

SLOVAKIA CATCHING-UP REGIONS 4

RAPID ASSESSMENT
OF HEALTH AND SOCIAL
CARE IN KOŠICE REGION



KOŠICE
SELF-GOVERNING
REGION



MINISTRY
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AND INFORMATIZATION
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WORLD BANK GROUP

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RAPID ASSESSMENT OF HEALTH AND SOCIAL CARE IN KOŠICE REGION

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ACRONYMS AND ABBREVIATIONS

BBSK	Banská Bystrica Self-Governing Region
CAPi	computer-assisted personal interview
CAWI	computer-assisted web interviewing
CSO	Central Statistical Office
CuRI	Catching-Up Regions Initiative
EC	European Commission
EU	European Union
GDP	gross domestic product
GP	General Practitioner
EHIS	European Health Interview Survey
EU	European Union
FTE	Full-time Equivalent
HRH	Human Resources for Health
KSK	Košice Self-governing Region
MIRDI	Ministry of Investment, Regional Development and Informatization of the Slovak Republic
MoE	Ministry of Education of the Slovak Republic
MoH	Ministry of Health of the Slovak Republic
NCZI	National Health Information Center
SHARE	Survey for Health, Aging, and Retirement in Europe
SR	Slovak Republic
ÚDZS	Health Care Surveillance Authority
WB	World Bank

INTRODUCTION

The integration of health and social care has the potential to improve health outcomes and minimize health disparities by improving social conditions and reducing social vulnerability. People with fewer socioeconomic resources are sicker and die sooner than those at the top of the social ladder (Shahidi et al., 2019).

Health care maintains or improves the physical and mental health of people, often using a medicalized approach, while social care helps people in need of specialized assistance to live a comfortable, and healthy life as far as it is possible. To facilitate the integration of social and health care, the World Health Organization (WHO) Commission on the Social Determinants of Health has suggested societal-level interventions to improve the socioeconomic determinants of health rather than individual-level interventions aimed to change people's behaviors (WHO, 2008).

Slovakia's population is aging with projected numbers of people aged above 60 years outpacing those of any younger age groups. The working-age population is predicted to decline by nearly 25 percent during the next 30 years. One in four people in Slovakia will be over the age of 65 by 2040, up from one in six in 2019 (Šprocha et al., 2019). Age-related costs are expected to rise substantially faster than in other European Union (EU) countries, putting pressure on potential growth, living standards, and the health and social care systems (Hwang and Roehn, 2022). The older population will require a network of social and health institutions, as well as supportive fields or ambulance services (Nestorová Dická and Gurová, 2022).

Košice Self-governing Region (KSK) is one of Slovakia's less developed regions that falls under the Catching-Up Regions Initiative (CuRI) funded by the European Commission and implemented by the World Bank. CuRI aims to reduce obstacles to project implementation, to improve the efficient use of European funding, and to support regional growth and innovation.

KSK is today facing demographic and health challenges, with more than 40 percent of hospital costs attributable to people aged above 65 years and a shrinking health workforce, particularly in some geographical areas. It is expected that the number of people in need of social care services will increase due to the rapid aging of the population and relatively low socioeconomic development of the region compared to the remaining seven self-governing regions of Slovakia.

The national legislative framework creates barriers for social and health care integration. Efforts to develop a legislative framework for long-term health and social care have failed to bear fruit. There are numerous negative consequences to this legislative void. Nursing care, for example, is not fully covered by health insurance under present legislation, creating a financial barrier. Financing of social services through health insurance funds is possible only under very limited situations (World Bank, 2020).¹

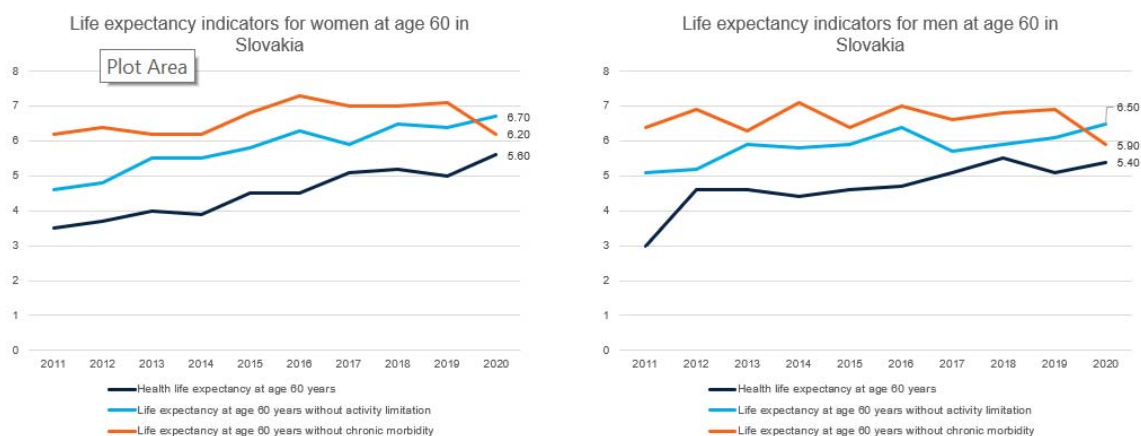
The goal of this report is to analyze the main health and social care issues in KSK, particularly for the older people (over 65 years), disadvantaged people, and people with disabilities, and propose actionable recommendations to achieve more integrated care. The report briefly describes in section 2 the health and social care systems in Slovakia; section 3 presents the highlights of the analysis in health and social care conducted in KSK. Section 4 sets out the implications for policy and future directions for KSK. Section 5 concludes.

THE HEALTH AND SOCIAL CARE SYSTEMS IN SLOVAKIA

Slovakia has one of the lowest life expectancy rates and highest avoidable mortality rates in the EU. Between 2010 and 2019, life expectancy at birth in Slovakia 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 Czechia (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, 2023). Rates of mortality from preventable and treatable causes are well above the EU average with 262 preventable deaths per 100,000 people (EU average of 178) and 169 treatable deaths per 100,000 people (EU average of 92).

Healthy life expectancy at the age of 60 in Slovakia shows no significant differences between men and women, with 5.4 and 5.6 additional years, respectively. Differences in healthy life expectancy at the age of 60 between people without activity limitation and people without chronic morbidity has converged over time, with women living slightly longer than men in 2020 (Figure 1).

FIGURE 1: Healthy life expectancy in Slovakia

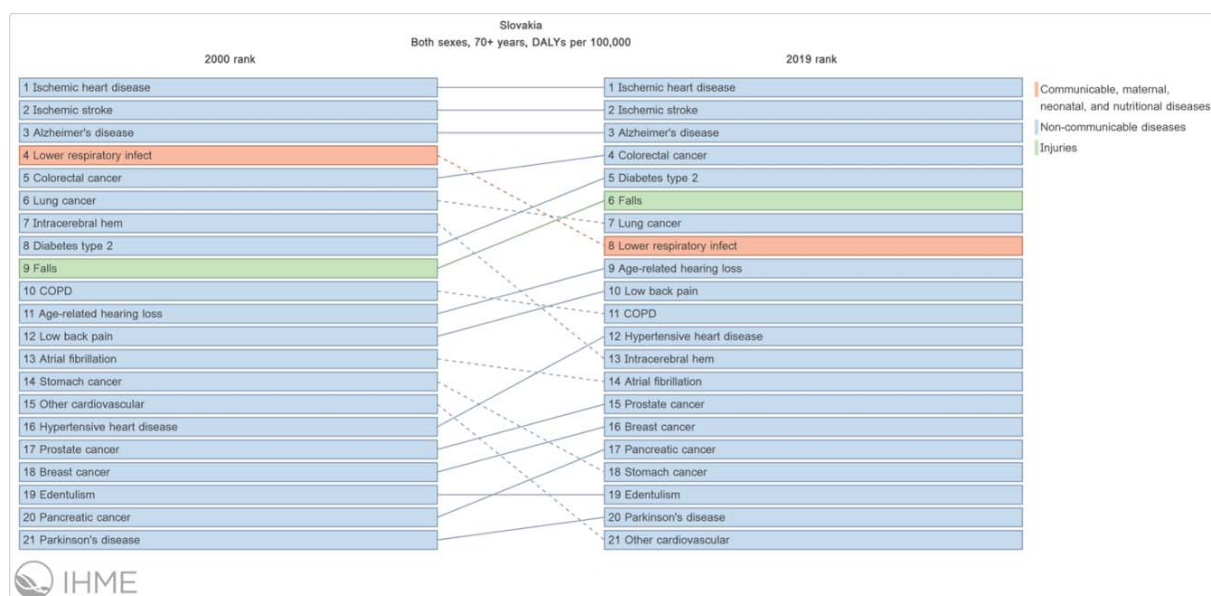


Source: National Statistical Office, 2023.

Nearly half of all deaths in Slovakia is due to behavioral and environmental risk factors. In 2022, 45 percent of deaths were attributable to circulatory system disorders, followed by neoplasms (22 percent), and diseases of the respiratory system (9 percent), digestive system (6 percent), and COVID-19 (5 percent) (Central Statistical Office, 2023).

Cardiovascular diseases are the main cause of deaths, hospitalizations, and disabilities. Ischemic diseases and Alzheimer’s disease continue to be the leading causes of disability-adjusted life years (DALYs) among adults over the age of 70 (Figure 2).

FIGURE 2: Disability-adjusted life years (DALYs) in people aged over 70 years



Source: Institute for Health Metrics and Evaluation, 2023.

In 2020, Slovakia's average hospital stay is 7.3 days, compared to the EU average of 7.6 days. More than 45 percent of all hospital costs in Slovakia are attributed to the care of adults over the age of 65. According to national data, the average hospital stay in 2021 climbed to 7.7 days, with a substantial difference between the shortest hospital stay (3.4 days) in ophthalmology and the longest (25.5 days) in psychiatry (Central Statistical Office, 2023).

Ambulatory care visits, including in primary care, are much higher in Slovakia than in the EU. 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). Due to population aging, general practitioner (GP) visits in Slovakia are predicted to grow among those over the age of 65 while decreasing among those under the age of 44. It is of interest that people over the age of 75 visit their GP three to five times per year in Slovakia, whereas in Sweden, which has the same average number of visits (2.0) for all age groups, 47 percent of persons over 75 years visit the GP only once or twice per year.

In 2020, self-reported unmet needs for health care in Slovakia are 2.5 times lower than in the EU. Waiting times were the source of the greatest self-reported unmet needs for health care (7.1 against 17.1 percent for the EU average). Distance to health care facilities (2 percent) and financial factors (5.9 percent) play a modest role in unmet needs in Slovakia. Higher unmet needs in Slovakia are recorded in the big cities and among less educated people.

The health care system in Slovakia is based on universal coverage, compulsory health insurance, a basic benefit package, and competitive three health insurance companies. Entitlement to health benefits is linked to the residence and not to the ability to pay. Coverage is nearly universal at 95 percent in 2019. The benefits package is broad and includes telemedicine. Benefits on the positive (reimbursed) list are fully covered and should be provided free of charge at the point of use. The negative (not reimbursed) list is very limited. Three competing health insurers, one public and two private, selectively contract health providers, which must cover a minimum number of clinical full-time-equivalents (FTEs) and inpatient beds per specialty as per regulation of the Ministry of Health (so-called Minimum Network regulation).

Despite a broad benefits package, health services may not be readily available due to the health insurance companies' financial limits and the limited capacity of health providers, particularly in rural areas. Aging of the health workforce is an issue in Slovakia with the average age of 55 years

for an outpatient doctor, and 45–49 years for a nurse. In 2019, the density of doctors and nurses in Slovakia was 363 and 567 per 100,000 people, respectively. If the doctor density is slightly below the EU average (390), the nurse density is much lower than the EU average (840). Variations across the EU Member States are significant, however. The density of doctors varies between 301 in Serbia and 545 in Austria; the density of nurses varies between 418 in Latvia and 1280 in Ireland.

Long-term care, which combines health and social care services, is chronically underfunded and lacks systemic coordination. Slovakia spent 0.03 percent of GDP on long-term care in 2020, the latest available year, putting the country at the bottom of the EU 27 (average of 1.8 percent). In comparison, neighboring countries spent 1.2 percent in Czechia, 0.3 percent in Hungary, and 0.5 percent in Poland in the same year (Eurostat, 2023).

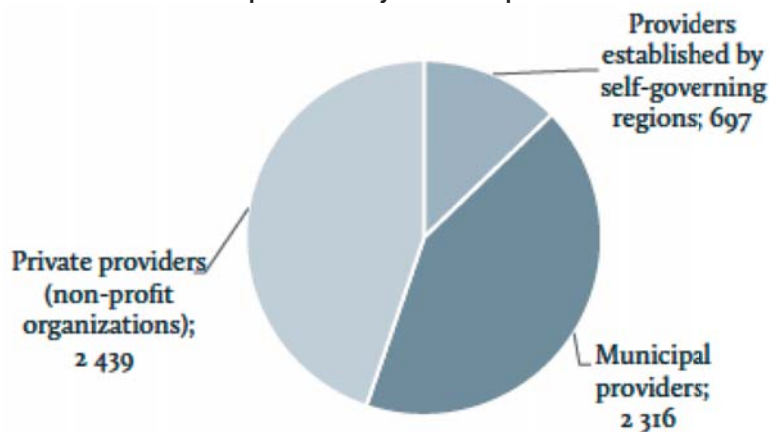
Home-based health services, including nurse visits and mobile hospices, are inadequately controlled due to lack of mandatory mandates (World Bank, 2020).

Public spending on health as a share of GDP (5.8 percent in 2020) was below the EU average (7 percent in the same year). The level of public spending on health per person is much lower in Slovakia, at US\$ 1,119 (constant € 979) per person, than the EU average (US\$ 2,521 or constant € 2,205 per person) (WHO, 2023).

The mechanism for reimbursing health service costs is complex. Nonmedical services related to health services delivery—for example, meals, bed days, accompanied person’s stay, transportation services, spa treatment—are covered only if the related medical health services are also covered (in full or in part), and usually in a similar proportion. This is confusing for patients (World Bank, 2020).

Slovakia’s social care system is decentralized, with services provided by a combination of public and private providers, as well as informal (family) care. While the Ministry of Labor, Social Affairs, and Family retains national responsibility for social care, social services are provided through regional bodies that collaborate with local governments. Municipalities have little authority other than to carry out tasks assigned to them by these regional bodies. In 2019, almost half (45 percent) of social care providers were private non-profit organizations, 42 percent were municipal providers, and 13 percent were regional providers (Figure 3). The social care system is regulated by the Social Services Act No. 448/2008 Coll.

FIGURE 3: Social care providers by ownership

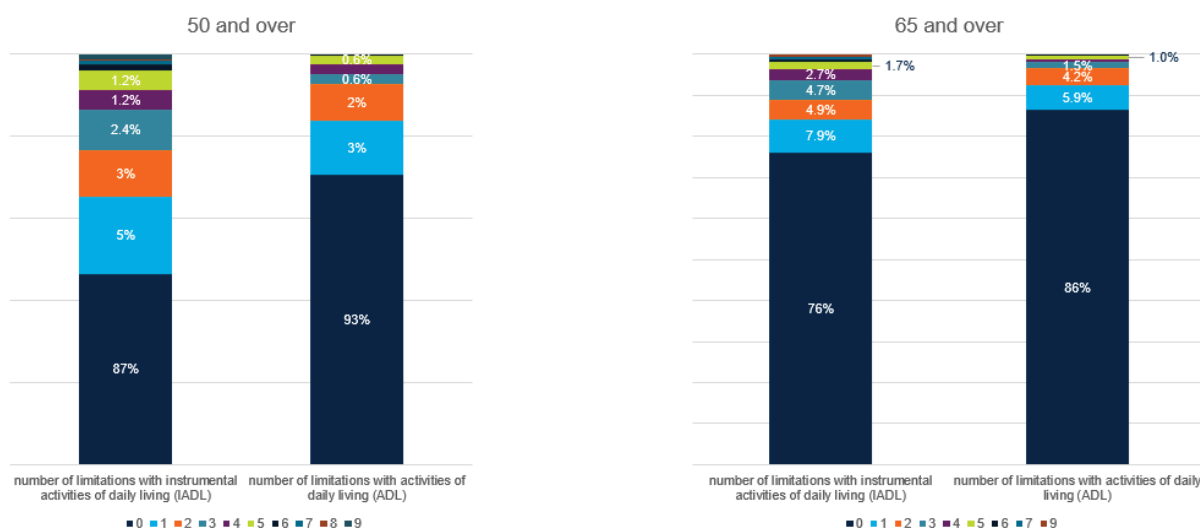


Source: Ministry of Labor, Social Affairs and Family, 2020.

According to data from the 2019 Survey of Health, Ageing, and Retirement in Europe (SHARE), adults in Slovakia report minor issues with daily activities. Almost 93 percent of people aged 50 and up claim to have no (i.e., zero) limitations with activities of daily living (walking, feeding,

dressing, toileting, bathing, transferring) and 87 percent claim to have no (i.e., zero) limitations with instrumental activities of daily living (managing finances, transportation, shopping, housecleaning, communication, medications) (Figure 4).

FIGURE 4: Share of people aged 50+ and 65+ suffering from limitations with (instrumental) activities of daily living



Source: SHARE, 2019.

Funding of social services is complex and slightly differs between public and private providers (Table 1). The Ministry of Labor, Social Affairs, and Family provides the state budget for certain services. Users of social services should cover part of the costs out of pocket, with higher copayments for services in residential institutions such as retirement homes, specialized facilities, homes of social services, and nursing homes. Some services are co-financed by the EU social funds.

TABLE 1: Sources of funding for public and private social care providers

Source	Public provider	Private provider
State budget	Services for a person relying on another person for support in self-service chores (services are funded by Ministry of Labor, Social Affairs and Family or higher territorial unit) operating costs are under legal constraints (responsibility of higher territorial unit)	Services for a person relying on another person for support in self-service chores (obligatory funding by the Ministry of Labor, Social Affairs and Family or higher territorial unit) operating costs are under legal constraints (optional , responsibility of higher territorial unit)
Users' copayments	Different copayments depending on the service	Different copayments depending on the service
Donations, gifts	Allowed	Allowed
Other sources	Funding from the municipal associations' sources and/or the higher territorial unit associations' sources, and from ancillary services	Own resources of the private provider resources from the provider's other economic activity (business)

Source: Cintulová, Budayová, and Buzalová, 2022.

Slovakia is one of the EU countries that spends the least on social security benefits per person. In 2020, Slovakia spent €2,760 per person (at constant 2010 prices) compared to the EU average of €8,134. Only Bulgaria (€1,304), Latvia (€2,165), Lithuania (€2,692), Hungary (€2,370), and Romania (€1,632) spend less (Eurostat, 2023).

The delivery of social care services has been decentralized to self-governing regions and municipalities. Municipalities or regions develop and fund public providers. Non-public providers are founded by NGOs or churches, and are partially funded by the state budget as well as municipal or regional budgets. There are no social care services that are entirely provided by the government (Vallušová et al., 2022).

There are various forms of social services based on the target group to which assistance is provided. These falls under five categories:

- crisis intervention services provided in for example, low-threshold daily centers, integration centers, community centers, overnight shelters, shelters, halfway houses, low-threshold social services for children and family, and safe-house facilities;
- support services to families with children, including assistance in the personal care of a child, child in a temporary childcare facility, services to promote the reconciliation of family life and working life in the institutional care for children under three years of age, and early intervention services;
- social services linked to severe disability, bad health or retirement age such as supported housing facility, retirement home, nursing home, rehabilitation center, social services home, specialized facility, day care center, and mediation of personal assistance;
- support services such as respite services, assistance in safeguarding custody rights and obligations, daily centers, support for independent housing, canteen, launderette, and personal hygiene centers.

Field, outpatient, and residential social services are available. Field services are provided to an individual through field/home programs aimed at keeping that person, family, or community from being socially excluded in an undesirable social circumstance. Outpatient services are delivered to individuals who arrive alone, are accompanied, or are transferred to the location where social services are provided. Inpatient social services include accommodation in a residential institution.

Monitoring and emergency response devices, as well as crisis support via telecommunications technologies, are accessible as technology-enabled social services.

Slovakia has a heavy reliance on institutionalized social services with almost two-thirds of users (64.2 percent) receiving residential care in 2019. Despite the adoption of the Deinstitutionalization Strategy² in November 2011, just 10.5 percent of users use outpatient social services, with around one-fourth (25.3 percent) using field social services (Ministry of Labor, Social Affairs and Family, 2020).

The National Priorities for the Development of Social Services in 2015–2020 emphasized the need for deinstitutionalization of social services. Because social services must be significantly transformed, the Ministry stated that a long-term Strategic Framework for Developing Social Services till 2030 is required. However, its preparation has not been publicly declared at the time of writing this report.

The major challenges in the social care system are human and financial resources. The demographic trend with an increasing dependency rate³, socioeconomic, and regional differences will require the availability of more resources. Shortage of trained professionals —social workers, caregivers, community workers, nurses, and long-term care workers—needs to be addressed. The major reasons for leaving the social sector are the low wages of local social service employees and better financial chances abroad. Because of Slovakia's aging population, maintaining the current capacity of residential care would significantly limit the availability of social services. Municipalities have significant responsibilities to fund and provide social services under current legislation, but with almost 85 percent of municipalities in Slovakia in 2022 having fewer than 1,000 inhabitants, they are not well positioned to fulfill all responsibilities due to a lack of trained personnel, funding, equipment, and infrastructure (Vallušová et al., 2022).

The provision of integrated, person-centered services is hampered by a lack of coordination and interconnection between the health and social sectors. Each system has its own legislation, which consists of three main legislative acts (act no. 448/2008 on Social Services, act no. 576/2004 Health Care, and act no. 447/2008 on Financial Benefits to Compensate for Severe Disabilities). There are opportunities for greater integration between the health and social sectors. Nursing care in facilities is recognized as a professional activity under the Social Service Act. Nursing care should be available or ensured in four different types of social services (retirement homes, social service homes, nursing homes, and specialized institutions). Nursing may also be partially compensated by public health insurance under certain conditions. After meeting all requirements, social service providers may be recognized as health providers (World Bank, 2020).

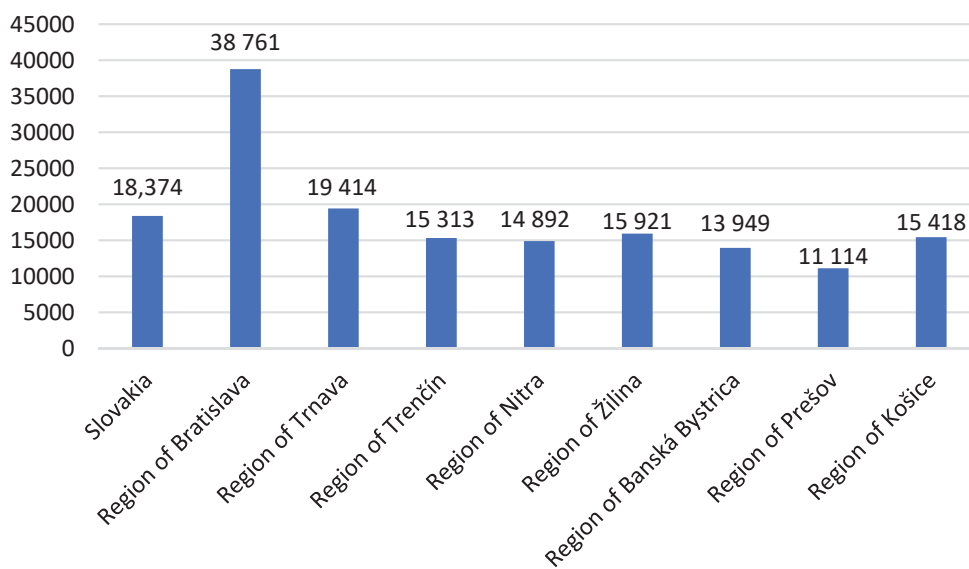


KOŠICE'S HIGHLIGHTS OF HEALTH AND SOCIAL CARE

KSK belongs to the eastern part of Slovakia and is one of the 30 poorest regions in the EU.⁴

In 2022, KSK had the second largest population in Slovakia (about 780,000 people with equal gender distribution) and was positioned halfway (out of eight regions, KSK ranks at the fourth place) in terms of GDP per person (Euro 15,418 in 2021). This is almost 2.5 times less than in the Bratislava region (Euro 38,761) (Figure 5). In 2022, it had the second highest unemployment rate (8.7 percent), and one in every six persons was at risk of poverty in 2021 (National Statistical Office, 2023).

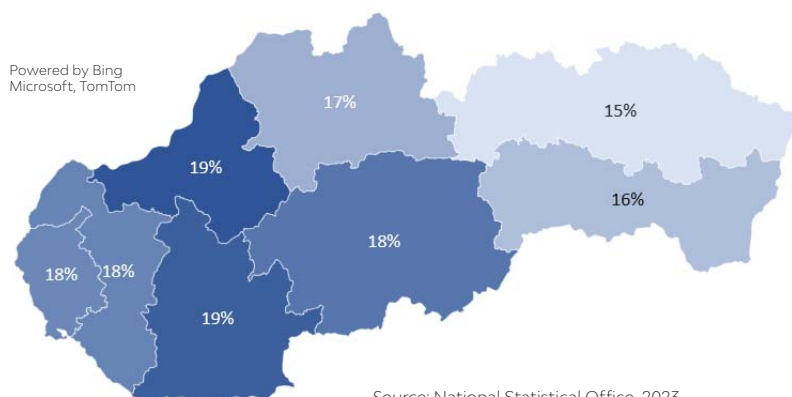
FIGURE 5: Regional gross domestic product per person (€), 2021



Source: National Statistical Office, 2023.

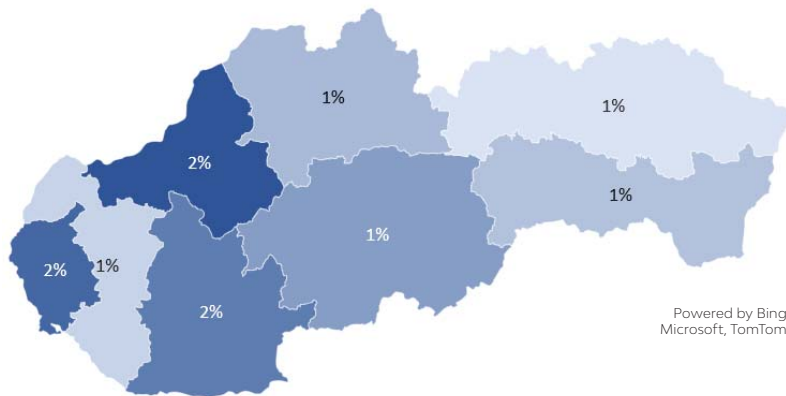
In 2021, the share of people over the age of 65 was 16 percent, while the share of people over the age of 85 was 1.4 percent. Women account for 60 and 70 percent, respectively, in both age groups (Figure 6, Figure 7).

FIGURE 6: Share of people aged over 65 in Slovakia by regions, 2021



Source: National Statistical Office, 2023.

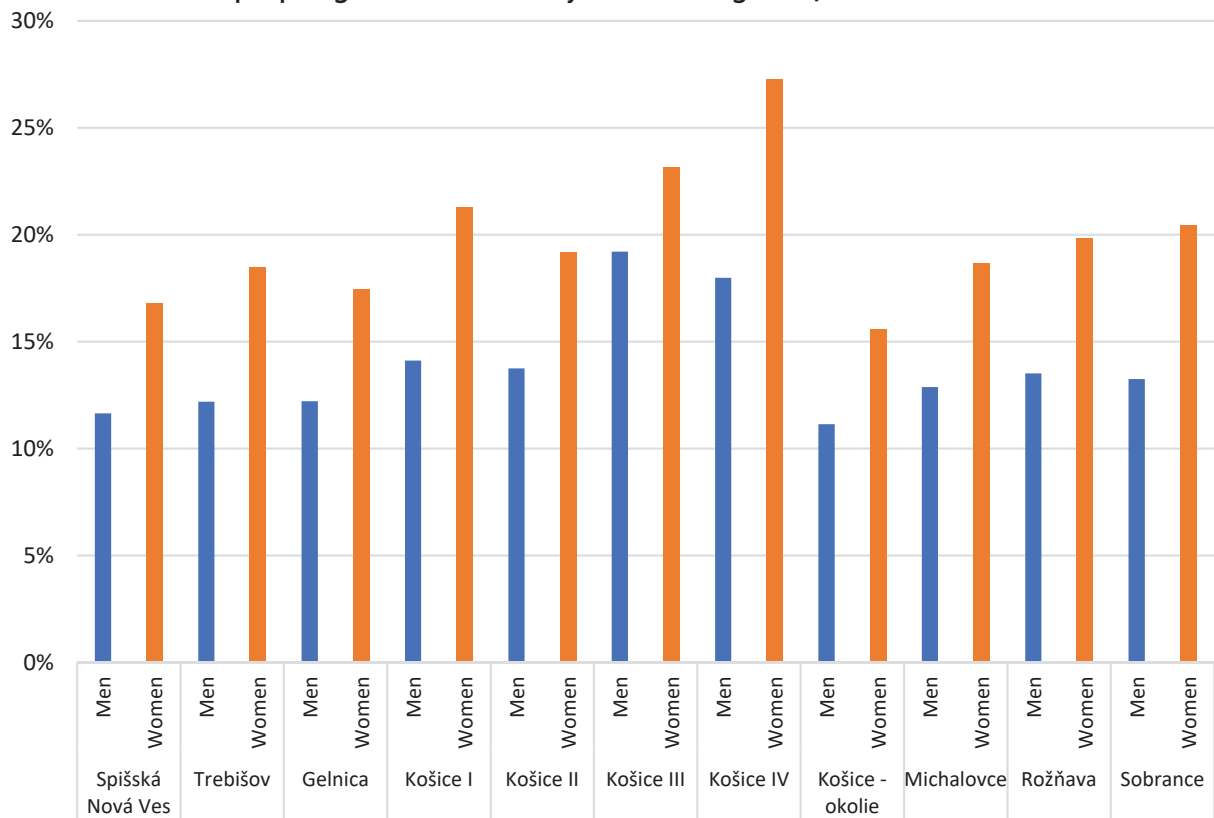
FIGURE 7: Share of people aged over 85 in Slovakia by regions, 2021



Source: National Statistical Office, 2023.

In 2021, the districts in the KSK region with the highest number of individuals over 65 are Košice-okolie (17,279), Michalovce (18,181), and Trebišov (15,916). The districts with the fewest residents aged 65 and more are Sobrance (3,772), Gelnica (4,701), and Košice III (5,933). Women represent most of the senior population in all eight districts (Figure 8).

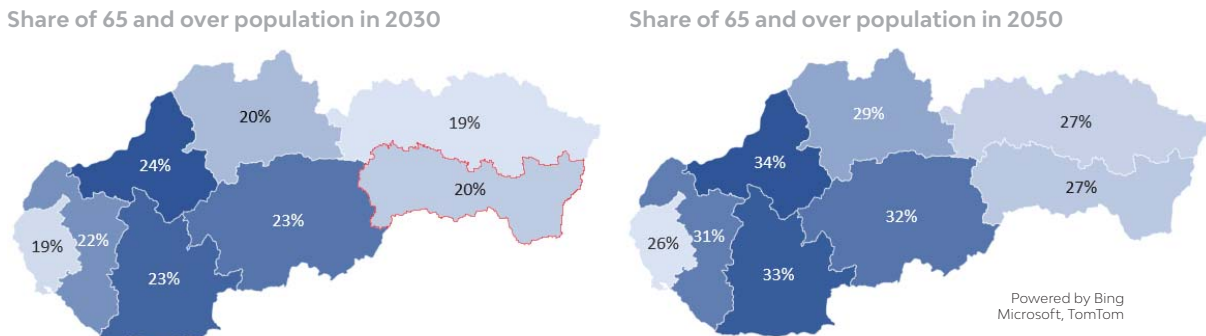
FIGURE 8: Share of people aged over 65 in KSK by districts and gender, 2021



Source: National Statistical Office, 2023.

The KSK region will have one of the youngest populations in Slovakia. The share of people over 65 is predicted to be almost 20 percent in 2030—the national average will be 21 percent—and 27 percent in 2050 compared to 30 percent in Slovakia (Figure 9).

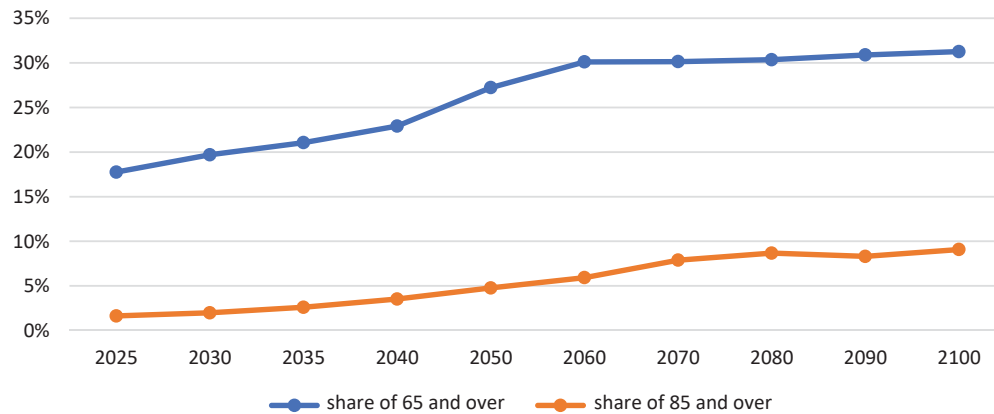
FIGURE 9: Predicted share of people aged over 65 in the eight self-governing regions, 2030 and 2050



Source: World Bank own estimates, 2023.

However, future demographic projections show that in the KSK region, the number of people over 65 will increase by 20,000 up to 2030, representing almost one-fifth of the regional population. The increase in the older population will be up to 30 percent in 2060 and then plateau. People aged over 85 years will represent almost 6 percent of the regional population in 2060 (Figure 10).

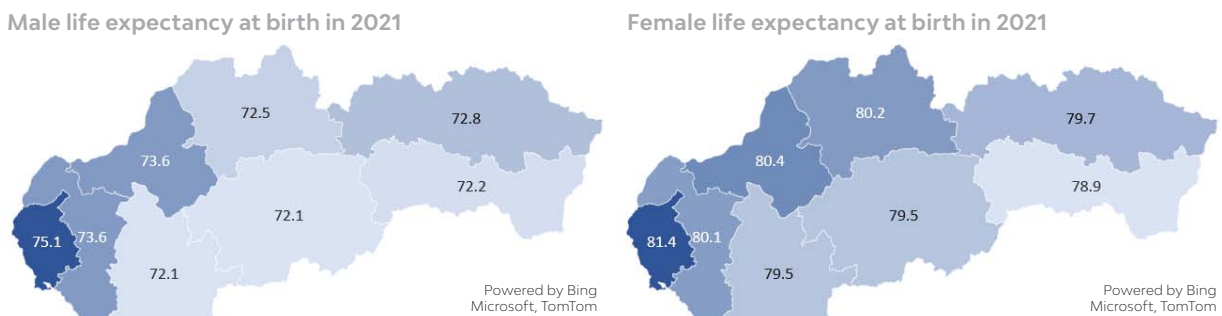
FIGURE 10: Demographic projections of KSK region, 2025–2100



Source: World Bank own estimates, 2023.

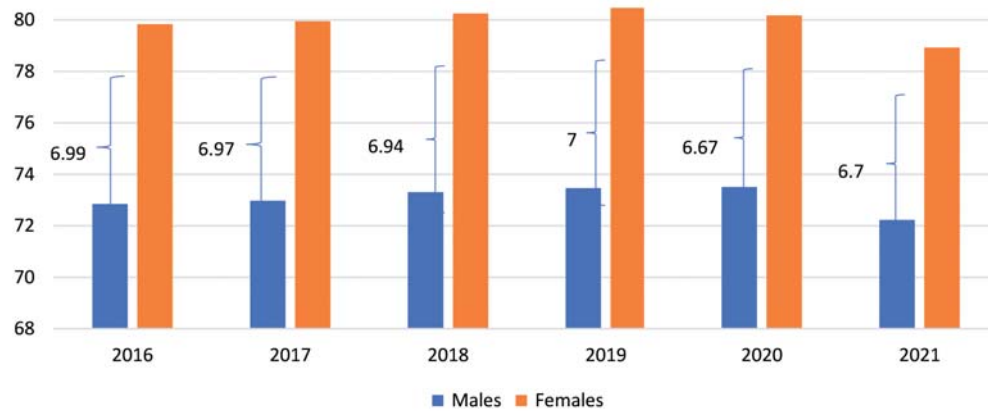
Except for the Bratislava region, which has the greatest life expectancy for both sexes, life expectancy in the KSK region is comparable to all other regions (Figure 11). The gender gap in life expectancy was relatively constant between 2016 and 2021 in the KSK region (Figure 12).

FIGURE 11: Life expectancy at birth in 2021 by region



Source: National Statistical Office, 2023.

FIGURE 12: Gender gap in life expectancy in the KSK region by sex, 2016–2021



Source: National Statistical Office, 2023.

The epidemiological profile of KSK among the older people is similar to that of Slovakia. In 2021, among people aged over 65 years the leading cause of death (44 percent) was circulatory system diseases, followed by neoplasms. KSK has the second highest average hospital treatment time in days—7 days—compared to the national average of 6.5 days.

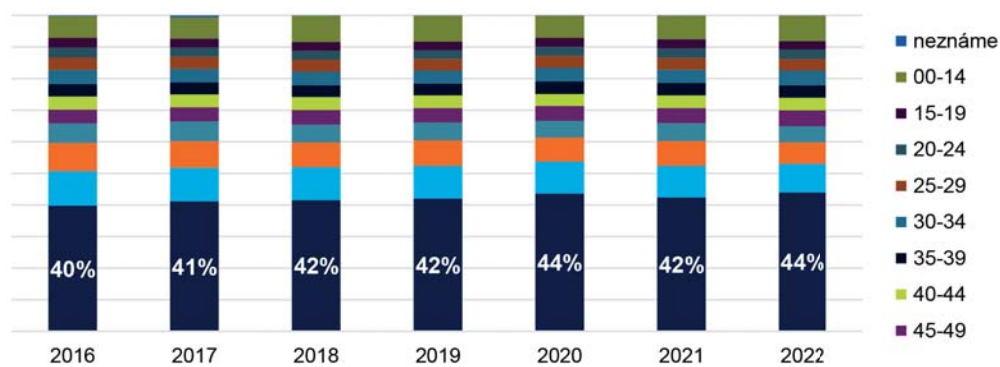
People over 65 years and up account for more than 40 percent of all hospital costs in KSK. This share had a steady increase from 2016 until 2020, slightly decreased in 2021 to about 42 percent, and rose again in 2022 by 2 percentage points (Figure 13, Figure 14).

FIGURE 13: Share of hospital costs attributable to people aged over 65 in KSK, 2016–2022



Source: Ministry of Health, 2022.

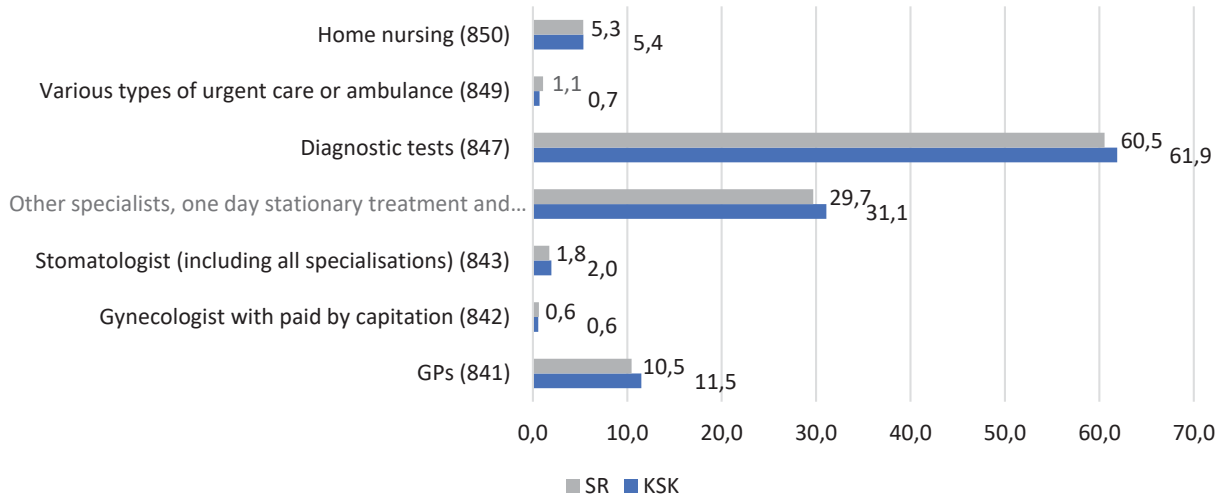
FIGURE 14: Share of hospital costs in KSK by age groups, 2016–2021



Source: Ministry of Health, 2022.

Diagnostic tests accounted for most outpatient visits among adults over the age of 65, followed by specialized visits for one-day stationary treatment and mobile hospice, and GP consultations. This tendency is comparable to that of the rest of Slovakia, however the number of visits per person in KSK is slightly larger (Figure 15).

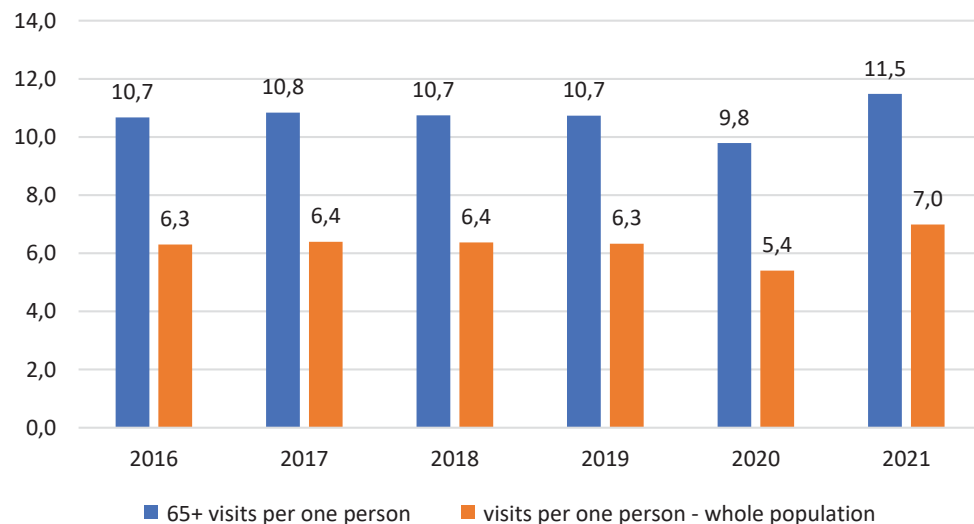
FIGURE 15: Number of outpatient visits per one person among people over 65 years, 2021



Source: Ministry of Health, 2022

When compared to all other age groups, people over the age of 65 were the most likely to visit their GP. Between 2016 and 2019, older people went to the doctor 10.8 times per year on average. Visits fell to little under 10 in 2020, most likely because of the COVID-19 impact, then began to grow again in 2021, reaching 11.5 visits per person per year. The older people's high number of visits per person contrasts with those of all other age groups, which follow a similar pattern: 6.4 visits on average between 2016 and 2019, a dip to 5.4 visits in 2020 owing to COVID-19, and a rise to 7 visits in 2021 (Figure 16). KSK numbers resemble those registered in Slovakia (data not shown).

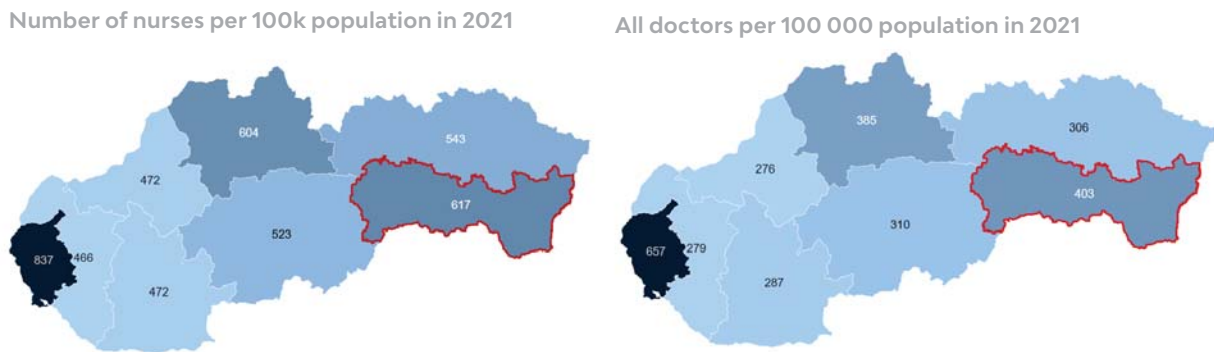
FIGURE 16: Number of GP visits per one person in KSK, 2016–2021



Source: Ministry of Health, 2022.

KSK has the highest number of medical doctors and nurses per 100,000 people among the regions, except for the Bratislava region. In 2021, KSK had 403 medical doctors and 617 nurses per 100,000 population, which was more than the national average (363 and 567, respectively). The presence of the Medical University may explain the relative high number of health professionals in the KSK region compared to the other regions in Slovakia (Figure 17).

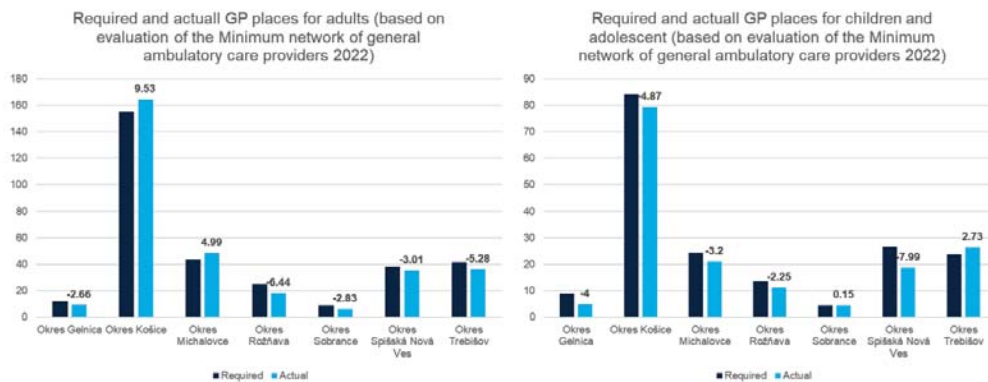
FIGURE 17: Number of medical doctors and nurses per 100,000 people, 2021



Source: Ministry of Health, 2022.

The distribution of outpatient doctors and nurses varies geographically throughout the KSK districts. There are more GPs for adults than are currently required by the Minimum Network⁵ in two of the seven KSK districts: 9.5 in Košice districts and 5 in Michalovce district. All other districts lack between 6.5 and 2.5 GPs for adults. Approximately 20 GPs for adults are needed to complete the Minimum Network goals in the KSK region. Similarly, in two of seven districts (Trenčín and Sobrance), GPs for children and adolescents exceed the Minimum Network. Figure 18 shows that the remaining districts lack between 2.25 and 8 GPs for children and adolescents.

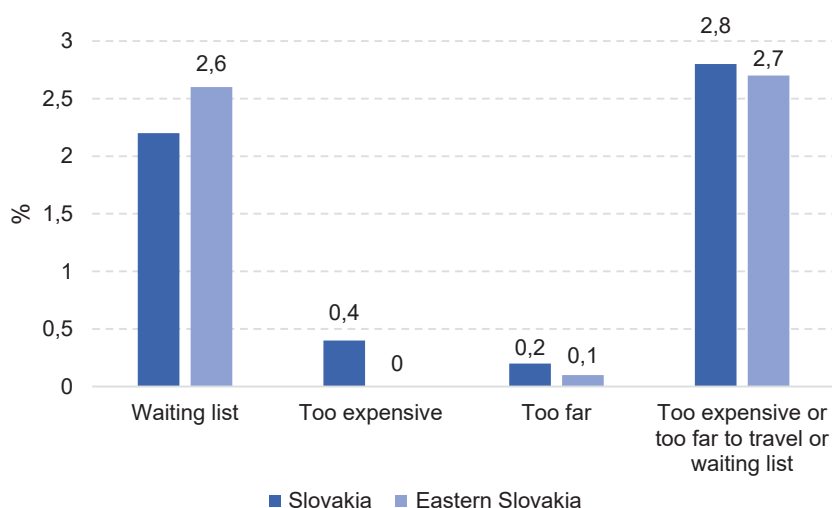
FIGURE 18: Required and actual GP places, 2021



Source: Ministry of Health, Evaluation of the Minimum network of general ambulatory care providers, 2022

Unmet needs for health care in Eastern Slovakia—that includes the KSK and Prešov regions—resemble those at national level. In 2022, waiting lists are the main factor for unmet needs (2.6 percent), followed by cost, and distance (Figure 19). The share of people in Eastern Slovakia with unmet needs due to waiting lists has steadily increased over time. In 2015, 1.5 percent of people reported unmet needs for health care due to waiting lists; this increased to 1.9 percent in 2019 and has continued to rise with the COVID-19 pandemic, from 1.8 percent in 2020 to 2.6 percent in 2022 (Eurostat, 2023). No data is available to explain the root causes of waiting lists.

FIGURE 19: Unmet needs for health care in Slovakia and Eastern Slovakia, 2022

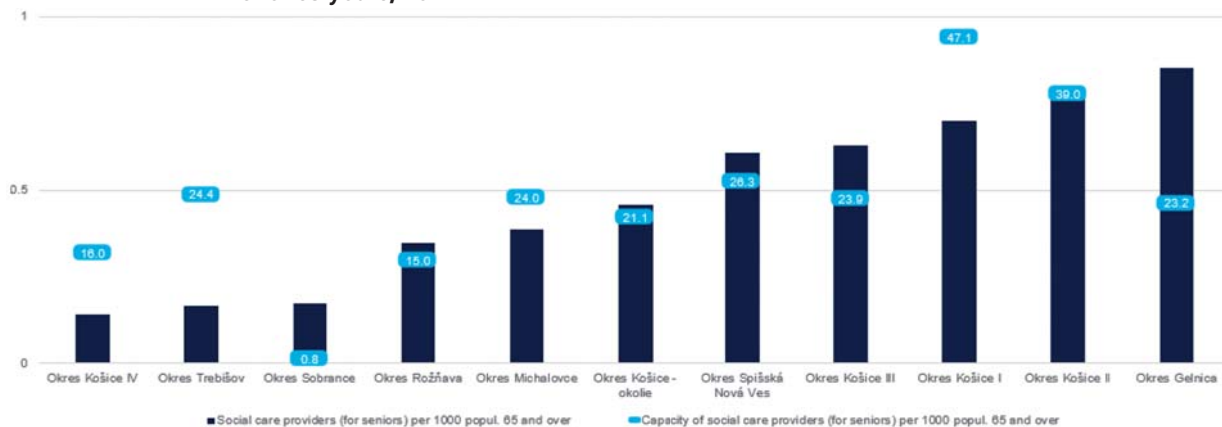


Source: Eurostat, 2023 (HLTH_SILC_08_R).

Note: Eurostat collects survey data on unmet needs per Nomenclature of Territorial Units for Statistics (NUTS) 2 level. Eastern Slovakia (Východné Slovensko) includes Košice and Prešov regions.

The provision of social care to people over 65 years differs across the 11 districts in the KSK region. The combined capacity of social providers per 1,000 people over 65 varies from 47.1 in Košice I to 0.8 in Sobrance (Figure 20). Disparities in spatial access to social services are likely to create high unmet needs for social care.

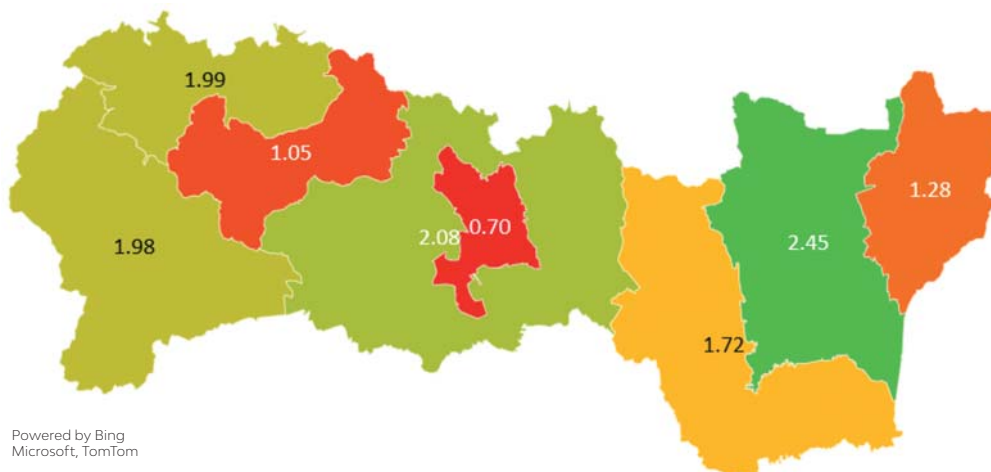
FIGURE 20: Number and cumulative capacity of social care providers per 1,000 people over 65 years, 2021



Source: KSK authorities, Registry of social services providers, 2021.

A care-coordination index was developed by the wb team for all 11 districts in the KSK region to assess coordination between the health and social sectors while including the economic and demographic developments. The index includes four dimensions: demographic, economic, social, and health care provision (Annex 1: Method for the calculation of the care-coordination index).⁶ Košice IV, Gelnica, and Sobrance districts have the lowest care-coordination index. However, Košice IV's closeness to other districts with stronger care-coordination indexes makes the situation less worrisome (Figure 21).

FIGURE 21: The care-coordination index across the 11 KSK districts



Source: World Bank own calculations, 2023.

Note: the latest available year used for the care-coordination index was 2020 or 2021, depending on availability.

Table 2: shows the decomposition of the care-coordination index in its four dimensions. The districts of Košice I, Košice II, and Michalovce have the highest results.

TABLE 2: Decomposition of the care-coordination index by district, 2021

District	Demographic index	Social care index	Health care index	Economic index	Care-coordination index
Gelnica	0.46	0.07	0.29	0.24	1.05
Košice-okolie	0.53	0.50	0.22	0.83	2.08
Košice I	1.00	0.01	1.00	0.79	2.80
Košice II	0.93	0.21	0.55	0.99	2.68
Košice III	0.45	0.00	0.24	1.00	1.69
Košice IV	0.00	0.23	0.42	0.05	0.70
Michalovce	0.79	1.00	0.66	0.00	2.45
Rožňava	0.71	0.46	0.66	0.15	1.98
Sobrance	0.97	0.10	0.00	0.22	1.28
Spišská Nová Ves	0.86	0.31	0.49	0.32	1.99
Trebišov	0.80	0.59	0.32	0.02	1.72

Source: World Bank own calculations, 2023.

Note: the latest available year used for the care-coordination index was 2020 or 2021, depending on availability.



IMPLICATIONS FOR POLICY AND FUTURE DIRECTIONS

The results from Košice's analysis of health and social care resemble those for Slovakia with a few exceptions. The KSK region has a younger population than Slovakia, although the number of people aged over 65 is predicted to rise to around 20 percent by 2030. KSK has a higher share of health professionals (nurses and medical doctors per 100,000 people) than other regions of Slovakia; however, the actual issue appears to be the dispersion of the health staff across the districts.

Substantial scope remains for improvement in effective local health policies to reduce avoidable hospitalizations and premature deaths. Slovakia, including KSK, has one of the highest mortality rates from preventable and treatable causes, yet according to the OECD data spends the least on prevention in the EU. KSK patients also have a much higher number of GP visits compared to the national and EU average; KSK older patients visit outpatient facilities more than ten times a year with most visits related to diagnostic services. International research shows that effectively managed patients at the primary care level may visit outpatient doctors much less frequently. At the same time, self-reported unmet needs for health care are low in KSK, with waiting list being the most significant driver of unmet needs (2.6 percent in 2022).

KSK districts have access to local social care services; nevertheless, approximately half of the providers have capacity that is insufficient to meet the needs. Despite this, almost 93 percent of Slovaks over the age of 50 do not report any difficulties in their daily living activities. Although regional data are not available, it may be inferred that the share of reported limitations is comparable in KSK, which may be due to generally adequate access to care and/or support from young people.

The care-coordination index shows that three districts have lower integration of health and social care services; in particular, Gelnica and Sobrance districts need to reconsider their care models.

To improve the effectiveness and efficiency of care coordination, people over the age of 65 who are most likely to benefit from an integrated strategy of health and social services should be identified in the districts (risk stratification). They are typically known to several organizations and can be recognized through needs assessment, such as frailty, hospital discharges, and frequent visits to hospital emergency rooms. The risk stratification will provide an overview of people with unmet needs for social care who might have not been visible before.

At the same time, a mapping of health and social services organizations should take place to review the use of services and interventions at microregional level⁷—including the geographical distribution of services and of human resources—build capacity, enhance tasks sharing, foster cooperation among municipalities of the microregion, and build institutional capacity at microregional and/or regional level.

Patient journey mapping is an additional powerful tool to understand the patient's perspective, document the patient's decision points, and identify pain points to improve the overall experience. It is a roadmap that shows all the different steps a patient takes; from the moment they first encounter a health issue to the point when they receive treatment and follow-up care. All significant stages in the patient's experience are documented: for example, initial contact with a health facility or provider to seek advice or make an appointment; medical diagnosis of the patient's condition and recommended course of action; treatment as prescribed by their healthcare team; recovery after treatment, which might include follow-up appointments, medication, or therapy; and long-term care for those conditions that need ongoing care, monitoring, and adjustments to the treatment plan.

Good and easily accessible information systems are critical to ensuring that beneficiaries and their caregivers have access to information and navigation assistance. The creation of a comprehensive information system requires collaboration and commitment across the microregions (or potentially the KSK region) with multiple organizations. It will help with the mapping of the health and social services, as well as serve as a single point of contact for beneficiaries and their families seeking support.

International research and best practices in coordinated health and social care have extensively invested in the formation of multidisciplinary teams⁸ to encourage the practices and procedures that form the basis for integrated care delivery and improved care outcomes (Fraser et al., 2018). A relatively simple measure of co-locating community health and social teams has been found to improve the capacity of teams to collaborate, communicate, and deliver better results.

Finally, tailored care plans for beneficiaries, their families, and caregivers are the most effective way to identify the beneficiary's needs and how to best address them. The use of digital tools can help in the development and regular review of personalized care plans (Pahlevanynejad et al., 2023). The diverse applications of artificial intelligence (AI) models in patient risk stratification and tailored care plans range from analyzing medical records and imaging data to monitoring vital signs and predicting disease progression. For example, the AI tool Eldermark helps identify residents at risk of adverse events thereby assisting caregivers in prioritizing interventions and improving care coordination; or CarePredict detects changes in behavior patterns that might indicate a decline in health or other potential risks. While these AI tools are promising, they require careful validation and integration in clinical workflows to ensure their effectiveness in improving patient outcomes.

CONCLUSIONS

KSK's demographic transition will bring with it new challenges for the health and the social sectors. Despite its relatively young population, the KSK region is expected to have a population of over 65 years old of over 20 percent in 2030 and 27 percent in 2050. As a result, the number of people in need of health and social care services is predicted to rise due to fast population aging and the region's comparatively poor socioeconomic growth in comparison to the rest of Slovakia.

The national legislative framework poses hurdles to the integration of social and health care services with each system having its own legislation. Human and financial resources in these sectors are limited: among the challenges are a shortage of trained professionals, low public spending levels on prevention, relatively low efficiency that leads to one of the highest rates of preventable and treatable deaths, and geographic dispersion of facilities and health professionals.

The distribution of the health and social workforce varies considerably across the KSK districts. Despite the high numbers of medical doctors and nurses in KSK to the rest of Slovakia, for example, most districts have fewer GPs than the Minimum Network requires. Similarly, the availability of social services for people over 65 years shows significant disparities in spatial access, which is likely to create high unmet needs for social care.

The geographical variations in health and social care services are reflected in the coordination index, which also includes demographic and economic developments. Košice IV, Gelnica, and Sobrance districts have the lowest care-coordination index.

Through enhanced coordination and interconnection between the health and social sectors, there is room for improvement in the provision of integrated, person-centered services, notably for older people (over 65 years), disadvantaged people, and people with disabilities. This can be achieved through risk stratification; a mapping of health and social services to review the use of services and interventions at microregional level, build capacity, enhance tasks sharing, foster cooperation among municipalities of the microregion, and build institutional capacity at microregional and/or regional level; a patient journey mapping to improve the patient experience and identify pain points; invest in accessible information systems to serve as a single point of contact for beneficiaries and their families; facilitate the formation of multi-disciplinary teams; and, use tailored care plans for beneficiaries, their families, and caregivers.

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ANNEX 1:

METHOD FOR THE CALCULATION OF THE CARE-COORDINATION INDEX

The care-coordination index considers four dimensions at district level (Table A1):

1. the economic performance;
2. demographic indicators;
3. the social care services capacity; and,
4. the health care services capacity.

TABLE A1: Description of the composition of the care-coordination index

<p>1. The Economic Performance Index</p> $I_{Econ} = D + U_{\%} + Un_{\%} + Un_{\#} + UnLR_{\%} + W_{AVG}$ <p>D —population density of the district (people per km²) U% —percentage of population living in cities and towns in the district Un% —unemployment rate Un# —number of unemployed UnLR% — percentage of long-term unemployed W_{AVG} —average wage</p>	<p>3. The Care index</p> $I_{SocialCare} = RH_{CAP} + DCC_{CAP} + NS + TS$ <p>RH_{CAP} —capacity of retirement homes DCC_{CAP} —capacity of day care centers NS —number of nursing service providers TS —number of transportation service providers (for the elderly)</p>
<p>2. The Demographic Index</p> $I_{Dem} = NG + NM - EconDep_{OLD}$ <p>NG —natural population growth in absolute terms NM —net migration in absolute terms EconDep_{OLD} — economic dependency index for old age</p>	<p>4. The Health Care index</p> $I_{HealthCare} = NGP + NGER$ <p>NGP —number of general practice units NGER —number of geriatric health care providers (units)</p>

Before being included in the care-coordination index, all indicators were normalized so that the highest value in the sample was equal to 1, the lowest was equal to 0, and the rest were modified correspondingly. When the indicator is adversely related to the outcome, the index measures elements such as unemployment and economic performance—the greatest value was regarded a 0, and the minimum value was considered a 1.

All indicators were given equal weights in the economic performance and demographic indexes, while in the social care index, the capacity of elderly homes and day care centers was given a value of 2, the number of nursing services was given a weight of $\frac{3}{4}$, and the number of transportation services was given a weight of $\frac{1}{4}$.

The care-coordination index is the total of the normalized values of the four distinct indexes (the maximum value is 1 and the minimum value is 0).

The latest available year used for the care-coordination index was 2020 or 2021, depending on data availability.

NOTES

- 1 Between October 2019 and October 2020, the World Bank and Banská Bystrica Self-governing Region developed as a joint effort a model of integrated care for older people in the pilot area of the South Gemer functional grouping of municipalities. The model seeks to improve the experience of older people and to offer a financially and institutionally sustainable way of providing care to older people.
- 2 The Strategy of Deinstitutionalizing the System of Social Services and Foster Care was approved by the Government on 30 November 2011. Slovakia pledges with this strategy to support transition from institutional to community-based care.
- 3 The dependency ratio is the number of dependents in a population divided by the number of working-age people. In 2021, the dependency rate for Slovakia was 49.5 compared to 56.3 for the EU countries.
- 4 <https://blogs.worldbank.org/europeandcentralasia/narrowing-economic-disparities-between-slovakias-regions-essential-economic> (16 March 2023).
- 5 The Minimum Network of physicians ensures patient access to health services and is based on the minimal number of physicians required in each of the eight self-governing regions. It currently estimates per person capacity without considering individual health care needs (age and income group, population size). Health insurance companies can contract with more providers if resources are available (Smatana et al., 2016; Mandézák and Lábaj, 2020).
- 6 The care-coordination index has been validated in the 2020 World Bank participative study on “Integrated Elderly Care Model for the South Gemer Functional Grouping of Municipalities”, which was part of the first phase of the CuRI for the Banská Bystrica Self-Governing Region of Slovakia.
- 7 A microregion is a group of municipalities associated or operating as such, for the delivery of services.
- 8 Multidisciplinary teams are composed of health and social care professionals (local social workers, nurses, doctors, therapists, and care navigators) who assess, plan, manage, and coordinate care for the beneficiaries’ needs.

