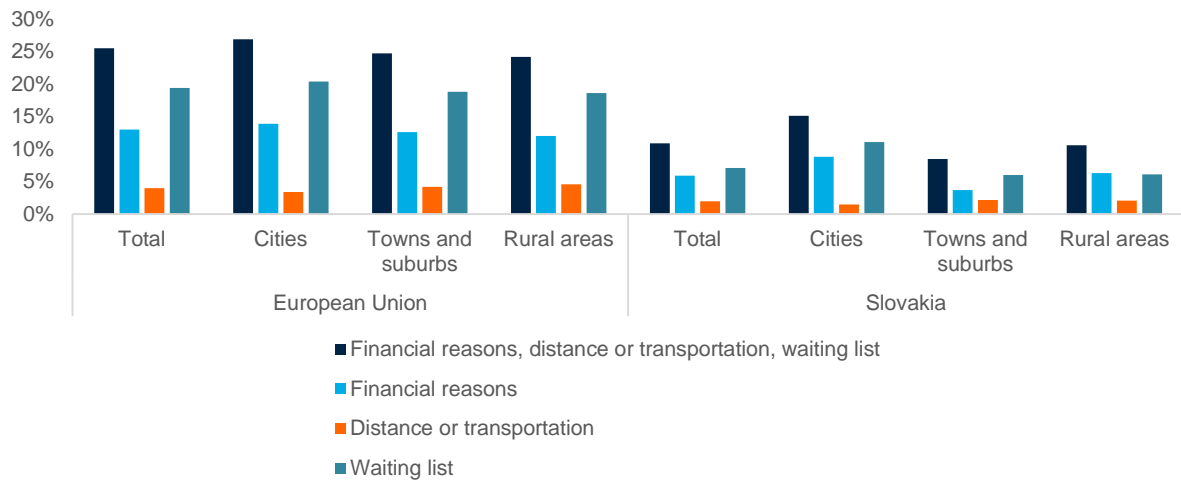
Diagnostic tests account for the largest share of outpatient care services. On average, about 32 services are provided annually per patient, with a steep increase to 67 for people over 65.

Self-reported unmet needs for healthcare are 2.5 times lower in the Slovak Republic than in the EU. In 2020, the highest self-reported unmet needs for healthcare were due to waiting times (7.1% against 17.1% of the EU average). Distance to health facilities (two percent) or financial reasons (5.9%) play a minor role in the Slovak Republic. Financial reasons for unmet needs are mainly reported by people with lower education, while waiting times are mainly reported by tertiary-educated older people.

Age and the degree of urbanization are important drivers of unmet needs. In the Slovak Republic, people in large cities and with less education have more unmet needs. However, in the EU as a whole, there is no such correlation; unmet needs persist at a similar level independent of the patients' places of residence or levels of education (see Figure 32 and

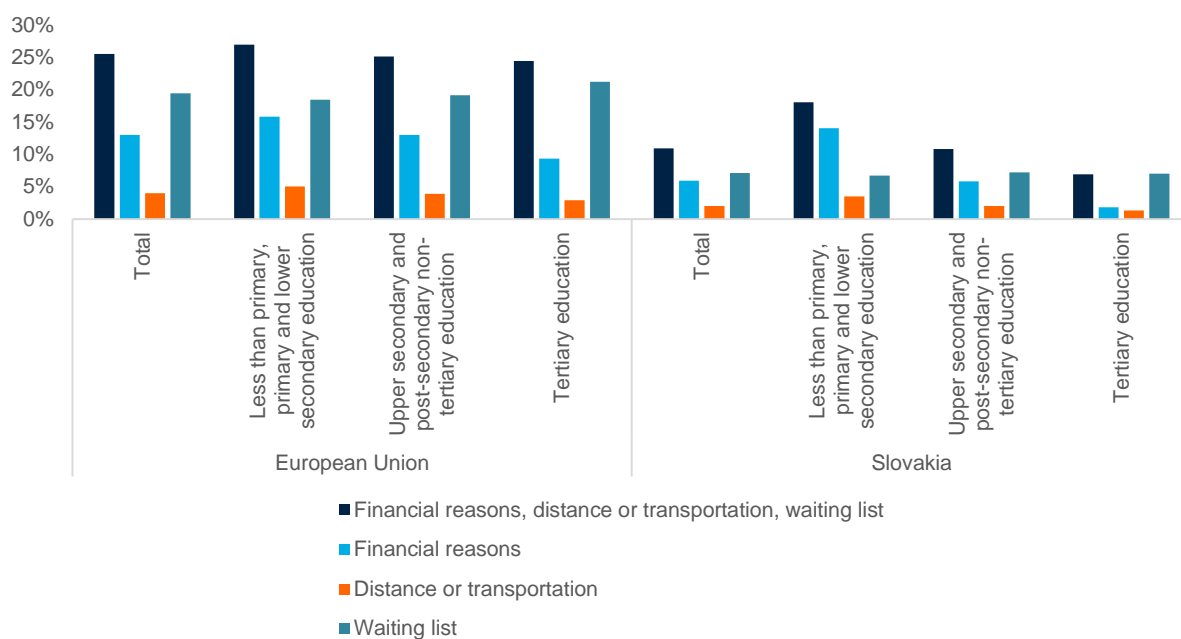
Figure 33).

Figure 32. Self-reported Unmet Need for Healthcare, by Degree of Urbanization, 2019



Source: World Bank analysis, based on EUROSTAT, 2023b.

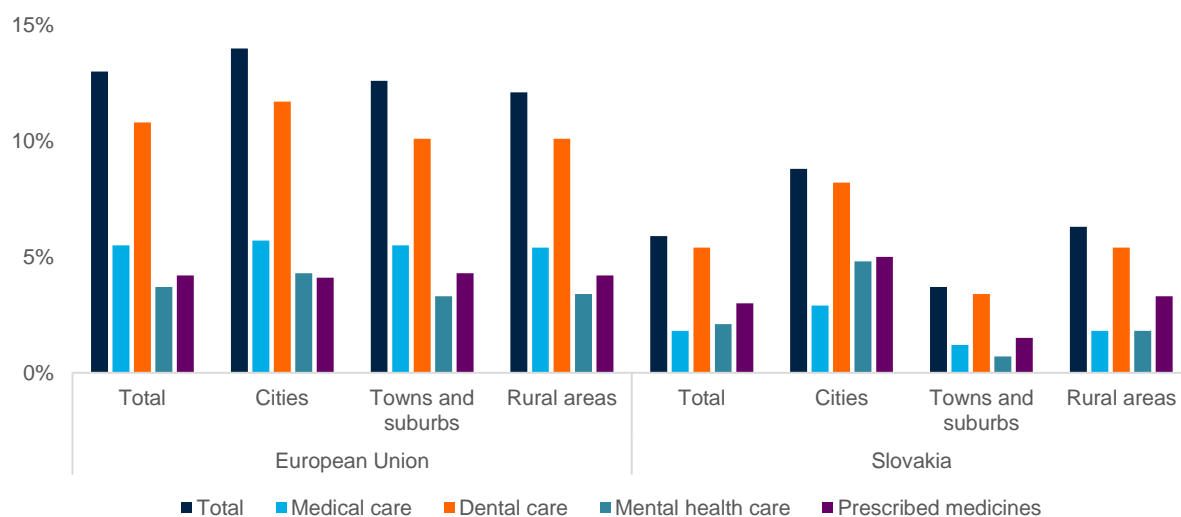
Figure 33. Self-reported Unmet Need for Healthcare, by Educational Attainment Level, 2019



Source: World Bank analysis, based on EUROSTAT, 2023b.

Dental care and outpatient prescribed medicines are the drivers of unmet needs due to financial reasons. However, there are more than twice as few unmet needs for particular healthcare services in the Slovak Republic as there are in the EU (Figure 34).

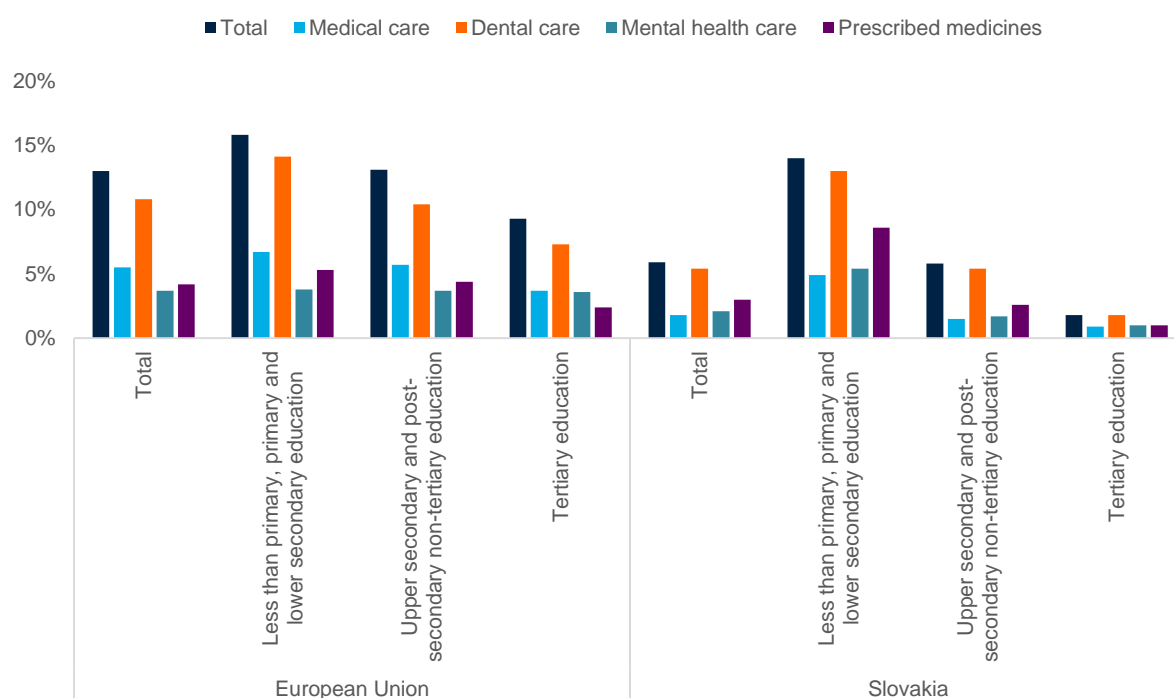
Figure 34. Self-reported Unmet Need for Specific Healthcare-related Services, Due to Financial Reasons, 2019



Source: World Bank analysis, based on EUROSTAT, 2023b.

People with less education are more likely to report unmet needs for outpatient prescription medications and mental healthcare, due to financial reasons. The share for the Slovak Republic is higher than in the EU (see Figure 35).

Figure 35. Self-reported Unmet Need for Specific Healthcare-related Services, Due to Financial Reasons, by Educational Attainment Level, 2019



Source: World Bank, analysis based on EUROSTAT, 2023b.

There is little evidence of difficulty with daily tasks among the Slovak population, in addition to a limited perception of unmet needs for healthcare. Nearly 93% of people over the age of 50 report having no (that is, zero) restrictions on their ability to walk; they can feed themselves, dress, use the restroom, or transfer, and 87% report having no (that is, zero) restrictions on their ability to manage their finances, go shopping, clean their homes, communicate, or take medications (Eurostat, 2021).

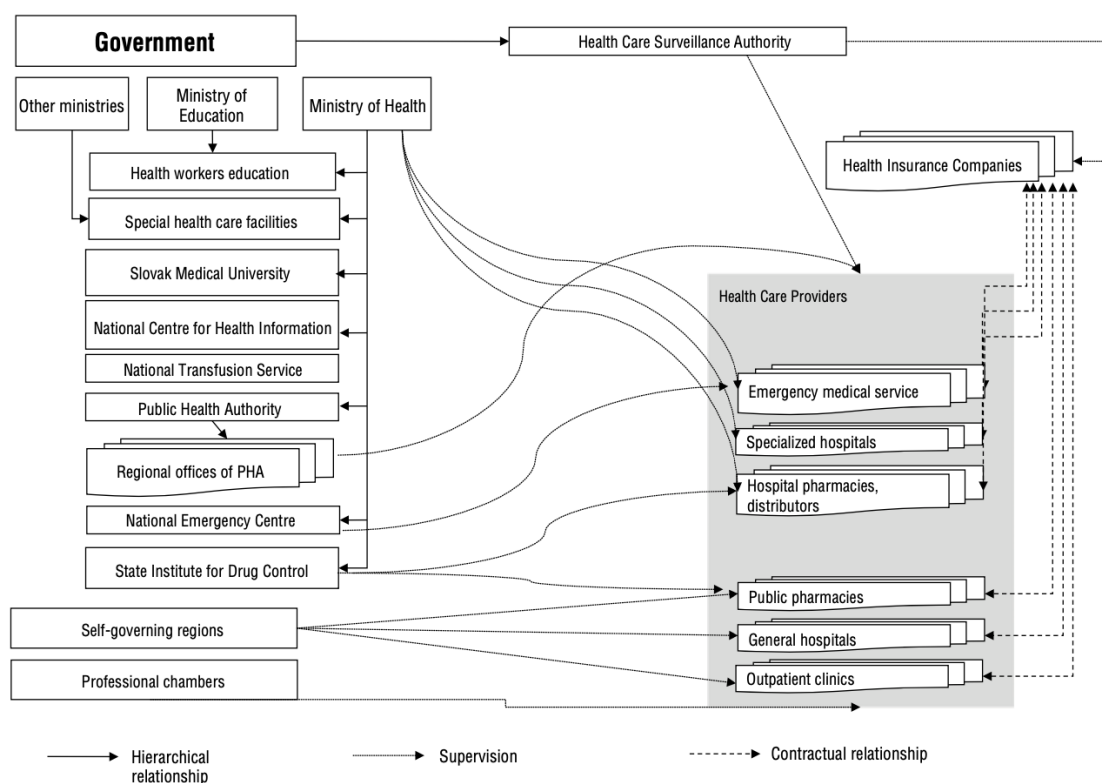
Health System Organization and Governance

The Slovak healthcare system is characterized by compulsory public health insurance for all residents. The Slovak Republic has three competing health insurance companies. The Health Care Surveillance Authority (*Úrad pre Dohľad and Zdravotnou Starostlivosťou* [ÚDZS]) serves as an independent monitoring body for health provision, insurance, and the purchasing markets. The MoH plays a key regulatory role for the following: in defining the benefits package; regulating the

maximum waiting times; determining the minimum numbers of outpatient and inpatient networks²¹ that insurance companies must contract; and in regulating pharmaceutical prices and user fees since 2015 (OECD/European Observatory on Health Systems and Policies 2021) (see Figure 36).

Coverage is nearly universal at 95% in 2019. Uncovered people include those with a legal residence in the Slovak Republic, who are living and working abroad and may be covered in their host country (OECD/ European Observatory on Health Systems and Policies, 2021).

Figure 36. Organizational Overview of the Slovak Healthcare System



Source: Smatana et al. (2016).

The minimum network of physicians aims to guarantee access to health services. The network is based on estimates of the required minimum of medical professionals for each of the eight autonomous regions. Minimum capacities are estimated per capita; however, they do not currently consider individual healthcare requirements or other factors, like age or income level. Health insurance companies can contract more providers, if they have the financial resources (Smatana et al., 2016).

²¹ The definition of minimum network is regulated by the Regulation of the Government of the Slovak Republic no. 640/2008—The Public Minimum Network of Health Care Providers.

The benefits package is broad and includes telemedicine, which was introduced in 2020. Benefits on the positive (reimbursed) list are fully covered and should be provided free of charge at the point of use. The negative (nonreimbursed) list is very limited. General outpatient visits are not subject to user charges, while specialized outpatient visits are provided only upon a referral from a GP and are covered in part, or in full. A referral is not required for psychiatry (including child psychiatry), dermatology, venerology, or ophthalmology (for prescribing eyeglasses). Co-payments for emergency health services, inpatient care, and outpatient prescribed medicines are in place.

Three operating health insurance companies, one public and two private, contract health providers, based on a recurring short-term contract. The largest health insurance company is public, with the MoH as the only shareholder, and it covers approximately 67% of the population. The other two insurance companies are private. A risk equalization scheme adjusts for socioeconomic, demographic, and general health status differences among the insured people. The two private health insurance companies are allowed to develop their own payment mechanisms and establish their own pricing policies for contracted providers. They are supervised by the ÚDZS.

Healthcare providers are owned by various types of entities. The state owns and operates the largest healthcare providers, including university and teaching hospitals, highly specialized medical facilities, and almost all psychiatric hospitals. More than 50 private hospitals also operate in the Slovak Republic. All state-owned healthcare providers must have contracts with the health insurance funds, as they belong to the minimum mandatory network of health providers.

Almost all outpatient care providers are private. Some outpatient specialists are employed by hospitals, and they provide outpatient care within polyclinics that are part of the respective hospitals.

Organizations of healthcare providers and professional chambers promote and defend the interests of their members in relation to state authorities, the self-governing regions, and the health insurance companies. They participate in the preparation and creation of legislative regulations and educational programs and represent their members in negotiations on contracts with health insurance funds. They keep a registry of health workers and ensure their continuous education. Chambers also have the competence to grant permits and impose sanctions. Membership in chambers is voluntary, and chambers cannot bind nonmembers with obligations beyond the scope of the law.

Health Financing

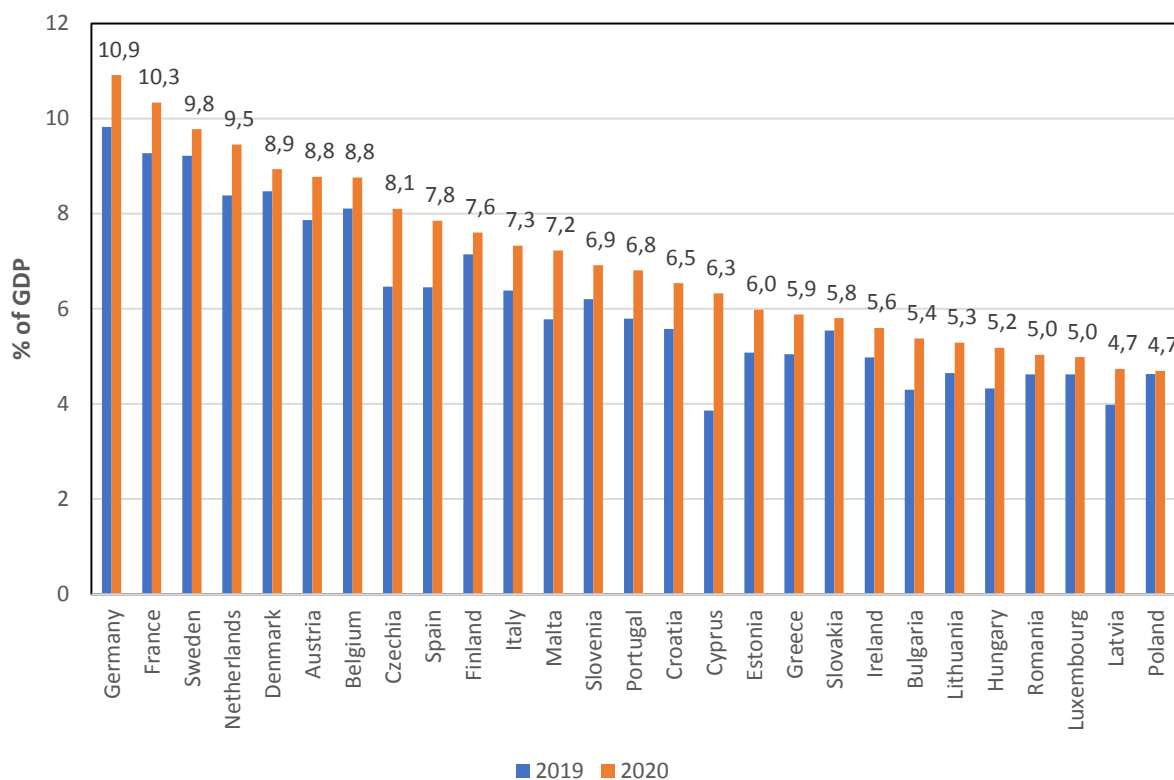
The main financing source of the health sector in the Slovak Republic is public spending, which accounts for about 80% of current health spending in 2020 (WHO, 2023a). In that same year, about two-thirds of public spending on health came from wage-related contributions paid by employers and employees, while one-third came from general tax revenues to cover some population groups, such as dependent family members, retired people, and students.

Out-of-pocket payments are the main source of private spending, accounting for almost 19% of current health spending in 2020. This is in line with the EU average (18.7%) for the same year. Voluntary health insurance plays a marginal role in health spending per person (WHO, 2023a).

Public spending on health as a share of GDP (5.8% in 2020) was below the EU average (seven percent) (see Figure 37). The level of public spending on health per person is much lower in the Slovak Republic, at \$ 1,119 (a constant € 979) per person, than the EU average (\$ 2,521 or a constant € 2,205 per person) (WHO, 2023a) (see

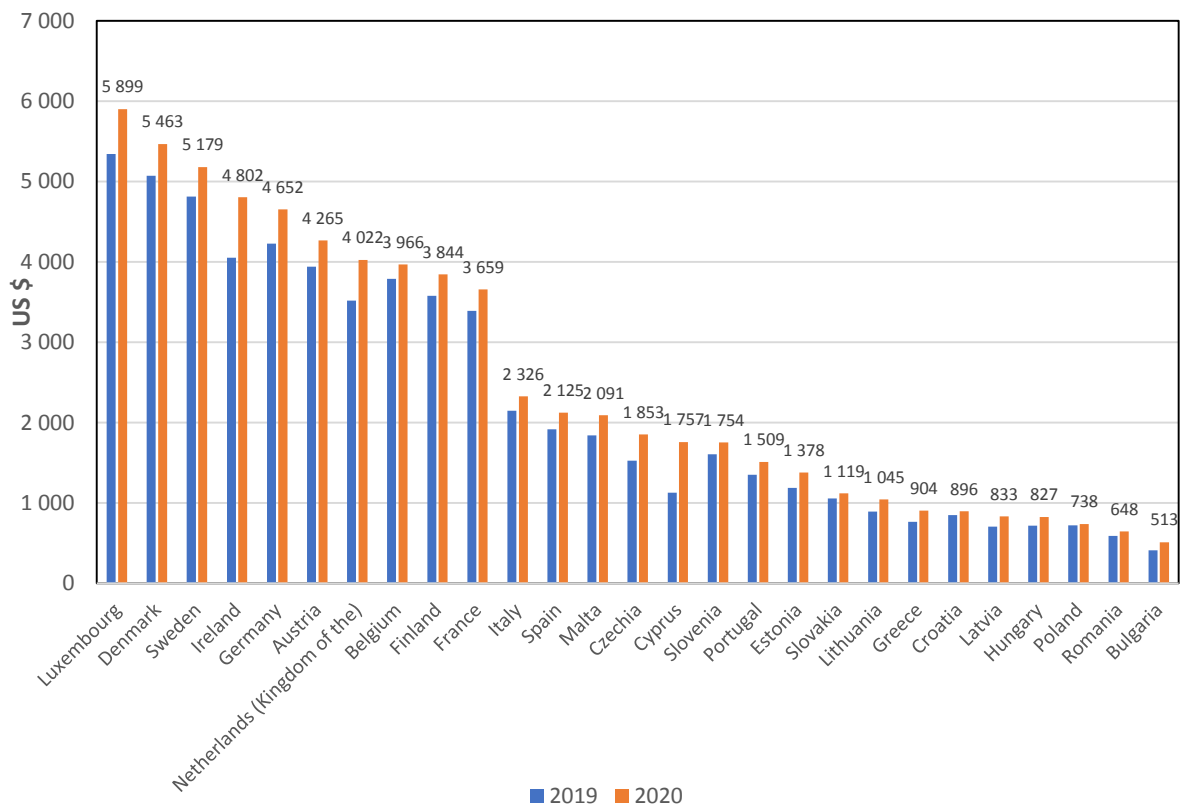
Figure 38).

Figure 37. Public Spending on Health as a Share of GDP, 2019 and 2020



Source: WHO, 2023a.

Figure 38. Public Spending on Health per Person, 2019 and 2020



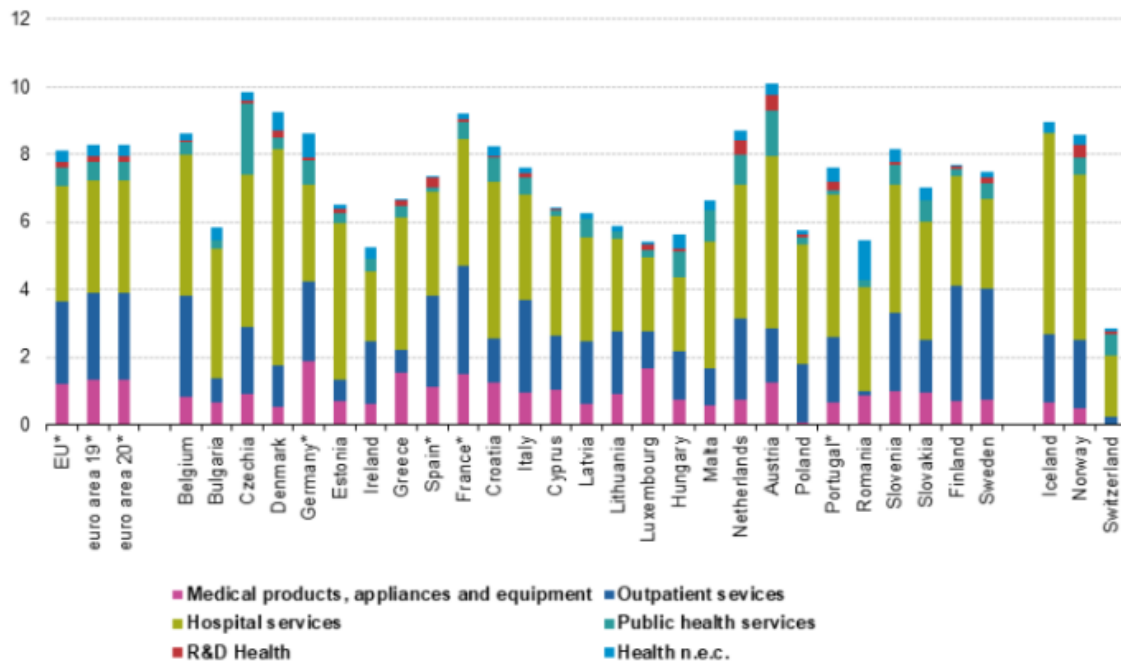
Source: WHO, 2023a.

In 2021, most spending on health was dedicated to hospital care, followed by outpatient services, medical products, appliances, and equipment (see

Figure 39). The Slovak Republic spent significantly less on outpatient care (1.6% of GDP) than the EU average (2.5%), but slightly more (3.5% of GDP) than the EU average (3.4%) on hospital care. (Eurostat, 2023b)

Figure 39. Total Spending on Health as a Share of GDP, by Type of Services, 2021

Total general government expenditure on health, 2021 (% of GDP)



* provisional
Source: Eurostat (gov_10a_exp)



Total general government expenditure on health, 2021 (% of GDP) -

Source: Eurostat (gov_10a_exp)

Source: EUROSTAT, 2023b.

Purchasing of Health Services and Payment Mechanisms

Health insurance companies must contract all GPs and pharmacies and a specified minimum number of specialists and hospitals as per government regulation.²² This applies to all the eight self-governing regions in the Slovak Republic.

In 2012, the MoH introduced a list of selected state providers—the so-called, “compulsory network”—that must be contracted by all health insurance companies, irrespective of their level of quality and effectiveness. This minimum coverage requirement also applies to emergency services, GPs, and pharmacies. The ÚDZS is responsible for monitoring the purchasing of healthcare services.

²² This is Law 581/2004, which is usually updated several times a year.

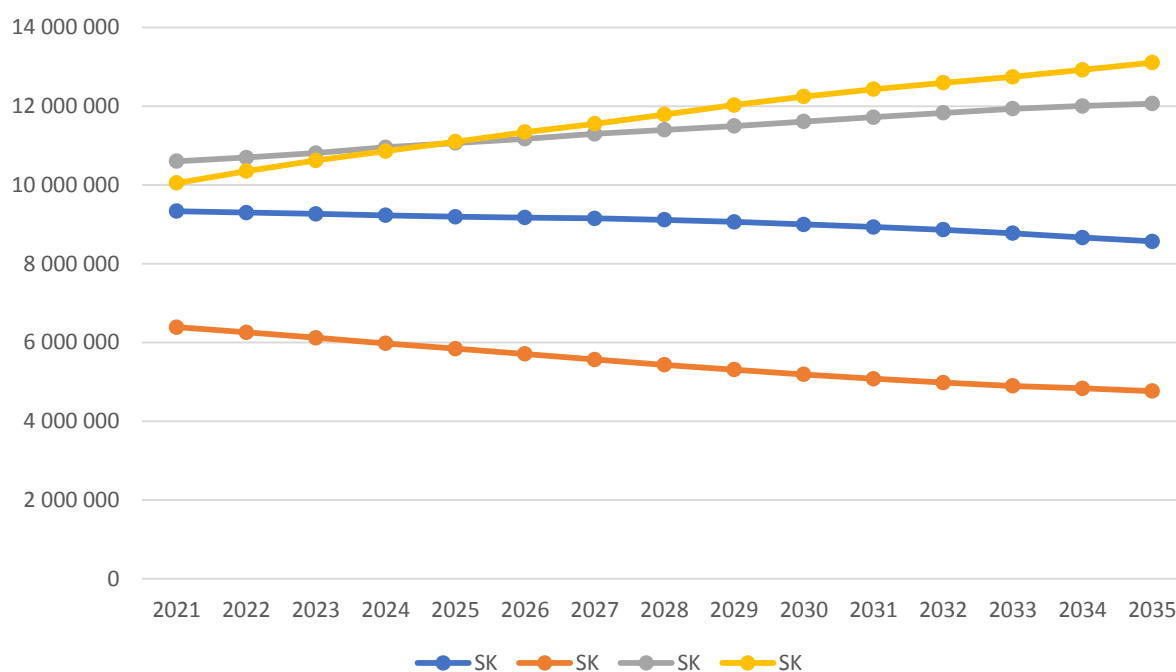
Health insurance companies are free to contract with other providers and negotiate on quality, price, and volumes independently. A list of contracting criteria—which includes technical and personnel requirements, quality indicators, accessibility, and other factors—is published regularly by the insurance companies in a publicly accessible place (for example, in the lobby of their buildings) and on a website. The minimum duration of a contract is one year, but in practice, contracts are negotiated regularly, even several times per year. Health insurance companies must publish rankings of how the providers fulfill the criteria and a list of contracted health providers every year.

In practice, the contracting criteria of technical and personnel requirements, quality, and accessibility have little impact on tariffs and the volume of contracted services. Individual agreements between insurance companies and health providers have led to a variety of contracts that prompted health professionals to form associations to strengthen their negotiating position to counterbalance the health insurers' oligopolistic market power. One such example is the Zdravita Association of Outpatient Physicians, which bargains on behalf of about 2,000 members, or the Slovak Medical Chamber.

Annex 2: Estimated Number of GP Visits in the Slovak Republic

The estimated number of GP visits in the Slovak Republic follows a similar trend as the BBSK, under the assumption of the same average number of GP visits as in 2021. Visits will decline for people aged under 44 years (from 15.7 million in 2021 to 13.3 million in 2035); they will rise for people aged above 45 years from 20.6 million to 25.2 million. Older people over 65 years will significantly increase their GP visits from 10 million to 13.1 million (see Figure 40).

Figure 40. Predicted Number of GP Visits in the Slovak Republic Using the Same Average Number of GP Visits as in 2021, by Age Category

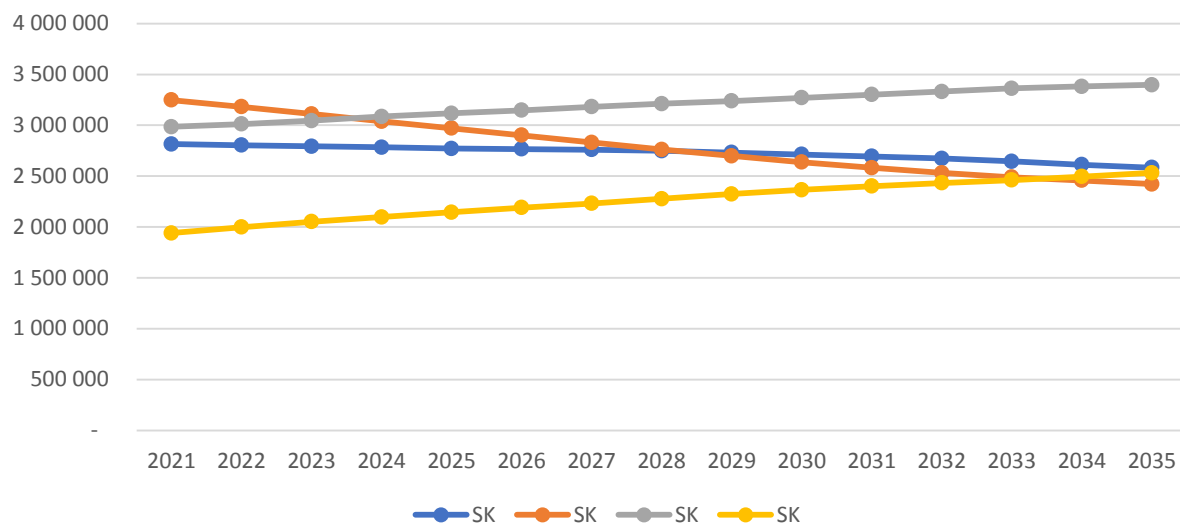


Note: For this forecast, we assumed that the average number of GP visits will remain the same as in 2021 in the Slovak Republic by age category: 6.6 visits for people under the age of 24; 3.9 visits for people between the ages of 25 and 44; 7.1 visits for people between the ages of 45 and 64; and 10.4 visits for people beyond the age of 65.

Source: World Bank, own estimates.

Under the assumption of two annual GP visits for all patient age categories, disparities in GP visits in the Slovak Republic will be more evident for people over 45 years and less pronounced for people under 44 years than in BBSK. The number of GP visits will drop from about 2.8 million to 2.6 million GP visits for people under 24 years and from 3.2 million to 2.4 million for those aged between 25 and 44 years. The increase in GP visits will be from 2.9 million to 3.4 million for people between 45 and 64 years, and from 1.9 million to 2.5 million for people over 65 (see Figure 41).

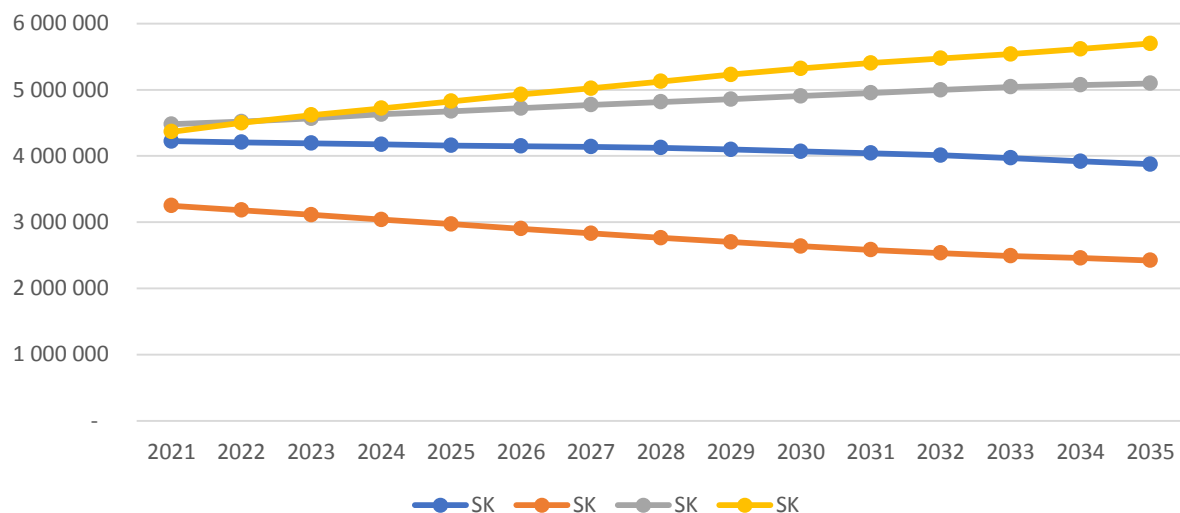
Figure 41. Predicted Number of GP Visits in the Slovak Republic Using the Average Number of Two Annual GP Visits, by Age Category



Note: This forecast assumes that the average number of annual GP visits will be two per person for all age categories.
Source: World Bank, own estimates.

Under the assumption of the EU average number of GP visits by age category, the number of GP visits for people over 65 years will increase from 4.4 million in 2021 to 5.7 million in 2035 (see Figure 42).

Figure 42. Predicted Number of GP Visits in the Slovak Republic Using the EU Average Number of GP Visits, by Age Category (Before COVID-19)



Note: For this forecast, we used the average number of GP visits in the EU in 2019 (Eurostat) by age category: 3 visits for people under the age of 24; 2 visits for people between the ages of 25 and 44; 3 visits for people between the ages of 45 and 64; and 4.5 visits for people beyond the age of 65.

Source: World Bank, own estimates.