The Country Health Profile Series

The State of Health in the EU’s Country Health Profiles provide a concise and policy-relevant overview of health and health systems in the EU/European Economic Area. They emphasise the particular characteristics and challenges in each country against a backdrop of cross-country comparisons. The aim is to support policy makers and influencers with a means for mutual learning and voluntary exchange. For the first time since the series began, the 2023 edition of the Country Health Profiles introduces a special section dedicated to mental health.

The profiles are the joint work of the OECD and the European Observatory on Health Systems and Policies, in co-operation with the European Commission. The team is grateful for the valuable comments and suggestions provided by the Health Systems and Policy Monitor network, the OECD Health Committee and the EU Expert Group on Health Systems Performance Assessment (HSPA).

Data and information sources

The data and information in the Country Health Profiles are based mainly on national official statistics provided to Eurostat and the OECD, which were validated to ensure the highest standards of data comparability. The sources and methods underlying these data are available in the Eurostat Database and the OECD health database. Some additional data also come from the Institute for Health Metrics and Evaluation (IHME), the European Centre for Disease Prevention and Control (ECDC), the Health Behaviour in School-Aged Children (HBSC) surveys and the World Health Organization (WHO), as well as other national sources.

The calculated EU averages are weighted averages of the 27 Member States unless otherwise noted. These EU averages do not include Iceland and Norway.

This profile was finalised in September 2023, based on data that were accessible as of the first half of September 2023.

Demographic and socioeconomic context in Slovakia, 2022

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<td>Unemployment rate (%)</td>
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1. Number of children born per woman aged 15-49. 2. Purchasing power parity (PPP) is defined as the rate of currency conversion that equalises the purchasing power of different currencies by eliminating the differences in price levels between countries. 3. Percentage of persons living with less than 60% of median equivalised disposable income. Source: Eurostat Database.

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Health Status

Life expectancy in Slovakia grew rapidly in the decade before the COVID-19 pandemic, but it fell markedly between 2019 and 2021, before rebounding to 77.2 years in 2022 - 3.5 years below the EU average. During the period of 2020-22, excess mortality was high, averaging 20% above the pre-pandemic level. Alongside COVID-19, the main causes of death in 2020 and 2021 were circulatory system diseases and cancer.

Risk Factors

Almost half of all deaths in Slovakia in 2019 were associated with behavioural risk factors, including dietary risks, tobacco smoking, alcohol consumption and low levels of physical activity. Tobacco smoking and obesity rates among adults are higher than the EU averages. As in most EU countries, the prevalence of behavioural risk factors in Slovakia tends to be higher among people with the lowest levels of education and income.

Health System

In 2021, Slovakia spent EUR 1,743 per capita on health (adjusted for differences in purchasing power), which is less than half the EU average of EUR 4,029 and one of the lowest amounts in the EU. As a share of GDP, health spending accounted for 7.8% in 2021 – also far below the EU average of 11.0%. About 80% of health expenditure in 2021 came from public funds – close to the EU average of 81%.

Effectiveness

Slovakia has among the highest mortality rates from preventable and treatable causes in the EU. Substantial room for improvement remains for effective public health policies to reduce premature deaths. While prevention and health promotion are on the policy agenda, financing is still insufficient.

Accessibility

In 2022, about 3% of Slovaks reported some unmet medical care needs, which is above the EU average. Unmet needs increased among the lowest income quintile during the pandemic, mainly due to increased waiting times, while they decreased among the highest quintile. People in the lowest income quintile were four times more likely to report unmet needs than those in the highest quintile in 2022.

Mental Health

About one in seven people in Slovakia were estimated to have a mental health disorder in 2019. Anxiety and depression were the most prevalent mental health disorders, followed by alcohol and drug-use disorders. Policy priorities include strengthening of community services and outpatient mental healthcare to improve accessibility, addressing the low numbers of specialised health workers, and boosting mental health infrastructure investment.
2 Health in Slovakia

Life expectancy in Slovakia dropped sharply during the COVID-19 pandemic

Life expectancy in Slovakia grew more rapidly than the EU average in the decade before the pandemic, but it dropped sharply in 2020 and 2021 before rebounding in 2022 (Figure 1). Life expectancy at birth in Slovakia was 77.2 years in 2022, which was 3.5 years below the EU average of 80.7 years.

Figure 1. Life expectancy in Slovakia was 3.5 years below the EU average in 2022

The gender gap in life expectancy in Slovakia is greater than the EU average. In 2022, Slovak women could expect to live on average 6.9 years longer than men (80.6 years compared to 73.7 years), while the EU average gap is 5.4 years. This largely reflects gender differences in the prevalence of behavioural risk factors, such as smoking and high alcohol consumption (see Section 3).

Cardiovascular diseases and COVID-19 were the leading causes of death in Slovakia in 2021

The increase in life expectancy in the two decades before the pandemic was driven mainly by declining mortality from circulatory system (cardiovascular) diseases – particularly ischaemic heart disease – but the rate increased during the pandemic. Cardiovascular diseases remained the leading cause of death in 2021, accounting for 36 % of all deaths. COVID-19 was the second leading cause, accounting for nearly 20 % of all deaths, followed by cancer. Lung cancer remained the leading cause of cancer death, followed by colorectal cancer (Figure 2).

Excess mortality in Slovakia was among the highest in the EU during the pandemic years

The indicator of excess mortality, defined as the share of all-cause deaths above the average over the five years before the pandemic (2015-19), can provide a more complete picture of the mortality impact of COVID-19. The over 30 000 excess deaths in Slovakia between 2020 and 2022 accounted for almost 20 % higher mortality compared to the pre-pandemic years – a much higher excess mortality rate than that observed in most other EU countries (Figure 3). Excess mortality in Slovakia peaked in 2021 before falling to 10 % above pre-pandemic levels in 2022.

Reported COVID-19 fatalities accounted for over 60 % of the excess deaths in Slovakia in 2020-22. The higher level of excess mortality than COVID-19 deaths suggests some underreporting of COVID-19 deaths, or higher number of deaths.
Slovakia

| 17.8% | Cancers |
| 11.1% | Diabetes |
| 11.1% | Alzheimer’s and other dementias |
| 7.8% | Pneumonia |
| 2.6% | Colorectal |
| 1.4% | Breast |
| 1.0% | Prostate |
| 2.8% | Lung |
| 11.3% | Pancreas |
| 35.9% | Circulatory system |
| 6.6% | Stroke |
| 3.8% | External causes |
| 0.5% | Falls |
| 0.6% | Transport accidents |
| 3.5% | Circulatory system diseases |
| 4.7% | Diseases of the digestive system |
| 19.6% | COVID-19 |

**Figure 2. Circulatory system diseases, COVID-19 and cancer accounted for nearly three quarters of all deaths in Slovakia in 2021**

Note: COPD refers to chronic obstructive pulmonary disease. Source: Eurostat Database (data refer to 2021).

from other causes where COVID-19 may have been a comorbidity factor. Excess mortality between March 2020 and February 2022 was close to the number of deaths of people who tested positive within their last three months of life (Pažitný et al., 2022).

**Slovak women at age 65 can expect to live longer than men, but in worse health**

Like other EU countries, Slovakia has experienced a demographic shift towards an older population over the past two decades, with the proportion of people aged 65 and over rising from 11% of the total population in 2000 to 17% in 2020. This share is projected to increase to 29% by 2050.

In 2020, Slovak women at age 65 could expect to live a further 18.9 years, while men could expect to live a further 14.8 years. However, there is no gender gap in expected healthy life years (defined as disability-free life expectancy), because Slovak women tend to live a smaller proportion of their life after 65 without activity limitations (Figure 4).

According to the SHARE survey, among those aged 65 and over, women reported being afflicted by multiple chronic conditions (34%) more often than men (14%), and being limited in their daily activities (37%) more often than men (18%).

**Figure 3. Excess mortality in Slovakia peaked in 2021**

Note: Excess mortality is defined as the number of deaths from all causes above the average for the previous five years before the COVID-19 pandemic (2015-19).

Source: OECD Health Statistics 2023, based on Eurostat data.
The burden of cancer in Slovakia is high

According to the latest estimates from the Joint Research Centre based on incidence trends from previous years, more than 29 000 new cases of cancer were expected to be diagnosed in Slovakia in 2022. The age-standardised incidence rates for all cancer types were expected to be higher than the EU averages for men, but lower for women (Figure 5). The main cancer sites for men are prostate (23 %), colorectal (16 %) and lung (12 %). Among women, breast cancer is the leading cancer site (27 %), followed by colorectal (13 %) and uterus (10 %).

More than 13 000 people died of cancer in 2021, and Slovakia had one of the highest cancer mortality rates in the EU. In 2021, Slovakia introduced new measures for 2021-25 to its National Oncology Programme of 2018 to reduce incidence of and mortality from cancer, and to improve patients’ quality of life, in line with the Europe’s Beating Cancer Plan (European Commission, 2021).

3 Risk factors

Behavioural and environmental risk factors are implicated in nearly half of all deaths

About half of all deaths in Slovakia in 2019 can be attributed to behavioural risk factors, including dietary risks, tobacco smoking, alcohol consumption and low levels of physical activity (Figure 6). Environmental factors such as air pollution also contribute to a considerable number of deaths, with about 7 % of all deaths attributable to exposure to fine particulate matter (PM$_{2.5}$) and ozone alone. Deaths from air pollution are mainly linked to circulatory diseases, respiratory diseases and cancer.

Dietary risks, including low fruit and vegetable intake and high salt consumption, contributed to 26 % of all Slovak deaths in 2019 – well above the EU average. The proportions related to tobacco consumption (17 %), alcohol consumption (6 %) and lack of physical activity (2 %) equalled their respective EU averages.
Tobacco smoking rates remain high

The high prevalence of smoking among adults and adolescents remains a major public health issue in Slovakia (Figure 7). In 2022, 18 % of 15-year-olds reported smoking cigarettes in the preceding month. Although this proportion has reduced since 2014, it remained above the EU average (17 %). Among adults, 21 % reported daily smoking in 2019 – a higher rate than in most EU countries. A large gender gap exists in smoking: 27 % of Slovak men reported daily smoking in 2019 compared to 15 % of women.

Slovakia introduced new legislation for nicotine control in 2023, banning new nicotine products – including tobacco-free pouches – from sale and use by people under 18. Electronic cigarette and vaping product regulations are under discussion as of mid-2023. In addition, the National Action Plan for Tobacco Control for 2023-30, approved by government in late 2022, targets health literacy about the risks of smoking and use of alternative products, smoking cessation counselling, enforcement of protection of non-smokers and related public health campaigns.

Alcohol consumption among adults is close to the EU average, with lower rates of heavy drinking

Overall alcohol consumption among Slovak adults (10.2 litres of pure alcohol per capita in 2020) was above the EU average (9.8 litres). Although heavy drinking is less common in Slovakia than in most other EU countries, it is much more frequent among men (19 %) than women (5 %).1 Among 15-year-olds, the percentage who reported being drunk more than once was the same as the EU average in 2022 (18 %), and has fallen over the past decade.

Overweight and obesity are becoming a major public health concern

Almost one in five adults (19 %) in Slovakia were obese in 2019 – a rate higher than the EU average (16 %). Since 2014, the obesity rate in Slovakia has increased particularly rapidly among men. Overweight and obesity are also increasing among adolescents: 21 % of 15-year-olds were overweight or obese in 2022 (up from 15 % in 2014) – a rate similar to the EU average.

Poor nutrition and inactivity are key determinants of overweight and obesity. Only 8.5 % of Slovak adults (10 % of women and 7 % of men) reported consuming at least five portions of fruit and vegetables per day in 2019 – a rate lower than the EU average of 12.4 %. Among adolescents, only 34 % reported eating at least one portion of fruit, and only 38 % reported eating at least one vegetable per day in 2022.

Only 30 % of adults (25 % of women and 37 % of men) reported engaging in moderate physical activity for at least 2.5 hours a week in 2019 – a proportion slightly lower than the EU average (33 %).

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1 Heavy drinking is defined as consuming six or more alcoholic drinks on a single occasion for adults.
Socioeconomic inequalities are pronounced for healthy lifestyle habits

Many behavioural risk factors in Slovakia are more common among people with lower education or income levels. The smoking rate was twice as high among people with lower (23%) than higher education levels (11%). The obesity rate is also much higher among people with lower (22%) than higher (12%) education levels, driven at least partly by lower levels of physical activity (Figure 8).

Figure 7. Tobacco consumption and obesity are important public health concerns in Slovakia

Notes: The closer the dot is to the centre, the better the country performs compared to other EU countries. No country is in the white “target area” as there is room for progress in all countries in all areas.
Sources: OECD calculations based on HBSC survey 2022 for adolescents indicators, and EHIS 2019 for adults indicators.

Figure 8. People with lower education levels are more likely to smoke and be obese in Slovakia

Note: Low education is defined as people who have not completed secondary education (ISCED 0-2), whereas high education is defined as people who have completed tertiary education (ISCED 5-8).
Source: Eurostat Database (based on EHIS 2019).

4 The health system

Slovakia provides compulsory health insurance to almost all its population

Slovakia operates a compulsory social health insurance (SHI) system, with three competing health insurance companies (one public and two private) that negotiate contracts with healthcare providers regarding the quality, prices and volumes of healthcare. In 2023, the public insurance company covers 55.5% of the population, and the Ministry of Health is its sole shareholder.

The compulsory SHI system provides nearly universal population coverage. All permanent residents in Slovakia are entitled to SHI coverage, except those with valid health insurance.
coverage in another EU country. Apart from the economically inactive population, whose insurance contributions are paid directly by the state, all other residents are obliged to make monthly advance payments.

The Health Care Surveillance Authority acts as an independent monitoring body for healthcare provision, insurance and purchasing. The Ministry of Health, as a central administrative body, assumes critical regulatory functions by defining the benefits package, managing national health registries and setting minimum quality criteria. In addition, it owns various healthcare facilities, including university hospitals and specialised healthcare centres.

Health spending in Slovakia is relatively low, but 80 % of it is publicly funded

In 2021, Slovakia spent EUR 1 743 per capita on health (adjusted for differences in purchasing power) – less than half the EU average of EUR 4 028 (Figure 9). Health spending as a share of GDP accounted for 7.8 % in 2021, which was far below the EU average of 11 %.

Almost 80 % of health expenditure in 2021 was funded by public budgets (government and compulsory schemes), which is just below the EU average of 81 %. Out-of-pocket (OOP) payments consist mainly of copayments for outpatient drugs, some user fees and direct payments for services not covered by SHI, and represented 19.4 % of health spending in 2021. Voluntary health insurance (VHI) plays a negligible role, accounting for less than 1 % of total health spending in 2021.

Figure 9. Health spending in Slovakia is among the lowest in the EU both per capita and as a share of GDP

![Health spending in Slovakia](image)

Note: The EU average is weighted.
Source: OECD Health Statistics 2023 (data refer to 2021, except Malta (2020)).

Spending on pharmaceuticals absorbs a high share of total health spending

In 2021, Slovakia allocated almost equal proportions of health expenditure to outpatient care (32 %), pharmaceuticals (29 %) and inpatient care (28 %). Smaller shares went to administration, prevention and long-term care (Figure 10). In absolute terms, Slovakia spends less than the EU averages on all main categories of care, and the country’s per capita spending on long-term care and prevention were the lowest in the EU in 2021.

The high share of spending on pharmaceuticals – well above the EU average of 19 % – is due to the low overall level of health spending in Slovakia. At the same time, pharmaceutical prices are aligned with selected EU countries, which is not the case for labour costs that affect other categories of spending. Since 2022, pharmaceutical spending has increased further as a result of new legislation targeting better access to innovative drugs (see Section 5.2).
**Slovakia has high numbers of hospital beds and low occupancy rates, but plans to implement a new hospital network system**

The number of hospital beds in Slovakia has been stable over the past decade, at 5.7 beds per 1 000 population in 2021, which is above the EU average of 4.8 beds per 1 000. Combined with low occupancy rates (66% in Slovakia compared to 73% across the EU just before the pandemic in 2019), this suggests room for efficiency improvements.

Investment in the modernisation of hospitals remains high on the political agenda, with hospital investment close to EUR 1 billion planned as part of Slovakia’s Recovery and Resilience Plan (RRP). The 2022 Update to the Strategic Healthcare Framework for 2014-30 (Ministry of Health, 2022a) also prioritises a reassessment of acute care bed numbers and their structure within the new hospital network classification (see Section 5.3).

**The shortage of health workers in Slovakia is a longstanding concern**

Despite a slight increase in pre-pandemic years, the number of active doctors (3.7 per 1 000 population) in Slovakia remained below the EU average (4.1 per 1 000) in 2021 (Figure 11). The number of active doctors in Slovakia is challenged by ageing and migration issues. The moderately rising number of new medical graduates in recent years has had some impact in increasing the number of doctors, but further increases are not expected (see Section 5.3).

The number of nurses has been stable over the last decade, with 5.7 nurses per 1 000 population in 2021, which is much lower than the 8.5 per 1 000 EU average. The low density of nurses is caused by workforce migration and reduced numbers of new nursing graduates. Both issues are related to a lack of attractiveness of nursing due to low wages, high numbers of overtime hours and low professional recognition. Strikes at the end of 2022 led to a major increase in salaries of health workers, including nurses (see Section 5.3).
5 Performance of the health system

5.1 Effectiveness

Preventable and treatable mortality rates remain higher than in most EU countries

In 2020, Slovak mortality rates from causes deemed to be preventable or treatable were 60% above the EU averages (Figure 12). After a steady decline over the previous decade, preventable mortality rates went up in 2020, reflecting the high COVID-19 mortality rate (see Section 2). The main causes of preventable mortality were ischaemic heart disease (19%), followed by alcohol-related deaths (14%), and lung cancer and COVID-19 (12% each). Apart from COVID-19, these are all closely related to the high prevalence of modifiable health risks in the population (see Section 3).

The mortality rate from treatable causes was over 80% higher than the EU average in 2020 and – in contrast to many other EU countries – there had not been a clear improvement over the previous decade. Together, ischaemic heart disease and colorectal cancer accounted for 43% of mortality from treatable conditions in Slovakia in 2020.

Prevention and health promotion are on the policy agenda, but financing is still insufficient

Slovakia allocated only 1.5% of health expenditure to prevention in 2021 – a low share compared to other EU countries. The Update to the Strategic Health Care Framework for 2014-30 (Ministry of Health, 2022a) stresses the need for greater emphasis on prevention, health promotion and health literacy, but concrete actions remain limited. Progress has been made recently through new regulation of nicotine products (see Section 3) and the newly adopted National Action Plan for Tobacco Control for 2023-30. To promote more healthy lifestyles, the Framework plans to support greater responsibility of citizens for their own health and to introduce tax relief for foods that benefit health – a different approach to supporting healthy diets, after the 2019 proposal to tax sugary and fatty products proved politically unfeasible at that time.
Figure 12. A substantial number of deaths could be avoided in Slovakia through public health, prevention and healthcare interventions

Notes: Preventable mortality is defined as death that can be mainly avoided through public health and primary prevention interventions. Treatable (or amenable) mortality is defined as death that can be mainly avoided through healthcare interventions, including screening and treatment. Both indicators refer to premature mortality (under age 75). The lists attribute half of all deaths from some diseases (e.g. ischaemic heart disease, stroke, diabetes and hypertension) to the preventable mortality list and the other half to treatable causes, so there is no double-counting of the same death. Source: Eurostat Database (data refer to 2020).

Unlike childhood vaccinations, influenza and human papillomavirus vaccination coverage are low

Slovakia managed to maintain its high rate of childhood mandatory vaccination throughout the pandemic: 97 % of 1-year-olds had their third dose of diphtheria, tetanus and pertussis vaccine in 2021. However, the influenza vaccination rate among people aged over 65 (13 % in 2021) remained well below the EU average (51 % in 2021), and Slovakia did not profit from the general trend observed in many EU countries of a significantly increased share of older people vaccinated against influenza during the pandemic years.

The human papillomavirus (HPV) vaccination programme was launched in 2016 for girls aged 12-13, and was extended to boys in 2019. So far, uptake has been weak: only 23 % of girls and 1 % of boys aged 12 had been vaccinated in early 2021, according to estimates (OECD, 2023). This is well below the EU average (59 % of girls in 2020) and far from the EU’s Europe’s Beating Cancer Plan objective of vaccinating at least 90 % of the target population of girls by 2030 (European Commission, 2021). Nevertheless, the low HPV vaccination rate is a recognised concern in Slovakia, and the National Oncology Programme Action Plans for 2021-25 aim to raise awareness by including HPV vaccination information in the curriculum of primary and secondary schools (NOI, 2022).

The introduction of cancer screening programmes was disrupted by the pandemic

Population-based cancer screening programmes started only recently in Slovakia, and their launch...
was heavily affected by the COVID-19 pandemic (OECD, 2023). Introduced in 2019, the breast cancer screening programme was suspended in April-June 2020, while the introduction of the cervical cancer screening programme was postponed to mid-2021. Colorectal cancer screening has been part of regular preventive check-ups by general practitioners (GPs); in September 2021, a new population-based programme added personalised invitations for people who had not previously been screened.

Although opportunistic screening has been available for a long time, programme data include only screening performed by programme-certified healthcare providers. As many screening appointments take place in healthcare centres that do not participate in population-based programmes, self-reported data provide a better picture of screening levels in Slovakia. Based on survey data for screenings over the last two years (Figure 13), Slovakia had a lower breast cancer screening rate in 2019 than the EU average (54 % compared to 66 % across the EU); but a slightly higher rate for cervical screening (62 % compared to 60 %) and a significantly higher rate for colorectal cancer screening (39 % compared to 33 %).

Differences in screening participation based on socioeconomic status are significant in Slovakia, and wider than those across the EU (Figure 13). Women in the highest income quintile or with higher levels of education are over 50 % more likely to participate in breast cancer screening than those with lower income or education levels. Similarly, women with higher education or income levels are more likely to participate in cervical cancer screening.

Slovakia adopted its National Oncology Programme in 2018 and updated it with Action Plans for 2021-25 during the pandemic. To improve participation in cancer screening programmes, additional funding has been allocated to educational programmes and media campaigns, and the Action Plans also explicitly focus on improving screening uptake among marginalised populations (NOI, 2022).

**Figure 13. Participation in cancer screening programmes varies among income groups in Slovakia**

- **Breast screening**: % of women aged 50-69 years
  - Slovakia Total: 53.5%
  - EU Total: 65.9%
  - Low income: 62.1%
  - High income: 59.9%

- **Cervical screening**: % of women aged 20-69 years
  - Slovakia Total: 39.4%
  - EU Total: 53.5%
  - Low income: 59.9%
  - High income: 31.3%

- **Colorectal screening**: % of population aged 50-74 years
  - Slovakia Total: 13.4%
  - EU Total: 33.4%
  - Low income: 13.4%
  - High income: 33.4%

Notes: Low income is defined as the population in the lowest income quintile, whereas high income is defined as the population in the highest income quintile. The proportions refer to people who report having undergone a test in the two years preceding the survey. Source: Eurostat Database (EHIS 2019 survey data).

Large numbers of hospital admissions could be avoided by better management of chronic conditions

Hospital admissions data for chronic conditions that can generally be managed outside hospitals provide insight into access to and effectiveness of outpatient care services. Before the COVID-19 pandemic, avoidable admissions for asthma and chronic obstructive pulmonary disease (COPD) were slightly lower in Slovakia than the EU average, but much higher for diabetes and congestive heart failure (Figure 14).

The marked reduction in hospital admissions for these chronic conditions in Slovakia, as in other EU countries, in 2020 and 2021 should be interpreted with caution and in the context of the disruption caused by COVID-19, which had a severe impact on hospital capacity to provide care for non-COVID-19 patients and modified patients’ healthcare-seeking behaviour. The declines therefore cannot be interpreted as indicative of improved accessibility or quality of primary care.
5.2 Accessibility

The pandemic widened disparities in access to care among income groups

According to EU-SILC survey, 2.8 % of the Slovak population experienced unmet needs for medical care due to excessive costs, distance to travel or waiting times in 2022, which is above the EU average of 2.2 % (Figure 15). Unmet medical care needs increased in 2020 compared to pre-pandemic years, but dropped slightly in 2021 and were almost back to original levels in 2022.

However, disparities between income groups have widened in recent years: while unmet medical care needs increased during the pandemic among those in the lowest income quintile, they decreased among people in the highest quintile. People in the lowest income quintile reported four times higher rates of unmet medical needs (5.4 %) than those in the highest quintile (1.3 %) in 2022, up from only a two-fold difference in 2019.

The main reported reason for increased unmet medical care needs is waiting times. Among people in the lowest income quintile, the proportion reporting unmet needs due to waiting times increased from 2.2 % in 2019 to 3.8 % in 2022, contrasting with a reported reduction among people in the highest quintile. This suggests that wealthier people were able to manage their way through the healthcare system more easily, and that their access to healthcare was not affected by disruption to services during the pandemic.

Figure 15. Slovak people in the lowest income quintile report higher unmet medical care needs than those in the highest quintile

Notes: Data refer to unmet needs for a medical examination or treatment due to costs, distance to travel or waiting times. Caution is required in comparing the data across countries due to some variations in the survey instrument.
Source: Eurostat Database, based on EU-SILC (data refer to 2022, except Norway (2020) and Iceland (2018)).
Slovakia’s benefits package is broad and comprehensive, but access may be hampered for specific groups

The SHI system in Slovakia reaches close to 100 % of the population. Although marginalised communities are generally covered, some may face barriers to accessing care. Before the pandemic, the low levels of healthcare utilisation and worse health outcomes among the Roma population (who account for 8 % of Slovakia’s population) were due to information barriers, discrimination, cultural barriers and affordability issues (Bednarik, Hidas & Machlica, 2019). To address this issue, the Ministry of Health has supported healthcare delivery to these communities since 2017 through the National Healthy Communities Project. Funded by EU grants, this contributes to primary prevention, simplifies access to primary care services for people from socially disadvantaged communities, and facilitates their interaction with specialised healthcare providers.

Slovakia provides a broad and comprehensive benefits package, including payments for some dental care. The share of expenditure covered by SHI is close to or above the EU average for most healthcare goods and services, but not for therapeutic appliances (Figure 16). Recently, pharmaceutical spending has increased further through the adoption of new legislation on innovative pharmaceutical coverage in 2022, aiming to improve access (Box 1).

Figure 16. Public coverage rate was higher than the EU averages for outpatient care, dental care and pharmaceuticals in 2021

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<td>96%</td>
<td>46%</td>
<td>68%</td>
<td>28%</td>
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<td>EU</td>
<td>91%</td>
<td>78%</td>
<td>34%</td>
<td>59%</td>
<td>38%</td>
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Notes: Outpatient medical services mainly refer to services provided by generalists and specialists in the outpatient sector. Pharmaceuticals include prescribed and over-the-counter medicines and medical non-durables. Therapeutic appliances refer to vision products, hearing aids, wheelchairs and other medical devices. The EU average is unweighted.

Box 1. Slovakia is improving access to innovative pharmaceuticals

Limited access to innovative pharmaceuticals is a longstanding concern in Slovakia. In early 2022, only 23 % of new pharmaceuticals registered by the European Medicine Agency in 2017-20 were accessible to Slovak patients – one of the lowest shares across EU countries (Newton, Scott & Troein, 2022).

Measures introduced in 2018 had a limited effect on accessibility, so in 2022 new legislation moved the process of managed entry agreements from the health insurance companies to centralise it in the Ministry of Health, and further increased the cost–effectiveness threshold for reimbursement decisions on pharmaceuticals, easing SHI coverage for new pharmaceuticals. For example, 12 innovative cancer drugs became available between February 2022 and February 2023 (AIFP, 2023). While overall access to innovative pharmaceuticals remained relatively low in Slovakia in mid-2023, increased drug expenditure poses a challenge for sustainable health system financing. Health insurers estimate that pharmaceutical spending will increase by about 10 % in 2023 compared to the budgeted 2 % increase.

Spending on pharmaceuticals is responsible for 35 % of Slovak out-of-pocket payments

In addition to the broad benefits covered, levels of cost sharing in Slovakia are substantial. OOP spending reached 19 % of overall health expenditure in 2021 – above the EU average of 15 % (Figure 17). This mainly comprised payments for pharmaceuticals (35 %) and various user fees for health services and payments for services outside the benefits package. About 12 % of total OOP spending was on dental care. Between 2020 and 2021, OOP spending on inpatient care increased from 15 % to 19 %, and on outpatient care from 1 % to 4 %. These extra payments partly explain the growing income gaps in unmet healthcare needs, as they are often associated with skipping waiting times.2

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2 Extra private payments for health services are more common in Slovakia than across EU countries. In 2022, 9 % of Slovaks (compared to an EU average of 4 %) reported giving an extra payment or a valuable gift to a nurse or a doctor, or making a donation to a hospital (Eurobarometer, 2022).
To reduce the financial burden of pharmaceutical spending, particularly for low-income households, new legislation was adopted in 2022 to exempt vulnerable groups from direct payments for pharmaceutical cost sharing after reaching a quarterly cap, while previously the health insurers reimbursed them retrospectively. A similar change had been introduced for children in 2021.

Regional differences in access to general practitioners persist

The legal requirement of a maximum 25-minute drive time to access a GP was met for virtually all Slovak residents in 2022 (Ministry of Health, 2022b). However, differences persist in the capacity of GPs to treat their patients. The Ministry of Health calculated that 400 GPs for adults and 223 paediatricians were lacking in January 2022 to reach the optimal number of registered patients per physician. Furthermore, the average age of GPs for adults was 57 years in 2022 (59 for general paediatricians), and 41 % were aged 63 and over (48 % for paediatricians), and therefore likely to retire in the coming years. In January 2023, the government approved the General Outpatient Care Strategy to 2030 to mark the beginning of reforms aiming to address current and future shortages and to strengthen primary care (Box 2).

**5.3 Resilience**

The COVID-19 pandemic has proved to be the most significant disruption to health systems in recent decades. It has shed light on the vulnerabilities and challenges in countries’ emergency preparedness strategies and on their ability to provide healthcare to their populations. In response to the enduring effects of the pandemic – as well as other recent crises, such as cost-of-living pressures and the impact of conflicts like the war against Ukraine – countries are implementing policies to mitigate the ongoing impacts on service delivery, invest in health system recovery and resilience, improve critical areas of the health sector, and fortify their preparedness for future shocks.

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3 In this context, health system resilience has been defined as the ability to prepare for, manage (absorb, adapt and transform) and learn from shocks (EU Expert Group on Health Systems Performance Assessments, 2020).
Slovak hospital occupancy rates were among the lowest in the EU in 2021, despite high COVID-19 infection rates

Before the pandemic, the number of hospital beds in Slovakia was higher than the EU average, while the occupancy rate was lower. At the start of the pandemic, Slovakia swiftly implemented a set of interventions to contain the spread of the virus, and simultaneously implemented measures to free up hospital capacity by postponing elective care and reassessing the need for inpatient stays for less severe cases. As a result, hospital discharges dropped by 18% in 2020, and further decreased by 8% in 2021. Occupancy rates also decreased from 66% in 2019 to 57% in 2020, and then went up slightly to 58% in 2021 – a pattern similar to that observed across the EU (Figure 18). Despite the high number of COVID-19 infections in 2021, the overall hospital bed occupancy rate remained low, and was one of the lowest in the EU that year.

**Figure 18. The occupancy rate of acute care beds remained low throughout the pandemic**

![Graph showing hospital beds, discharges, and occupancy rate](image)

Note: The EU average is unweighted. Sources: OECD Health Statistics 2023; Eurostat Database.

**COVID-19-related hospital disruptions aggravated patient backlogs for elective care**

Elective (non-urgent) care activities dropped particularly strongly during the first two years of the pandemic. For example, the volume of hip and knee replacements fell by 20% or more in 2020 and dropped further in 2021 – to less than half pre-pandemic volumes for knee replacements (Figure 19). These disruptions created patient backlogs and contributed to increased waiting times, as illustrated by the rise in unmet medical care needs, especially among people on lower incomes (see Section 5.2).

**Public spending on health in Slovakia increased greatly in the second year of the pandemic**

While public spending on health did not increase in real terms during the first year of the pandemic in Slovakia, it increased by over 12% in 2021 (Figure 20) – a higher growth rate than the EU average of 10%. About half of this increase in 2021 was due to an increase in the state budget for pandemic-related spending and expenditure required to co-finance new investments supported by EU funds. Ministries of Finance and Health routinely conduct health spending reviews to enhance the efficiency of public expenditure.

**Figure 19. Elective surgical activities were substantially disrupted during the pandemic**

![Graph showing hip and knee replacements](image)

Note: The EU average is unweighted. Source: OECD Health Statistics 2023.
Investment in the hospital network is the main investment priority in Slovakia

Slovakia allocated nearly 20% of resources under its RRP to investments to improve health system quality, accessibility and efficiency – one of the largest shares of funds across EU countries (Figure 21). Ambitious reforms and investments worth EUR 1.27 billion aim to strengthen the physical and digital infrastructure of the Slovak healthcare system (Ministry of Finance, 2023).4 The main component of the RRP (close to EUR 1 billion) relates to investments in hospitals (such as buildings and equipment modernisation) to support the hospital network optimisation reform (Box 3). The RRP also focuses on health sector digitalisation and emergency care. Another priority of the Slovak RRP health component explicitly targets mental healthcare (see Section 6), supported by funding of EUR 83 million.

These investments will be complemented by the rollout of EU Cohesion Policy 2021-27 programming, through which Slovakia is set to invest a total of EUR 166 million in its health system. Three quarters of this amount will be co-financed by the EU. EUR 125 million from the European Regional Development Fund will be used for development of the Slovak healthcare infrastructure. Furthermore, EUR 41 million from the European Social Fund Plus has been allocated to finance various measures to improve the accessibility of health services for vulnerable and socially disadvantaged groups.

Slovakia has begun to take steps to address health workforce shortages

Shortages of health workers are a longstanding issue in Slovakia (see Section 4). While the density of doctors has increased over the past decade, the density of nurses has remained unchanged, but the demand for nursing care is increasing. Changes over time in the supply of doctors and nurses are determined by two main factors: the inflow (entry) of new doctors and nurses to the profession, which in Slovakia comes mainly from domestic education and training programmes; and the outflow (exit) of doctors and nurses, which is mainly driven by those who are retiring, leaving the profession before retirement age or leaving the country to seek better job opportunities in other countries.

The number of new medical graduates per 100,000 population in Slovakia has increased over the past decade and remains close to or above the...
The number of nursing graduates per 100,000 population fell steadily between 2010 and 2020 and, despite an increase in 2021, is well below the EU average (Figure 22). This reflects the reduced attractiveness of a career in nursing among young people in Slovakia.

Figure 22. While the number of medical graduates has increased over the past decade, the number of nursing graduates has fallen

Notes: The number of graduates includes both domestic and international students. The EU average is unweighted.
Sources: OECD Health Statistics 2023; Eurostat Database.

Improving working conditions and pay rates is a key factor to attract and retain more nurses, doctors and other skilled health workers. Hospitals doctors and nurses in Slovakia obtained substantial pay rises between 2010 and 2020, although their pay rates remained lower than those in most EU countries at that time, even after adjusting for differences in cost of living (OECD/EU, 2022). Slovak doctors and nurses obtained another substantial pay rise at the end of 2022, after hospital-employed doctors threatened mass resignations. The average wages of doctors in 2023 exceeded those in Czechia – the main destination for Slovak doctors working abroad – while the average wages of Slovak nurses remained slightly below those in Czechia (Smatana, 2022). These pay rises are putting upward pressures on health budgets. Apart from the pay differential, reported reasons for physicians to work abroad are poor working and specialty training conditions, and excessive overtime – issues that have not yet been addressed. For Slovak nurses, professional recognition – especially in relation to physicians – is reported as an important reason for leaving the profession.

Reducing the risks of other public health threats: Slovakia’s preparedness to antimicrobial resistance

Antimicrobial resistance (AMR) is a major public health concern in the EU, with estimates of about 35,000 deaths per year in the EU/European Union.
Economic Area due to antibiotic-resistant infections (ECDC, 2022), and healthcare-associated costs of around EUR 1.1 billion per year (OECD/ECDC, 2019). Because antibiotic overprescription and overuse in humans are major contributors to the development of antibiotic-resistant bacteria, antibiotic consumption data are a useful tool to evaluate the risk of AMR and the efficacy of programmes to promote their appropriate use.

The Public Health Authority in Slovakia is responsible for monitoring AMR in humans since 2001, and co-operates with the veterinary service that monitors AMR in animals. An expert AMR committee was set up in the Ministry of Health in 2009, and was tasked to prepare the National Action Plan on AMR for 2019-21, approved in 2018.

Overall consumption of defined daily doses (DDDs) of antibiotics per 1 000 population in Slovakia was just above the EU average in 2021. However, the share of antibiotics that should only be used for a specific, limited number of indications (59 %) was considerably higher than the EU average (40 %) (Figure 23).

Figure 23. Slovakia’s consumption of antibiotics was slightly above the EU average in 2021

Notes: WHO classification of antibiotics (Access, Watch and Reserve – AWaRe). Access: first- and second-choice antibiotics that should be widely available in all countries; Watch: antibiotics that only should be used for a specific, limited number of indications; Reserve: last-resort antibiotics for cases where other antibiotics have failed or for infections of multidrug-resistant bacteria; Unclassified: antibiotics that are not yet classified. Sources: ECDC, WHO Regional Office for Europe (data refer to 2021).

6 Spotlight on mental health

Although there are significant gaps in information about the prevalence of mental health issues in Slovakia, as in other EU countries, available evidence suggests that several hundred thousand people are affected. The economic costs of mental ill health in Slovakia are substantial, with direct and indirect costs estimated at 2.6 % of GDP or about EUR 2 billion in 2015 (OECD/EU, 2018).

According to estimates from the Institute for Health Metrics and Evaluation (IHME), one in seven Slovaks had a mental health issue in 2019, which is equivalent to about 760 000 people. The proportion of the population with a mental health issue (14.1 %) was lower than the EU average (16.7 %). The most common mental disorders in Slovakia are anxiety disorders (estimated to affect 4.0 % of the population), depressive disorders (3.6 %), and alcohol and drug-use disorders (3.5 %) (Figure 24). While women in Slovakia are more prone to anxiety, depressive and eating disorders, harmful use of alcohol and psychoactive substances is more common among men (Grajcarová, 2020).

Depression is reported more often by women and people in the lowest income group

Data from the European Health Interview Survey (EHIS) in 2019 show that over 4 % of Slovak adults reported experiencing depression before the pandemic. Depression was reported more often by women (5.6 %) than men (3.0 %). Women and men in the lowest income quintile were at least four times more likely to report depression than those in the highest quintile (Figure 25).

Figure 24. About one in seven people in Slovakia had a mental health issue before the pandemic

Source: IHME, 2020 (data refer to 2019)
The links between low income and poor mental health persisted through the COVID-19 pandemic. Survey data collected during 2020-22 show that people in precarious financial circumstances were at heightened risk of depression. According to Eurofound survey data, nearly 60% of people in Slovakia living in households that reported financial difficulties were at risk of depression during the pandemic, compared to 33% of those who did not report financial difficulties (Eurofound, 2022) – proportions close to the EU averages.

Suicide rates have decreased in Slovakia over the past decade

While suicidal behaviours are affected by complex social and cultural factors, mental health problems increase the risk of suicide. Progress has been achieved in reducing mortality rates from suicide in Slovakia, particularly among men, and they are now lower than the EU averages (Figure 26). While there was some concern that suicide rates would increase during the pandemic, they remained at the same levels in 2020.

Access to mental health services in Slovakia is constrained by a lack of trained workers

Slovakia’s mental health services are mainly provided in hospitals and primary care settings. While the country introduced legislation to integrate more mental health services into primary care in the early 2000s, current service delivery still relies on inpatient care and outpatient departments in hospitals.

Before the pandemic, effective access to mental health services was constrained by insufficient funding and a lack of trained workforce, as well as low mental health literacy and stigma. The low number of specialised physicians (6 psychiatrists per 100,000 population compared to the EU average of 20 per 100,000 in 2018) limits access to mental healthcare and creates long waiting times, including for acute patients (Grajcarová, 2020). Psychiatrists also report not having enough time in consultations with patients. The issue is especially pronounced with psychiatrists for children, whose availability in some regions was close to zero in 2018.

Slovakia’s Recovery and Resilience Plan targets mental health services strengthening

Strengthening mental health services is one of the three health sector priorities of Slovakia’s RRP, funded by EUR 83 million, which serves as the main Slovak mental healthcare strategy document, drawing on the Ministry of Finance’s analytical study of the sector (Grajcarová, 2020). The aim of the RRP is to strengthen community and outpatient mental health services, which will support the process of deinstitutionalisation of mental healthcare. Changes to psychiatrists’ education and training curriculums are also planned to improve the attractiveness of the profession – especially for those specialising in childhood disorders – along with investment in mental healthcare infrastructure.

Efforts to enhance the use of digital tools in mental healthcare facilities – for instance, by establishing a network between service providers and digitalising psychotherapy services – may also improve access to services and care quality.
7 Key findings

- Life expectancy in Slovakia grew more rapidly than the EU average in the decade before the pandemic but it fell by more than half a year between 2019 and 2022. Cardiovascular diseases, COVID-19 and cancer were the leading causes of death in Slovakia in 2021.

- Nearly half of all deaths in Slovakia in 2019 could be attributed to behavioural risk factors. Dietary risks and tobacco smoking are the two main risk factors contributing to mortality. High smoking prevalence among adults and adolescents remains a public health concern, especially among those with lower education levels. The adult obesity rate is higher than the EU average, and poor nutrition and physical inactivity contribute to this growing risk factor.

- Health spending in Slovakia accounted for 7.8 % of GDP in 2021 – far below the EU average of 11.0 %. About 80 % of health spending is publicly financed, which is close to the EU average. Out-of-pocket spending accounted for 19 % of overall health expenditure, a higher share than the EU average of 15 %, as private health insurance plays a very minor role. Despite a protective cap, a large part of out-of-pocket spending is on pharmaceuticals.

- Slovakia provides a broad benefits package, but unmet medical care needs are slightly higher than the EU average – mainly due to waiting times, which disproportionately affect people in lower income groups.

- Mortality rates from preventable and treatable causes were among the highest in the EU in 2020. After a steady decline over the past decade, high COVID-19 mortality drove up the preventable mortality rate, and the treatable mortality rate was over 80 % higher than the EU average. While prevention and health promotion are on the policy agenda, investment remains low.

- The COVID-19 pandemic disrupted the introduction of cancer screening programmes and challenged provision of elective care. There was a sharp reduction in surgical interventions such as hip and knee replacements in 2020 and 2021, and no evidence shows any meaningful reduction in the backlog of patients waiting for elective surgery in 2021.

- The number of hospital beds in Slovakia is above the EU average, while the bed occupancy rate is relatively low, suggesting room for efficiency improvements. Investment in modernisation of hospitals is the main priority for health investment from the Recovery and Resilience Plan. A hospital network reform aims to reassess the need for acute care beds to improve efficiency and quality of care.

- The numbers of physicians and nurses per 1 000 population are lower in Slovakia than the EU averages, and shortages of health workers are a longstanding concern. The average age of general practitioners is 57, and 41 % are beyond the standard retirement age. The recent pay increase aimed to eliminate health workers’ pay differentials with neighbouring countries, but it did not address other important aspects of difficult working conditions. Increasing the attractiveness of the nursing profession and staff retention are key to addressing current shortages.

- The limited access to innovative pharmaceuticals, especially for cancer treatment, was addressed by legislative changes in 2022, which led to a greater number of new pharmaceuticals being reimbursed. One of the consequences is increased pharmaceutical expenditure and additional pressure on public budgets.

- One in seven Slovaks had a mental health issue in 2019. Progress has been achieved over the past decade in reducing mortality rates from suicide, particularly among men. Accessibility of mental health services is limited, mainly due to insufficient numbers of trained specialised health workers, low levels of financing and stigma. To improve accessibility, funding has been prioritised to strengthen community services and outpatient care for mental health.
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The 2023 edition of the Country Health Profiles provides a synthesis of various critical aspects, including:

- the current state of health within the country;
- health determinants, with a specific focus on behavioural risk factors;
- the structure and organisation of the health system;
- the effectiveness, accessibility and resilience of the health system;
- For the first time in the series, an account of the state of mental health and related services within the country.

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