

SLOVAK REPUBLIC

Country Cancer Profile

2025



The Country Cancer Profile Series

The European Cancer Inequalities Registry is a flagship initiative of Europe's Beating Cancer Plan. It provides sound and reliable data on cancer prevention and care to identify trends, disparities and inequalities between Member States, regions and population groups. The Country Cancer Profiles identify strengths, challenges and specific areas of action for each of the 27 EU Member States, Iceland and Norway, to guide investment and interventions at the EU, national and regional levels under Europe's Beating Cancer Plan. The European Cancer Inequalities Registry also supports Flagship 1 of the Zero Pollution Action Plan. The Profiles are the work of the OECD in co-operation with the European Commission. The team is grateful for the valuable inputs received from national experts and comments provided by the OECD Health Committee and the EU Thematic Working Group on Cancer Inequality Registry.

Data and information sources

The data and information in the Country Cancer 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.

Additional data and information also come from the European Commission's Joint Research Centre (EC-JRC), the EU statistics on income and living conditions (EU-SILC) Survey, the World Health Organization (WHO), the International Agency for Research on Cancer (IARC), the International Atomic Energy Agency (IAEA), the European Society for Paediatric Oncology (SIOPE), the European Union Agency for Fundamental Rights (FRA LGBTIQ), the Health Behaviour in School-aged Children (HBSC) survey as well as from the 2023 Country Health and Cancer Profiles, and other national sources (independent of private or commercial interests). The calculated EU averages are weighted averages of the 27 Member States unless otherwise noted. These EU averages do not include Iceland and Norway. Mortality and incidence rates are age-standardised to the European standard population adopted by Eurostat in 2013.

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.

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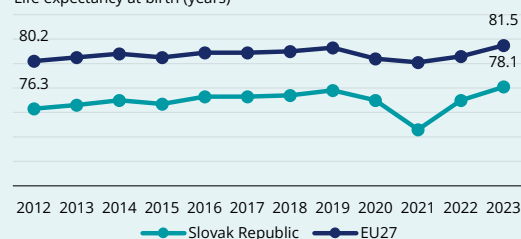
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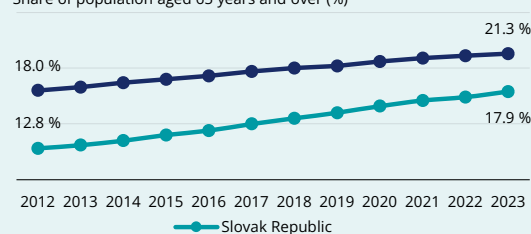
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Key health system and demographic statistics

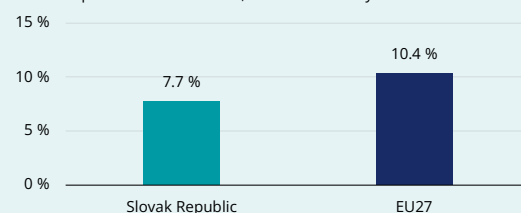
Life expectancy at birth (years)



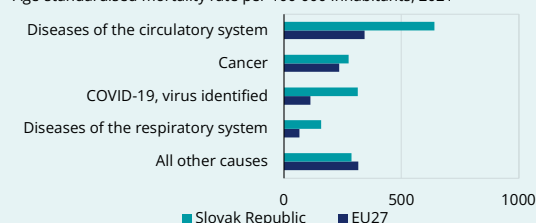
Share of population aged 65 years and over (%)



Health expenditure as % of GDP, 2022 or nearest year



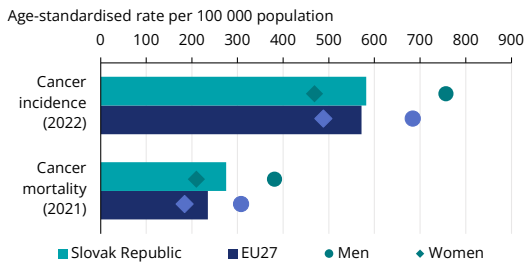
Age-standardised mortality rate per 100 000 inhabitants, 2021



Source: Eurostat Database.

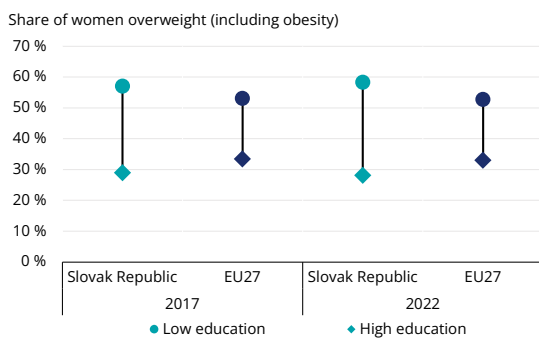
1. Highlights

Cancer in the Slovak Republic



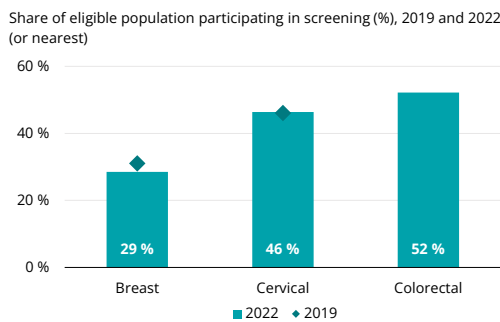
Estimated cancer incidence in the Slovak Republic is higher than the average across the EU, especially among men. Mortality rates are among the highest in the EU, although large reductions were seen in 2011-21. A key area of focus is improving cancer data infrastructure and monitoring, as the National Cancer Registry only has information until 2014, and no screening registries are in place.

Risk factors and prevention policies



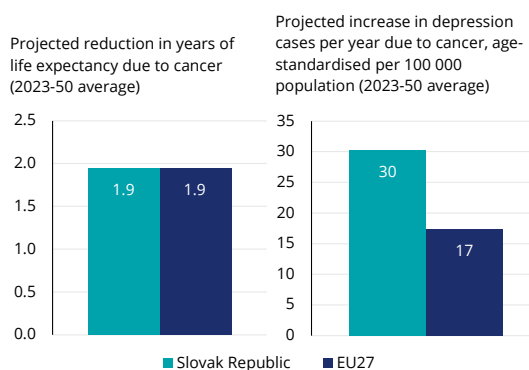
The Slovak Republic performs among the bottom third of EU countries on most cancer risk factors, including overweight, low physical activity, low fruit and vegetable consumption, air pollution and human papillomavirus (HPV) vaccination. Socio-economic gaps in overweight are also particularly large, with women with low education having rates that are double those of women with high education. However, efforts are under way to address these challenges, including the National Action Plan for Tobacco Control for 2023-30 and a new tax on sweetened beverages planned for 2025. Target groups for HPV vaccination have recently been expanded, while multistakeholder efforts aim to increase awareness.

Early detection



Population-based screening programmes are relatively new in the Slovak Republic: the breast cancer programme began in 2019 and cervical and colorectal programmes in 2021. The country's certified mammography facilities undergo regular audits, have access to multidisciplinary teams for patient follow-up, and provide data for quality monitoring, although many mammograms still take place outside these settings. Cervical cancer screening is provided through cytology but work to introduce HPV testing is ongoing. Colorectal cancer screening rates are high relative to the other screening programmes, but proper follow-up guidelines for positive faecal tests and quality monitoring are needed.

Cancer care performance



The Slovak Republic has a physician supply slightly above the EU average, but a nursing supply that is notably lower. Legislative changes introduced in 2022 are improving access to innovative oncology medicine. Efforts are under way to have the National Cancer Institute accredited as the country's comprehensive cancer centre, alongside strengthening the oncology care network and standardising patient care pathways. Initiatives to improve patient quality of life – including survivorship planning, fertility preservation and investments in palliative care – are addressing current gaps. Between 2023-50, cancer is expected to lead to more cases of depression in the Slovak Republic but to reduce life expectancy by less than the EU average.

2. Cancer in the Slovak Republic

The Slovak Republic's estimated cancer incidence rates are higher among men and lower among women than the EU averages

Cancer incidence rates in the Slovak Republic are higher than the EU averages, driven by high incidence rates among men. According to the European Cancer Information System (ECIS) of the Joint Research Centre based on incidence trends from pre-pandemic years, an estimated 757 age-standardised cases per 100 000 men were expected in 2022 compared to 684 per 100 000 across the EU (Figure 1). In contrast, estimated incidence among women is somewhat lower, at 469 cases per 100 000 women compared to 488 per 100 000 across the EU. At 61%, the Slovak Republic had the third largest gender gap in estimated age-standardised cancer incidence in 2022 among EU+2 countries¹.

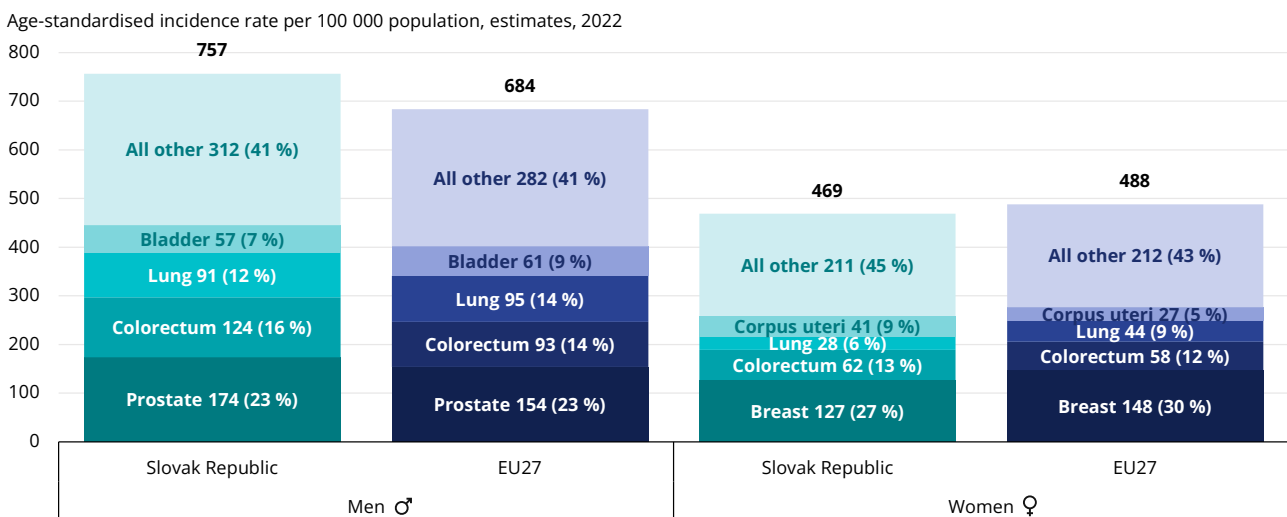
In the Slovak Republic (as in the EU), prostate cancer is responsible for the highest estimated incidence among men at 23% of cases, or 174 per 100 000 men in the country. While breast cancer is the leading cause of cancer among Slovak women,

it accounts for 27% of all cancers among women compared to the 30% EU average. For both genders, while lung cancer² represents a slightly lower share of all estimated cancers in the Slovak Republic than across the EU, colorectal cancer incidence is somewhat higher. Among women, uterine cancer incidence represents a substantially larger share in the Slovak Republic (9%) than across the EU (5%).

There are regional differences in incidence, as breast cancer incidence rates are about 30% higher in the five districts of the capital region, Bratislava, on average than in the country as a whole (Berta et al., 2024). Analysis undertaken by IZA, the Institute for Healthcare Analysis in the Slovak Republic, found that higher-income districts have higher incidence rates of breast cancer and melanoma, while districts with lower median incomes have higher incidence rates of stomach cancer.

Looking forward, ECIS estimates that cancer cases in the Slovak Republic will increase by 25% between 2022 and 2040.

Figure 1. In both the Slovak Republic and the EU, prostate cancer among men and breast cancer among women are responsible for the highest cancer incidence rates



Notes: 2022 figures are estimates based on incidence trends from previous years, and may differ from observed rates in more recent years. Includes all cancer sites except non-melanoma skin cancer. Corpus uteri does not include cancer of the cervix. Source: European Cancer Information System (ECIS). From <https://ecis.jrc.ec.europa.eu>, accessed on 10 March 2024. © European Union, 2024. The incidence percentage breakdown was re-computed based on age-standardised incidence rates and as such differs from the percentage breakdown of absolute numbers shown on the ECIS website.

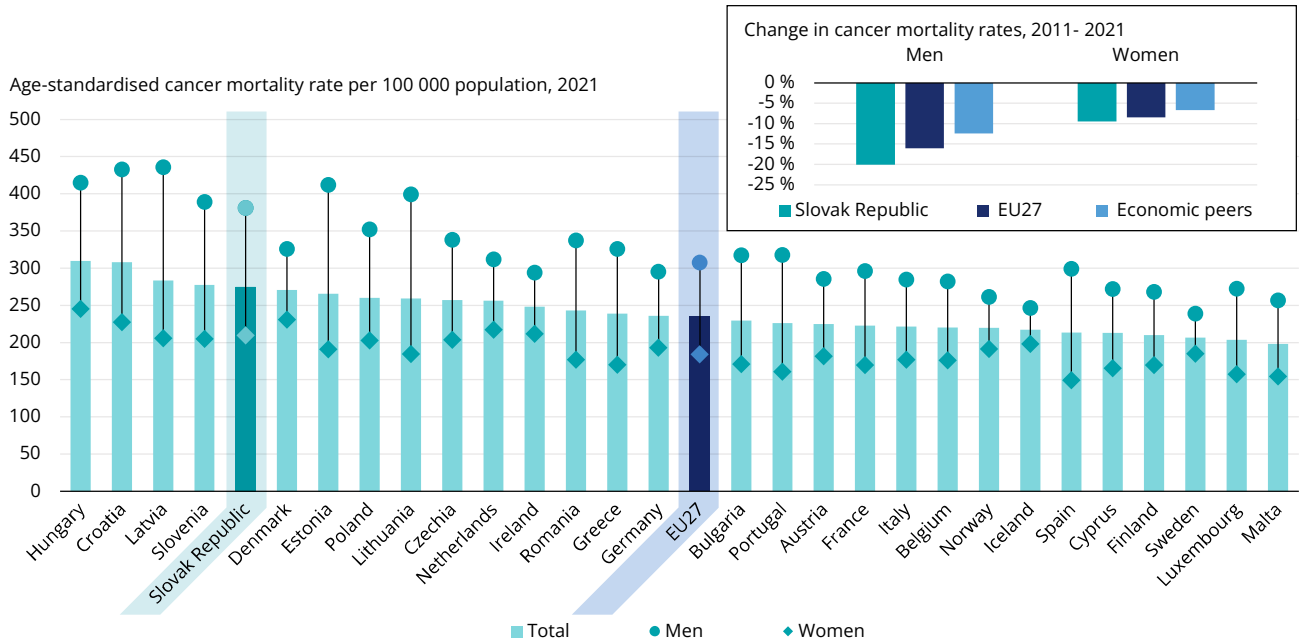
1 EU+2 countries include 27 EU Member States (EU27), plus Iceland and Norway.
 2 Lung cancer also refers to trachea and bronchus cancers.

The Slovak Republic has among the highest cancer mortality rates in the EU

The age-standardised mortality rate from cancer in the Slovak Republic was one of the highest among EU+2 countries, at 275 per 100 000 people. Only Hungary, Croatia, Latvia and Slovenia had higher mortality rates in 2021 (Figure 2). The gender gap was also higher, at 82%, than the EU average gap (67%).

There were large reductions in cancer mortality rates in the Slovak Republic in the decade leading to 2021, at 20% among men and 10% among women. These declines are somewhat higher than those seen across the EU, and substantially higher than those among the country’s economic peers (12% among men and 7% among women).³ Mortality has decreased across all regions in the country, although the largest decline was in the Bratislava region (by 13%).

Figure 2. The Slovak Republic has seen a faster reduction in cancer mortality rates among men and women than the average among its economic peers



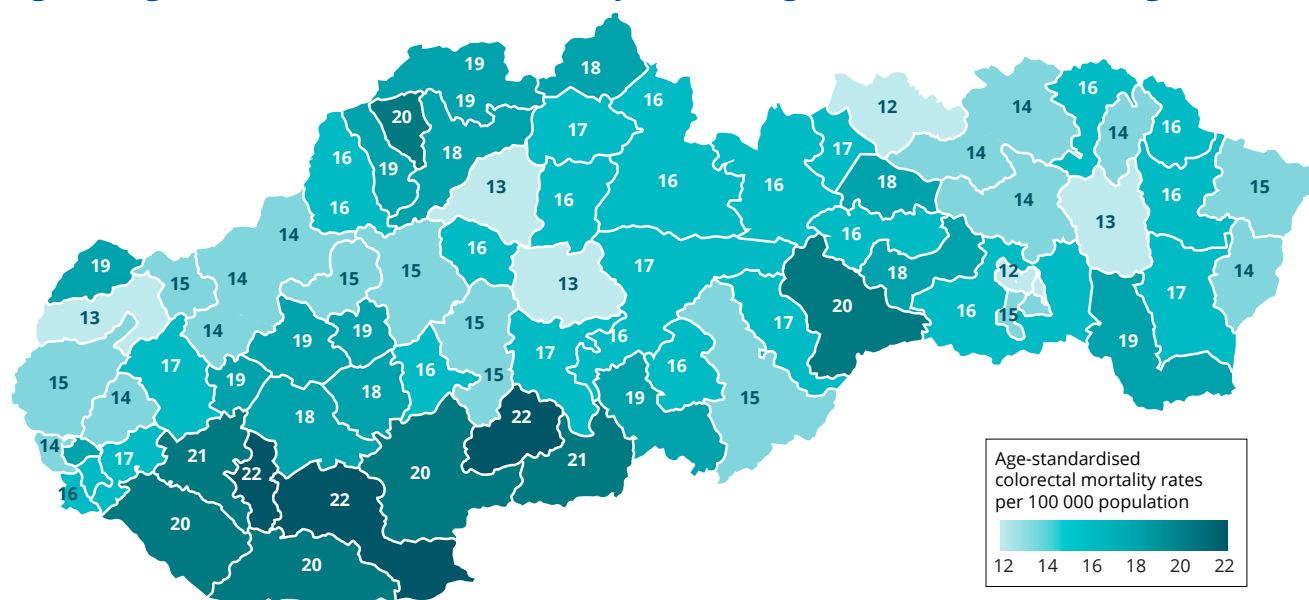
Note: Economic peers are defined as tercile clusters based on 2022 GDP per capita in purchasing power standard terms. Economic peers for SK are BG, EE, EL, HR, HU, LV, PL, PT and RO. Source: Eurostat Database.

Mortality rates are relatively high for cancers detectable by traditional screening programmes

The Slovak Republic has some of the highest mortality rates among EU+2 countries for breast, cervical and colorectal cancers, highlighting the importance of improved screening and early detection programmes (See Section 4). However, the country performs in the top half of countries on lung cancer mortality (due to particularly low rates among Slovak women), as well as on liver cancer.

Regional differences in mortality are observed. For example, an analysis by IZA of age-standardised cancer mortality rates between 2015-22 among those aged 15-64 found higher mortality rates in the southern part of the Slovak Republic. Similarly, mortality rates from colorectal cancer were higher in the southwestern regions of the country, also known as “the Danubian Lowland” (Figure 3). This aligns with incidence patterns, where rates in the southwestern part of the country are consistently more than 20% higher than the national average and 30% higher than in the Bratislava region.

³ Economic peers are defined as tercile clusters based on 2022 GDP per capita in purchasing power standard terms. Economic peers for SK are BG, EE, EL, HR, HU, LV, PL, PT and RO.

Figure 3: Age-standardised colorectal mortality rates are higher in the southwestern regions

Note: Based on age-standardisation to the world population.
Source: Adapted from IZA, Data refer to 2015-22.

The Slovak Republic has high rates of avoidable mortality from breast and colorectal cancer

At 15 deaths per 100 000 women in the Slovak Republic, avoidable mortality⁴ from lung cancer (mostly preventable) in 2021 was 28% lower than the rate in the EU on average (21 deaths per 100 000). However, rates among women in the Slovak Republic increased at a faster rate since 2011 (9%) than the EU average (Figure 4). In contrast, at 44 deaths per 100 000 among Slovak men, lung cancer mortality was similar to the EU average in 2021 (44 deaths per 100 000), but the rate had decreased faster (by 37%) than the rate across the EU since 2011. The concerning trend in lung cancer mortality among women relates to the fact that smoking rates among women increased in the decade to 2019, becoming higher than the EU average. Public health efforts to reduce smoking rates are critical (see Section 3).

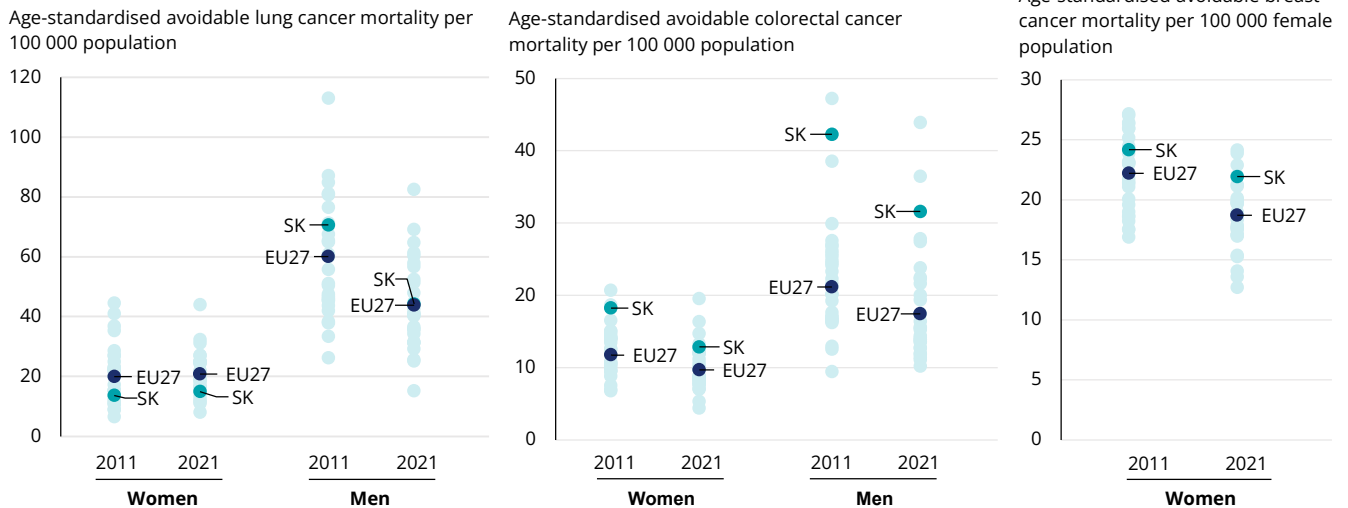
At 22 deaths per 100 000, women in the Slovak Republic have a 17% higher rate of avoidable mortality from breast cancer (mostly treatable) than the EU average. This has decreased by 9% since 2011, a slower rate than the average decrease of 16% across the EU.

As with incidence, colorectal cancer (mostly treatable) is also a major cause of avoidable mortality in the Slovak Republic, which has the third highest rate among men (32 deaths per 100 000) and the fifth highest rate among women (13 deaths per 100 000) across the EU. However, for both sexes, rates of colorectal cancer mortality decreased faster than the EU average between 2011 and 2021.

For both breast and colorectal cancer, the higher mortality rates than the EU averages indicate that continued efforts to improve population-based screening and effective healthcare treatments are needed (see Section 5.1).

⁴ Avoidable mortality includes both preventable deaths that can be avoided through effective public health and prevention interventions, and treatable deaths that can be avoided through timely and effective healthcare interventions.

Figure 4. Avoidable lung cancer mortality rates for men in the Slovak Republic have decreased rapidly to converge with the EU average, while those for women are growing



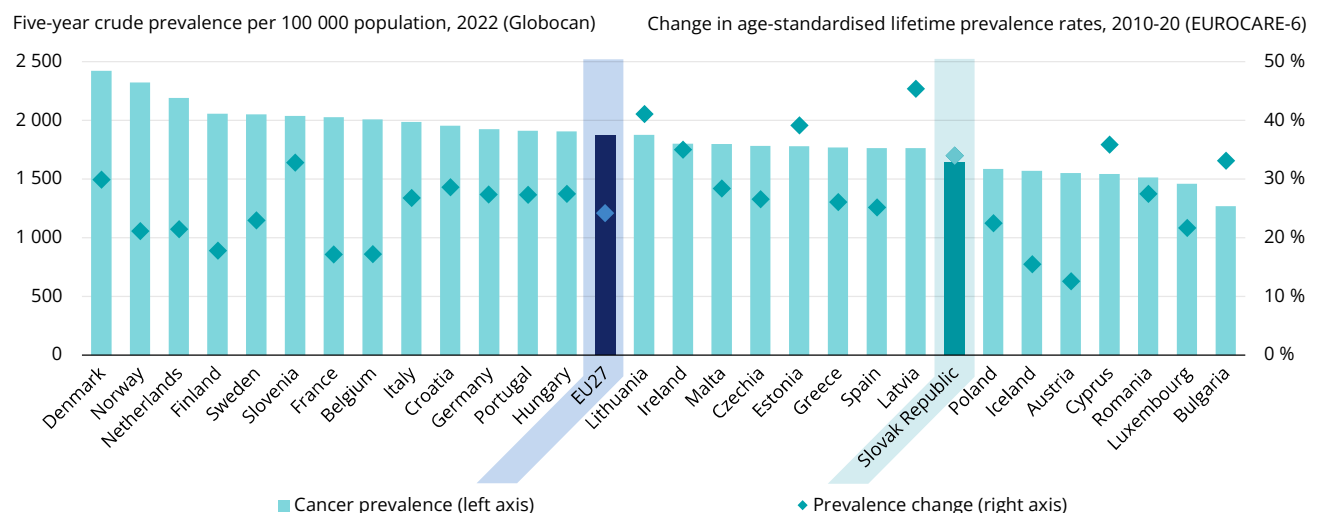
Note: Avoidable mortality figures relate to deaths of people under 75 years of age. Source: Eurostat Database. Data refer to 2021.

Prevalence of cancer increased by 34% in the Slovak Republic between 2010 and 2020

The Slovak Republic had a five-year prevalence⁵ of 1 642 cancer cases per 100 000 population (lower than the 1 876 cases per 100 000 across the EU in 2022), driven by the higher cancer mortality rates in the country (Figure 5). However, between 2010 and 2020, age-standardised lifetime cancer prevalence in the country increased by 34% compared to a 24% increase across the EU.

This is the sixth highest rate of increase among EU+2 countries during this period. This increased prevalence is likely due to a combination of higher numbers of cancer diagnoses and reductions in mortality rates. It also points to the importance of the Slovak Republic adjusting rapidly to the changing nature of cancer in the country. As people are living longer after a cancer diagnosis, much work remains to be done to help meet the growing demands for care and services for people with a history of cancer (see Section 5.4).

Figure 5. While cancer prevalence in the Slovak Republic is lower than the EU average, it is rising more quickly



Sources: 2024 IARC Globocan database; 2024 EUROCARE-6 study (De Angelis et al., 2024).

⁵ Cancer prevalence refers to the proportion of the population who have been diagnosed with cancer and are still alive, including those currently undergoing treatment for cancer and those who have completed treatment. Five-year cancer prevalence includes people who have been diagnosed within the previous five years, while lifetime prevalence considers those who have ever received a cancer diagnosis.

The Slovak Republic has a comprehensive National Oncology Programme, but a lack of timely, complete data makes it challenging to monitor cancer control efforts

The main goals of the Slovak Republic’s National Oncology Programme (NOP), adopted in 2018, are to reduce cancer incidence and mortality, and to improve the quality of life of cancer patients. The Programme was designed to align with EU efforts to ensure comprehensive cancer care and support throughout the cancer trajectory (Box 1).

The Ministry of Health, Slovak Oncology Society, National Oncology Institute (NOI), and National Centre for Health Information collaborated to develop implementation plans for the NOP via updated Action Plans for 2021-25. These are divided into five sections: primary prevention; secondary prevention; diagnostics, treatment and follow-up care; research, development and education; and health data and information, with the NOI taking an active role in co-ordination and implementation. This implementation, however, was significantly delayed by the COVID-19 pandemic: rollout of national screening programmes for cervical and colorectal cancer was delayed to 2021, development of the national biobank at the National Cancer

Institute (NCI)⁶ put on hold, and palliative care activities modified. Work is under way to update the NOP for the years ahead, with a new structure wherein each major initiative will have its own leadership, time schedule and board of directors.

The Slovak Republic’s Cancer Registry, managed by the National Institute of Health Statistics, covers the full population. It includes or can be linked to data on incidence, stage, treatment, survival, and population mortality. Critically, information reporting suffers from major delays: the latest available data are from 2014. Efforts are being made by the Institute to use the wide array of data at its disposal – including health insurance reimbursement, hospital and pharmacy records – to assist in the process of populating the Cancer Registry both retrospectively from 2014 and going forward. In addition to challenges with the Cancer Registry, data on screening are currently incomplete, do not cover the full realm of screenings performed and are not linked to the Registry (NOI & NCI, 2023).

Box 1. The Slovak Republic’s National Oncology Programme aligns fairly well with Europe’s Beating Cancer Plan

An examination of the Slovak Republic’s NOP shows a high degree of alignment with Europe’s Beating Cancer Plan in three of its pillars (prevention, early detection, and diagnosis and treatment) and in one of its transversal themes (Table 1). The NOP’s updated Action Plans for 2021-25 include a focus on reducing the main risk factors for cancer; raising awareness, quality and monitoring of screening programmes; initiatives in areas such as workforce to ensure that 90% of patients having access to care at high-quality cancer centres; and support for clinical, translational and public health research in the oncology space. While they also discuss some priorities with regards to patient quality of life, paediatric cancer and inequalities, these are not main focus areas of the Action Plans.

Table 1. The National Oncology Programme aligns fairly well with Europe’s Beating Cancer Plan

Pillars of EBCP				Transversal themes of EBCP		
Prevention	Early Detection	Diagnosis and treatment	Quality of life	Cancer inequalities	Paediatric cancer	Research and innovation
●	●	●	●	●	●	●

Notes: EBCP = Europe’s Beating Cancer Plan. Blue indicates that the National Oncology Programme includes a specific section on the topic; orange indicates that the topic is covered in one of the Programme’s sections without being the only focus; and pink indicates that this topic is not covered in the Programme.

Source: Adapted from “Study on mapping and evaluating the implementation of Europe’s Beating Cancer Plan” (not yet published).

6 The NCI is a specialised hospital facility providing comprehensive cancer care. The NOI operates within the NCI and its mission is to serve as a clinical research, academic and educational platform to implement activities for the National Oncology Programme.

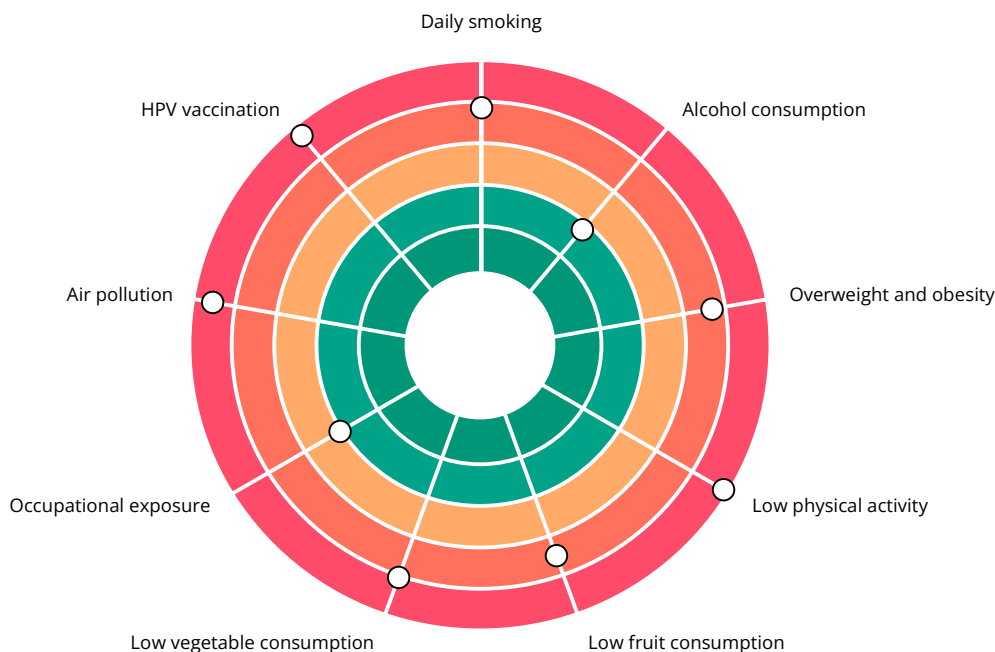
3. Risk factors and prevention policies

The Slovak Republic has room for improvement across most cancer risk factors

The Slovak Republic performs among the bottom third of EU+2 countries on most cancer risk factors

(Figure 6), including overweight, low physical activity, low fruit and vegetable consumption, air pollution and human papillomavirus (HPV) vaccination rates.

Figure 6. While performing slightly better than average on alcohol consumption and occupational exposure, the Slovak Republic performs poorly on other cancer risk factors



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. Air pollution is measured as particulate matter with a diameter less than 2.5 micrometres (PM_{2.5})

Sources: OECD calculations based on 2022 EU-SILC Survey for overweight, obesity, physical activity, fruit and vegetable consumption (in adults); Eurofound Survey for occupational exposure; OECD Health Statistics for smoking, alcohol consumption (in adults) and air pollution; and WHO for HPV vaccination (programme coverage among girls).

In 2021, the Slovak Republic spent one of the lowest shares of total health expenditure on prevention⁷ (2%) among EU countries (where the average is 6%). The main policy guidelines covering prevention of cancer risk factors stem from the National Health Promotion Programme for 2014-30, for which the government approved an update in 2022. The update prioritises prevention and health literacy, with plans to help the Slovak population take greater responsibility for their own health. This is important, as the 2019-21 Health Literacy Survey showed that 59% of the population was deemed to have insufficient levels of health

literacy, which is higher than the 46% average among the 17 countries participating in the Survey. The Slovak Republic had one of the lowest scores on ability to judge whether information about unhealthy habits and risk factors is reliable, with 26% of respondents finding this challenging (HLS19 Consortium of the WHO Action Network M-POHL, 2021).

⁷ Prevention expenditures as reported in health accounts should include activities outside of national programmes (e.g. opportunistic cancer screening or counselling for smoking cessation during a routine physician contact), however in practice countries may have difficulty in identifying prevention spending outside of such programmes.

The new National Action Plan for Tobacco Control aims to address persistently high smoking rates

The Slovak Republic is one of only a few EU+2 countries where daily smoking rates among the adult population have not decreased substantially in the last decades, fluctuating from 22% in 2003 to 20% in 2009, and back up to 21% in 2019. Furthermore, according to the European Health Interview Survey, the gap in smoking rates by socio-economic status in absolute terms was the third highest in the EU, at 13 percentage points between those with lower and higher education levels.

In 2022, legislation was passed prohibiting the sale and consumption of nicotine pouches, e-cigarettes, and other similar “novelty” products – including those without tobacco – for people aged under 18. Furthermore, the country’s National Action Plan for Tobacco Control for 2023-30 includes prevention of smoking among the younger generation, improving smoking cessation counselling services, ensuring compliance with non-smoking regulations in public places, better regulation of emerging tobacco products, and public awareness campaigns aimed at smoking prevention and cessation. The Age Matters Project facilitates enforcement to ensure compliance with the ban on sales of tobacco products to minors, with monitoring of violations published online.

Fiscal policy measures are also in place. In 2024, a EUR 0.40 tax increase on a pack of cigarettes took the average cost to EUR 5.20. In 2025, the government plans to introduce taxes on additional products such as e-cigarettes and nicotine sachets (Laczko, 2024).

The Slovak Republic is one of few EU countries with minimum unit pricing on alcohol

Relative to other EU countries, and particularly compared to its economic peers of Czechia and

Romania (at 12 litres), alcohol consumption is low in the Slovak Republic, at 10 litres per capita annually in 2022. The Slovak Republic was the first EU country to implement minimum unit pricing – a policy intervention that establishes a mandatory floor price per unit of alcohol. This type of policy has been shown to be effective in reducing overall alcohol consumption, with a larger impact on low-income populations.

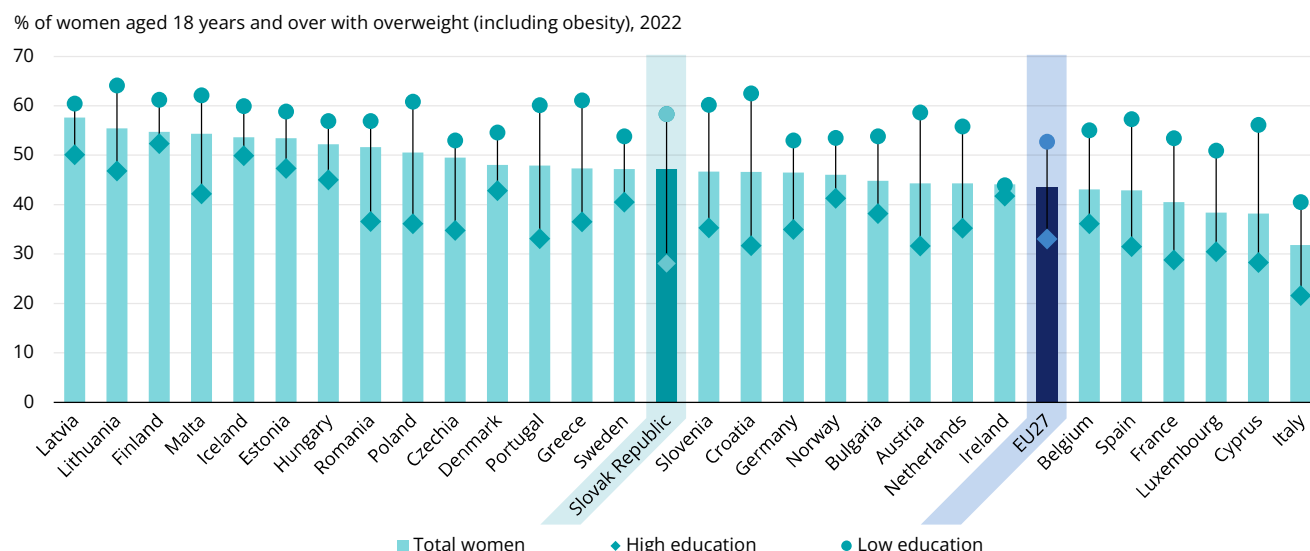
The Slovak Republic plans to introduce a major sugar tax in 2025

In the Slovak Republic, 58% of the population is overweight or obese, compared to 51% across the EU. Overweight rates are particularly high among men – at 71% compared to 47% among women in 2022 – leading to the second largest percentage point gender gap among EU countries, after Croatia. Overweight rates in the adult population increased by 4 percentage points between 2017 and 2022 in the Slovak Republic, while they decreased by 0.5 percentage points in the EU on average. About 52% of adults in the country do not consume vegetables daily and half do not consume fruit daily – rates higher than the about 40% EU average for both. Furthermore, 83% of the adult population reports not engaging in physical activity at least three times a week, placing the Slovak Republic in third to last place among the EU + 2 countries on this indicator.

Socio-economic gaps in overweight are also large – while 58% of women with lower education levels are overweight, the rate is 28% among those with higher education levels (Figure 7). This 30 percentage point gap is much larger than the 20 percentage point gap across the EU. These gaps remained relatively unchanged between 2017 and 2022 in both the Slovak Republic and the EU.



Figure 7. The Slovak Republic has a very large gap in overweight rates between low and high educated women



Note: Overweight (including obesity) includes those with a body mass index above 25.
Source: Eurostat Database.

Government initiatives aim to address the issues of overweight and poor diets. The Slovak Republic regulates the type of food and drink available and restricts sugar-sweetened beverages in schools; it also offers physical activity counselling, assessment and prescription in primary care. In an important development, the country plans to introduce a sugar tax in 2025. A draft of the planned regulation was released in May 2024, under which all sugary drinks are taxed at varying rates. Drinks with added sugars or sweeteners would be taxed at EUR 0.15 per litre, while energy drinks would be taxed at EUR 0.30 per litre. Although initially seen by the Ministry of Finance mainly as a revenue-generating tool, the policy has been adjusted in line with public health needs. This tax is expected to raise EUR 85 million in 2025 and EU 117 million in 2026 onwards (Cernancova, 2024).

The Slovak Republic has one of the highest rates of exposure to fine particulate matter, although efforts to promote active and public transit are under way

The Slovak Republic has among the highest rates of PM_{2.5} exposure (at 15 µg/m³), at over three times the WHO-recommended level of 5 µg/m³. To address both pollution and physical activity, the government has implemented a nationwide information campaign to encourage public and active transport, national programmes to promote active transport to both school and work, and a national policy to subsidise cycling infrastructure (WCRF International, 2023). In 2023, 70 towns in the Slovak Republic participated in the European Mobility Week campaign, which promotes alternative transport.

While human papillomavirus vaccination rates are low, coverage has been expanded recently

In 2023, 10% of girls in the Slovak Republic received the full HPV regimen compared to the 57% average across the EU. A similar percentage of boys (10%) were fully vaccinated, much lower than the EU average of 51%. The country initiated its HPV population-based programme to vaccinate girls in 2016, and expanded it to be gender-neutral in 2022, fully covering the vaccine for ages 12-13. As of 1 December 2023, vaccine coverage has been expanded to children up to age 15. To increase uptake, the Ministry of Health has also established an HPV Coalition to improve awareness of the vaccine among parents, teachers and physicians (NOI & NCI, 2024).

Under the EU-funded RIVER-EU Project, running from 2021 to 2026, there is an initiative to increase HPV vaccination among the Roma population in the Slovak Republic. After identifying that the main barrier is awareness, the programme is piloting a multicomponent intervention in the eastern part of the country, which entails training of Roma health mediators and health professionals to run educational gatherings for parents and children.

Reductions in smoking and drunkenness rates among adolescents in the Slovak Republic are encouraging

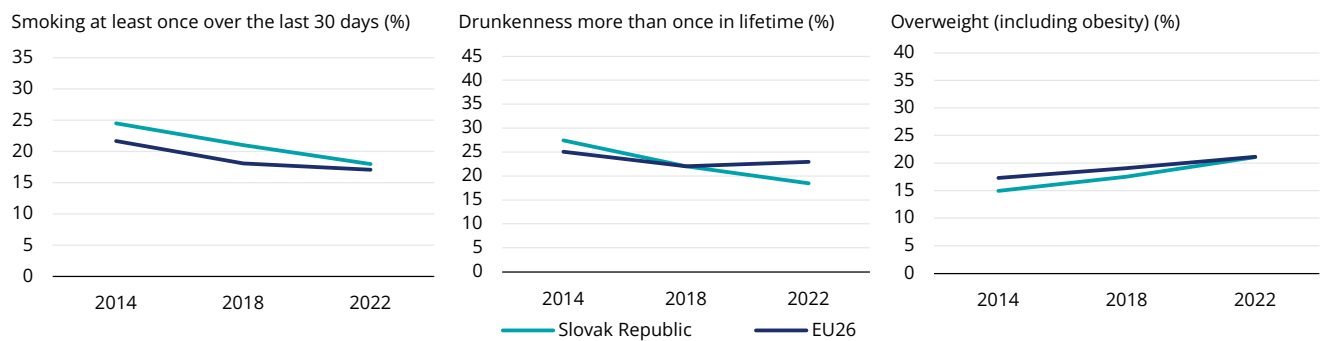
Between 2014 and 2022 there was a reduction in the share of 15-year-olds in the Slovak Republic who reported smoking in the last 30 days, although at 18%, the rate was still slightly above the EU average of 17% (Figure 8). Reductions have also been seen in rates of repeated drunkenness among

adolescents, and these improvements in alcohol and smoking rates have occurred for both genders. However socio-economic gaps in adolescent smoking are high. The share of children aged 11-15 in the lowest quintile of family affluence based on the Family Affluence Scale who had ever smoked was 5 percentage points higher than the share in the highest quintile – a much larger gap than the 1 percentage point gap across the EU.

Uptake of newer tobacco products among the younger population is the same as the EU average: about 21% of 15-year-olds reporting using an e-cigarette at least once in the last 30 days.

With 21% of adolescents overweight in the Slovak Republic in 2022, however, this problem appears to have grown slightly faster since 2014 than in the EU on average. Among 15-year-olds in the Slovak Republic, 34% consumed fruit consumption daily (compared to 30% in the EU on average) and 38% consumed vegetables daily (compared to 34% in the EU on average). Rates for both fruit and vegetable consumption among adolescents has increased faster between 2014 and 2022 in the Slovak Republic than in the EU. The share of 15-year-olds engaging in 60 minutes of physical activity daily in the country is quite low – at 15%, although this is similar to the EU average.

Figure 8. The Slovak Republic has seen a larger increase in adolescent overweight than the EU average



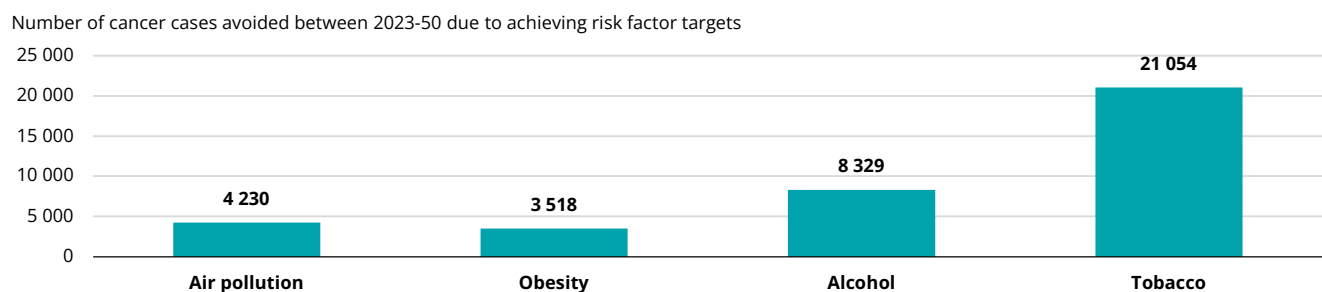
Notes: The EU average is unweighted. Data refer to 2022, and are based on children aged 15 years. EU26 for smoking and drunkenness; EU25 for overweight.
Source: Health Behaviour in School-aged Children Survey.

The Slovak Republic could substantially reduce new cancer cases by focusing on primary prevention

According to OECD Strategic Public Health Planning (SPHeP) modelling work, the biggest potential – to prevent 21 054 cancer cases between 2023 and 2050

– would occur in the Slovak Republic if tobacco reduction targets were met (Figure 9). Meeting alcohol targets would further reduce the number of cancer cases during this period by about 8 329, while meeting other risk factor targets would also reduce the cancer burden substantially: air pollution by 4 230 cases and obesity by 3 518 cases.

Figure 9. The Slovak Republic could prevent thousands of new cancer cases in 2023-50 by focusing on the main cancer risk factors



Notes: The target for tobacco is a 30% reduction in tobacco use between 2010 and 2025, and less than 5% of the population using tobacco by 2040. For alcohol, the target is a reduction of at least 20% in overall alcohol consumption and a 20% reduction in heavy drinking (six or more alcoholic drinks on a single occasion for adults) between 2010 and 2030. For air pollution, it is an annual average PM_{2.5} level capped at 10 µg/m³ by 2030 and at 5 µg/m³ by 2050. For obesity, the target is a reduction to the 2010 obesity level by 2025.
Source: OECD (2024), Tackling the Impact of Cancer on Health, the Economy and Society, <https://doi.org/10.1787/85e7c3ba-en>.

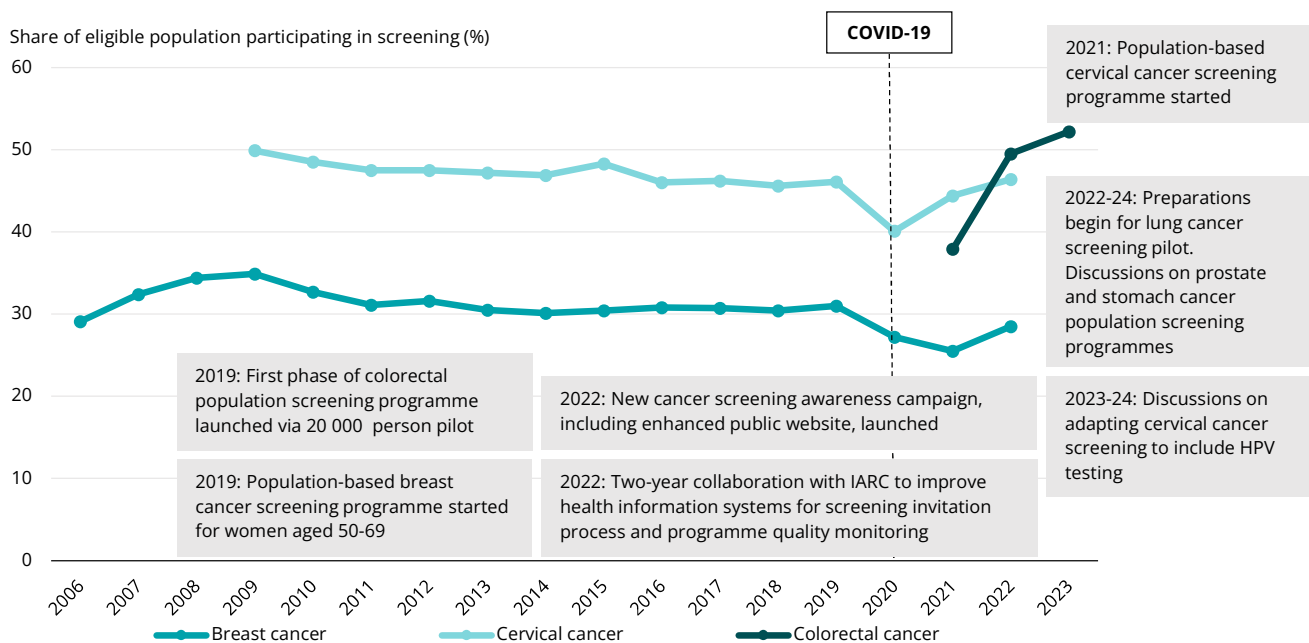
4. Early detection

In the last five years, population-based screening programmes have been introduced for breast, cervical and colorectal cancer

The Slovak Republic has introduced three population-based screening programmes (breast, cervical and colorectal cancer) in recent years (Figure 10), although opportunistic screening for these was available beforehand as well. These developments are critical given that the Slovak Republic has one of the highest

mortality rates from these cancer types among EU countries (See Section 1). The NOI is in charge of co-ordinating and evaluating the screening programmes, in consultation with the Ministry of Health. The NOP's updated Action Plans for 2021-25, however, aim to move screening programme implementation and monitoring to a new National Centre for Prevention and Screening under the Ministry of Health, as part of a broader effort improve governance and monitoring.

Figure 10. A number of initiatives are under way to expand and improve screening programmes



Notes: Breast cancer screening refers to mammography among women aged 40-69 within the past two years. Cervical cancer screening refers to women aged 19 who received a gynaecological preventive care programme examination during the reporting year. Colorectal cancer screening coverage is estimated based on number of faecal immunochemical tests conducted among people aged 50-74 at two-year intervals, with the assumption that tests correspond directly with the number of people taking the test. Sources: OECD Health Statistics 2024; NOI (2023; 2024).

Expansion of the target age range for breast cancer screening is being considered, but inequalities in screening must also be addressed

The Slovak Republic's national population-based breast cancer screening programme was initiated in 2019, with screening offered to women aged 50-69 every two years. Invitations are sent by health insurers. Women aged 40-49 can also choose to receive a mammogram. A proposal is in place to extend the screening age range to 45-74 (NOI & NCI, 2023), in line with the updated Council

recommendation on cancer screening of 2022 and the European guidelines on breast cancer screening

One of the major priorities for the Slovak Republic is improving collection and analysis of all oncology data. Currently, breast cancer screening data can only be examined following the year end, based on information provided by health insurance companies and from mammography centres (Berta et al., 2024). In 2023 a live version of the software tool MamoLight was launched to facilitate collection and analysis of data from the breast cancer screening programme.

Efforts are made to promote mammogram screening at the 22 certified mammography facilities (NOI, 2024), as these undergo regular audits, have access to multidisciplinary teams for patient follow-up, and provide data for quality monitoring. In return, reimbursements rates for mammograms performed at these centres are higher. While mammography participation rates including opportunistic screening stood at 29% in 2022, about half (or 16% of the target age group) – was screened at certified mammography facilities in 2023 (NOI, 2024).

The country's breast cancer screening programme plays an important role in early cancer detection: in 2023, 5 cancer cases per 1 000 exams were identified at certified mammography centres. There is also evidence that cases are being identified at earlier stages – while at the start of the breast cancer screening programme in 2019, 9% of breast cancers with known stage information were detected at stages III and IV, that figure dropped to 6% in 2023 (NOI, 2024).

One challenge is inequalities in breast cancer screening. A 2024 report estimating breast cancer screening at least once over a four-year period (between 2019 and 2022) found major gaps in screening rates across regions, ranging from a low of 16% in Revúca to a high of 46% in Púchov (Berta et al., 2024). In addition, responses to wave 8 of the Survey of Health, Ageing and Retirement (2020/21) indicate that the Slovak Republic has one of the largest socio-economic gaps in screening rates among the 23 EU countries, with 45% of women with lower education levels reporting having been screened compared to 57% of those with higher education levels.

Other breast cancer early detection initiatives are under way in the Slovak Republic. If a germline mutation in breast cancer is detected, testing of a patient's relatives is covered by health insurance, based on genetic counselling recommendations (Berta et al., 2024).

The cervical cancer screening programme is implemented through preventive gynaecological exams

Until 2021, cervical cancer screening was done only through opportunistic testing during annual preventive gynaecological check-ups. In 2021, the national cervical cancer screening programme was introduced, targeting women aged 23-64. Women who have not had a gynaecologist visit in the past two years receive invitations from their health insurer. The frequency and upper age limit of screening are adjusted based on

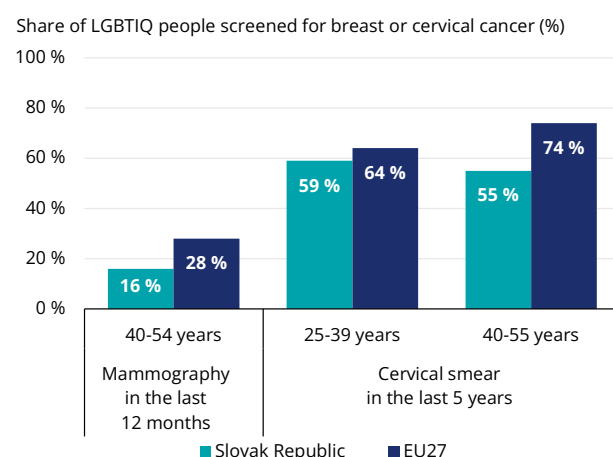
previous cytology results, but data on participation rates are fragmented. Because of the regular practice of annual gynaecological exams in the Slovak Republic, many women end up undergoing cytology testing every year. Based on the number of preventive gynaecological exams, it is estimated that cervical cancer screening rates stood at 46% in 2023. However, data on screening participation at least once over a regular three-year cycle are not available (NOI, 2024).

In recent years, there has been a focus on ensuring that gynaecologists are better educated and facilities are available to follow up on abnormal cytological findings; this led to development of colposcopy guidelines in the Slovak Republic in 2022. A working group on cervical cancer screening is also aiming to introduce HPV testing as part of the screening programme, based on WHO recommendations and on effective results from Czechia. There are discussions on incorporating HPV self-testing in the future, which may be particularly beneficial at reaching older women who attend appointments with general practitioners (GPs) but not the gynaecologists who currently deliver cervical screening.

LGBTIQ persons in the Slovak Republic participate less in breast and cervical cancer screening than their counterparts in the EU

According to the EU LGBTIQ Survey III, participation in cancer screening among relevant LGBTIQ persons is lower in the Slovak Republic than in other EU countries (Figure 11).

Figure 11. LGBTIQ persons in the Slovak Republic have lower rates of breast and cervical cancer screening



Note: LGBTIQ survey results refer to age groups and/or screening intervals that do not align with the population screening approach in EU countries, and should not be compared. Source: The European Union Agency for Fundamental Rights (EU LGBTIQ Survey III).

For breast cancer screening, only 16% of LGBTIQ cisgender females, trans women and intersex people aged 40-54 years in the Slovak Republic reported having had a mammogram in the previous 12 months, much lower than the EU average of 28%. For cervical cancer screening, 59% of the relevant LGBTIQ population aged 25-39 in the Slovak Republic reported having had a smear test in the previous 5 years (slightly lower than the 64% in the EU), while 55% of those aged 40-55 reported a smear test (much lower than the 74% in the EU). This aligns with the relatively low screening rates for breast and cervical cancer seen in the Slovak Republic in the general population as compared with the EU.

Colorectal cancer screening rates are increasing, but follow-up guidelines and monitoring are needed

Opportunistic colorectal cancer screening as part of regular primary care check-ups has been in place for over a decade in the Slovak Republic. A population-based programme began in January 2019 via a pilot of 20 000 individuals, which was then rolled out to the full population in September 2021. The screening programme targets individuals aged 50-75, via an immunochemical faecal occult blood test every two years or a colonoscopy every ten years. Colonoscopy is indicated for the high-risk population and for those testing positive on the faecal test, and is performed in 150 certified locations (NOI & NCI, 2024).

As with the other two screening programmes, health insurance companies are responsible for sending screening invitations and testing kits to insured people who have not had a routine examination or undergone a colonoscopy in the relevant timeframe. In 2023, about 40% of the population needing to be screened that year received an invitation. Among these, only 32% completed testing, which indicates that additional efforts to encourage participation are needed (NOI, 2024).

In the Slovak Republic, 435 744 faecal occult blood tests were conducted in 2023. If the number of tests reported corresponded directly with the number of individuals tested, this would mean that about 52% of the target population was tested in 2023. This is a substantial increase from the 38% rate in 2021.

The relatively high colorectal cancer screening rates in the Slovak Republic are supported by the fact that to receive reimbursement for conducting an annual preventive care check-up among the target population, GPs must ensure that a faecal occult blood test is conducted. However, physicians use different criteria to decide who

to refer for follow-up diagnostics, and there is no monitoring of whether follow-up has occurred. Based on the limited data, in 2022, less than half of the population underwent a colonoscopy after a positive test. One of the goals of new screening legislation currently being drafted is to define regulatory quantitative measures for the faecal occult blood test and ensure follow-up. Other goals of the legislation are to expand the target age for mammography screening, introduce HPV testing and provide flexibility in adjusting future screening regulations.

Efforts are under way to address the infrastructure and data gaps underlying the Slovak Republic's screening programmes

To tackle challenges of fragmented data on screening participation and the lack of a screening registry for quality monitoring, in 2022 the Ministry of Health and NOI established a two-year partnership with the IARC. The main goal is to improve health information systems to streamline identification of and invitations for the target population, as well as to create systems to facilitate ongoing data collection for quality monitoring (NOI & NCI, 2023). Other aims are to implement awareness campaigns to reach target populations and to provide training for screening professionals. In October 2022, a communication strategy under the banner "Get a cancer check-up and find out whether you are OK" and an upgraded public awareness website were launched. The website offers user-friendly information targeted at the general public about the population-based screening programmes and how to book appointments. These awareness efforts are guided by an ongoing multistakeholder collaboration.

Several new population-based screening programmes are under development

The NOI, Ministry of Health and insurance companies have formed a working group on lung cancer screening. Patient pathways through screening and diagnosis have been specified, and a pilot programme is under way, alongside development of software that would automate data delivery to a future screening registry.

In 2022, a first discussion was held on introducing prostate cancer screening, with preparatory work anticipated to include development of a pilot screening programme and standard procedures. However, as of May 2024, the pilot has not yet been initiated. While stomach cancer screening is mentioned in the Manifesto of the government of the Slovak Republic, professional associations are said not to support such an effort, given the current incidence rates in the country.

5. Cancer care performance

5.1 Accessibility

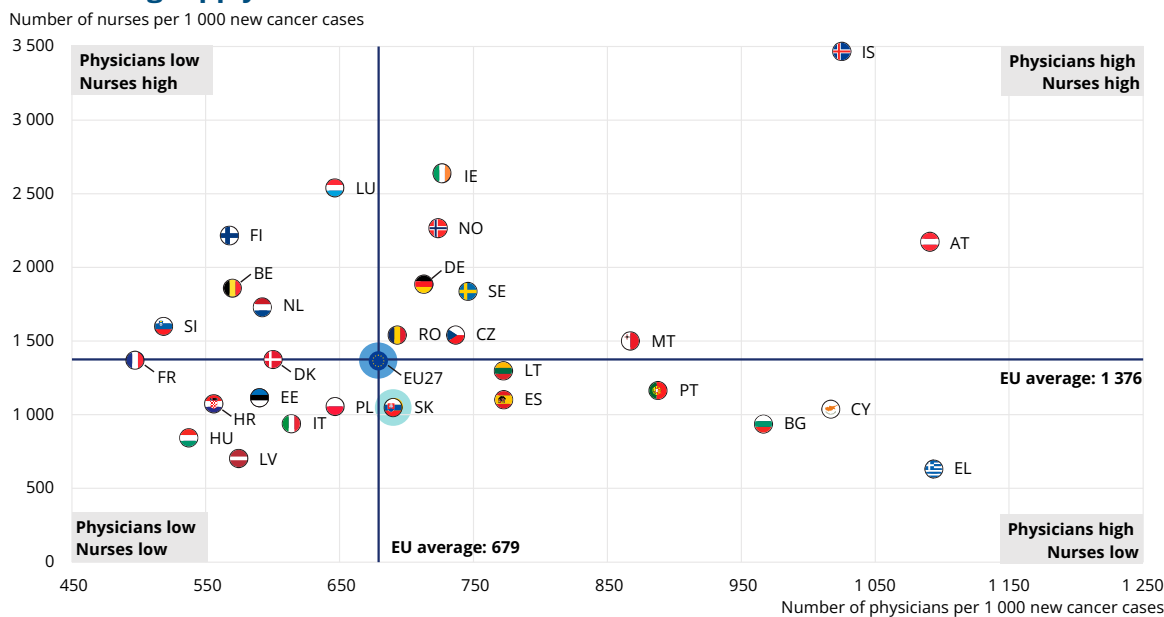
The vast majority of people are covered for cancer care, but some gaps exist across the care pathway

In the Slovak Republic three health insurers provide coverage for a core set of health services for 95% of the population. At 18% of health expenditure, out-of-pocket spending is slightly higher than the 15% EU average. In addition, there are some financial barriers to care. For example, genetic testing to identify optimal treatment and relapse likelihood (Berta et al., 2024) and some palliative care services are not adequately covered (see Section 5.4).

The Slovak Republic has a variety of oncology physician specialists in its health system

In terms of the general healthcare workforce, the Slovak Republic has 691 physicians per 1 000 new cancer cases, which is slightly higher than the EU average ratio of 679 (Figure 12). As of December 2023, the country had 206 clinical oncologists, 24 paediatric oncologists and 99 radiation oncologists/trainees. This translates to about 6 clinical and radiation oncologists per 100 000 population, indicating a steady supply compared to the 2019 figure. This share is higher than the supply of clinical and radiation oncologists in other central European countries. The country also has oncology specialists in gynaecology, surgery and urology, but data on their supply are lacking.

Figure 12. The supply of physicians in the Slovak Republic is slightly higher than the EU average, while the nursing supply is lower



Notes: The data on nurses include all categories of nurses (not only those meeting the EU Directive on the Recognition of Professional Qualifications). Data refer to practising nurses except in Portugal and the Slovak Republic, where they refer to professionally active nurses. In Greece, the number of nurses is underestimated as it only includes those working in hospitals. In Portugal and Greece, data refer to all doctors licensed to practise, resulting in a large overestimation of the number of practising doctors. The EU average is unweighted.

Source: OECD Health Statistics 2024. Data refer to 2022 or latest available year.

In 2022, there were an estimated 196 oncology physician trainees in the pipeline across the various disciplines, including 125 in the fields of radiation, clinical or paediatric oncology. Efforts are under way to create a health workforce planning strategy to understand training capacity needs. As part of this goal, the Ministry of

Health sent surveys to hospitals in 2019 and 2023 about the workforce needed to provide optimal services. The 2023 results are not public yet, but in 2019, hospitals reported shortages of 45 clinical oncologists, 13 radiation oncologists, 3 radiation technicians and 1 paediatric oncologist.

There is a particularly low supply of nurses in the Slovak Republic, and oncology, although taught via the general nursing curriculum, does not have its own training programmes

The situation in nursing is challenging, with the Slovak Republic having only about three-quarters of the average nursing supply in the EU per cancer case (1 056 nurses per 1 000 new cancer cases compared to 1 376 in the EU). The low supply of nurses is due to low wages and recognition, as well as long hours – however; a strike in 2022 led to increases in salaries of nurses among other health professionals.

In the Slovak Republic, oncology nursing is not its own specialty. Instead, nurses who work in the field are certified in “adult nursing”. Similarly, the Slovak Republic does not have a national cancer nursing society as seen in 22 of the EU+2 countries. However, the general nursing education curriculum entails multiple components on cancer care including a mention of oncology among the first paragraphs of the training curriculum. In addition, nurses receive training with regards to cancer rehabilitation, nutrition and national oncology plans and must perform mandatory training in oncology departments.

Access to innovative drugs is expected to increase substantially due to a new centralised agreement process and higher cost – effectiveness threshold

The Slovak Republic has had some of the most restricted access to innovative medicines in Europe. As of January 2023, only 11% of new oncology medications approved by the European Medicine Agency in 2018-21 were available in the country compared to the EU average of 50% (Newton et al., 2023). In 2022, an amendment to Act No. 363/2011 was enacted to address this issue. As part of the change, negotiations of pharmaceutical price agreements were centralised under the Ministry of Health rather than undertaken by the three health insurers. Maximum reimbursement ceilings, which are determined via managed entry agreements covering both performance and financial aspects, were raised (Hospodková et al., 2023). These changes are expected to increase availability of innovative medicines in the country. Indeed, 22 original oncological drugs were added to

the reimbursement list in 2023 – far more than the additions in 2022 (10), 2021 (4) and 2020 (1) (NOI & NCI, 2024). Nonetheless, the fast pace of approvals of new oncology medications is putting pressure on the reimbursement process, highlighting the importance of prioritising medical benefit and cost – effectiveness.

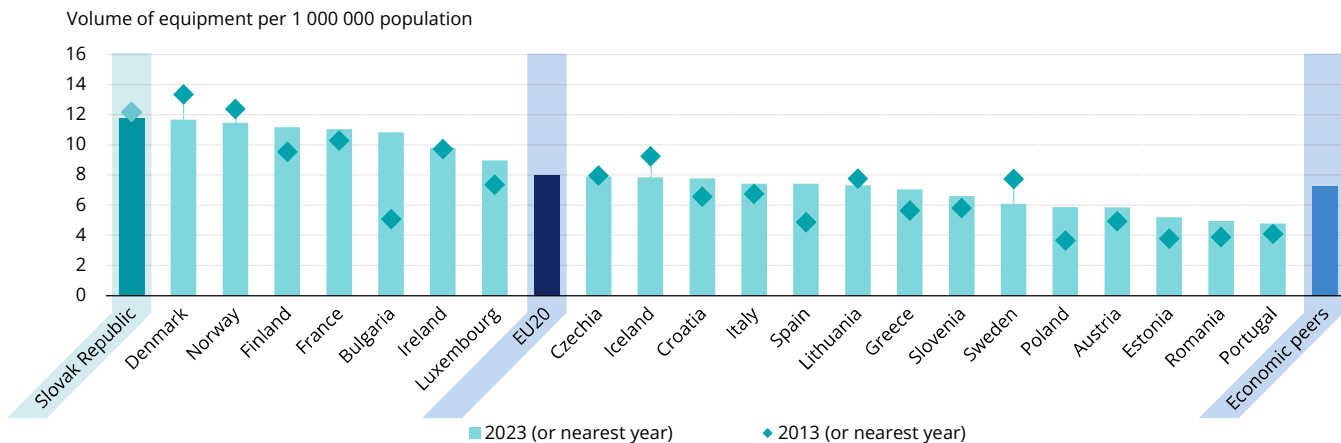
There are awareness efforts underway to increase access to innovative cancer medicines and clinical trials. A new website was launched recently with the goal of improving oncologists’ knowledge about approvals and indications of new oncology medicines. Similarly, the NOI has also begun to send a monthly newsletter to oncologists with updates on cancer medications and ongoing clinical trials. While a national registry of clinical trials has existed since 2019, a major improvement was added in 2023, allowing oncologists to refer patients for participation directly through the online portal. In addition, to increase awareness of new and ongoing clinical trials, the NOI conducts public sessions each year with patient organisations and trial sponsors (NOI & NCI, 2024).

While genetic exams for hereditary breast cancer genes such as BRCA are usually publicly covered, other exams including “molecular signatures” – those that help identify the likelihood of disease relapse and can reduce rates of over- or undertreatment of patients – are generally not covered by health insurance. As such, many of these are self-funded and undertaken in laboratories abroad (Berta et al., 2024).

The volume of radiation therapy equipment in the Slovak Republic is high, but the supply of diagnostic equipment is below the EU average

In the Slovak Republic, the volume of radiation therapy equipment in 2022 was the highest in the EU – at 12 per 1 000 000 population. This figure is 48% higher than the EU average (8 per 1 000 000) and 62% higher than the average among the Slovak Republic’s economic peers (7 per 1 000 000) (Figure 13). However, equipment volume may slowly be approaching the EU average, as it decreased by 3% since 2012. Furthermore, the Slovak Republic has relatively old equipment: only 8% of units are less than 5 years old and 45% are more than 15 years old.

Figure 13. Supply of radiation therapy equipment in the Slovak Republic is almost 40% higher than that of its economic peers



Notes: The vast majority of radiotherapy equipment in EU countries is found in hospitals. Data for Portugal and France includes equipment in hospitals only while data for other countries refer to all equipment. Economic peers are defined as tercile clusters based on 2022 GDP per capita in purchasing power standard terms. Economic peers for SK are BG, EE, EL, HR, PL, PT and RO. The EU average is unweighted.
Source: OECD Health Statistics 2024.

In 2023, there were 15 radiotherapy centres in the Slovak Republic (NOI & NCI, 2024). Three sites in the country provide treatment via stereotactic cranial radiotherapy or spine radiotherapy, although these services should be expanded to a couple other facilities in the country (NOI & NCI, 2023). In 2022, the first centre for CAR-T treatment – used mainly to treat some blood cancers – was certified, and work is under way to prepare more centres for such certification. Also in 2022, completion of the Ministry of Health’s technology modernisation project led to 17 new linear accelerators and 7 computed tomography (CT) simulators being made available in the Slovak Republic. The country is in line with the European Society for Radiation Oncology recommendation that 5 linear accelerators should be available for cancer treatment per 1 000 000 population. According to the NOI, all patients in the Slovak Republic should now have timely access to modern radiotherapy treatment. In addition, the geographical distribution of equipment is good.

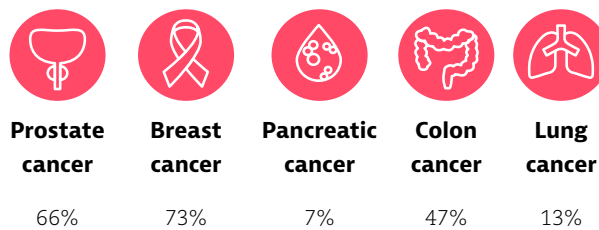
However, when examining specific equipment used in diagnosis and treatment of cancer compared to other countries, units such as CT, magnetic resonance imaging (MRI) and positron emission tomography (PET) scanners and gamma cameras had lower availability in the Slovak Republic than the average across the EU.

5.2 Quality

Five-year cancer survival estimates differ substantially based on cancer site

As seen in other countries, five-year survival estimates for patients in the Slovak Republic vary greatly by cancer site (Table 2). For patients diagnosed in 2017, five-year survival for pancreatic cancer stood at only 7% as compared to 73% for breast cancer. There are indications that cancer survival estimates are increasing. An assessment by IZA found notable improvement in five-year survival for colorectal and prostate cancer in the Slovak Republic between 2005-17. Similarly, a 2024 report found that three-year survival estimates among women with breast cancer diagnosed in 2019 were 2 percentage points higher than among those diagnosed in 2017 (Berta et al., 2024).

Table 2: Five-year survival estimates are higher for breast cancer than for other main cancer sites



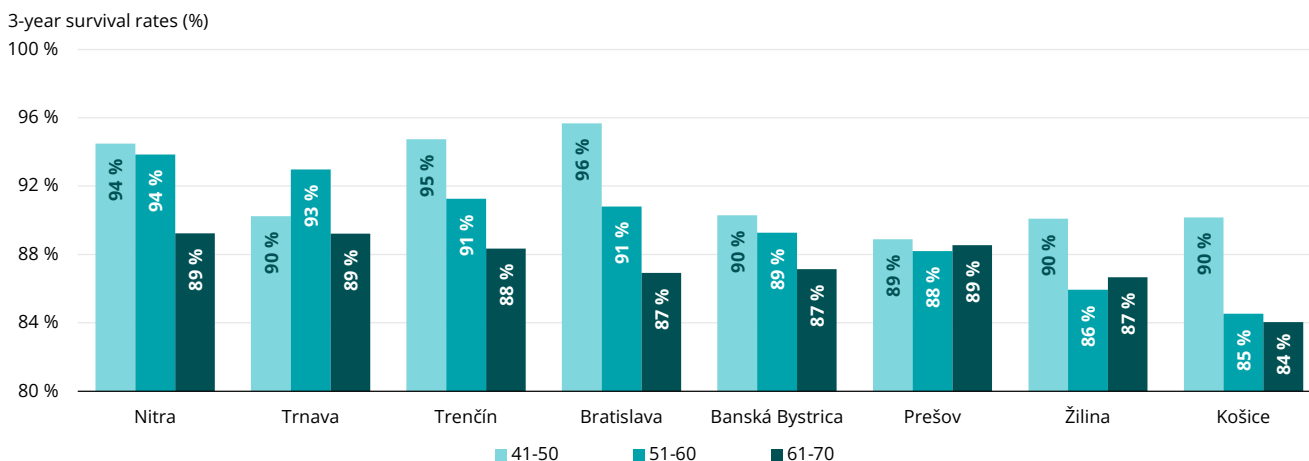
Note: Breast cancer survival estimates shown include both men and women.
Source: IZA, Data refer to patients diagnosed in 2017.

Regional differences in survival of women with breast cancer are marked in the Slovak Republic

A 2024 breast cancer report provides findings on differences in breast cancer survival by region in the Slovak Republic, which likely relate to the quality of treatment available. Disaggregating by age group shows that western regions such

as Bratislava and Nitra have higher three-year survival, while eastern regions such as Košice, Prešov and Žilina have lower survival (Figure 14). For example, while 96% of women aged 41-50 in Bratislava survived after three years of diagnosis, that figure was only 89% for Prešov in the eastern part of the country.

Figure 14. Western regions of the Slovak Republic have higher three-year survival estimates for breast cancer than those in the east, across all ages of women diagnosed



Note: Refers to women diagnosed in 2018 and 2019.

Source: Berta et al. (2024).

The rate of potential years of life lost due to cancer was higher in the Slovak Republic than in the EU

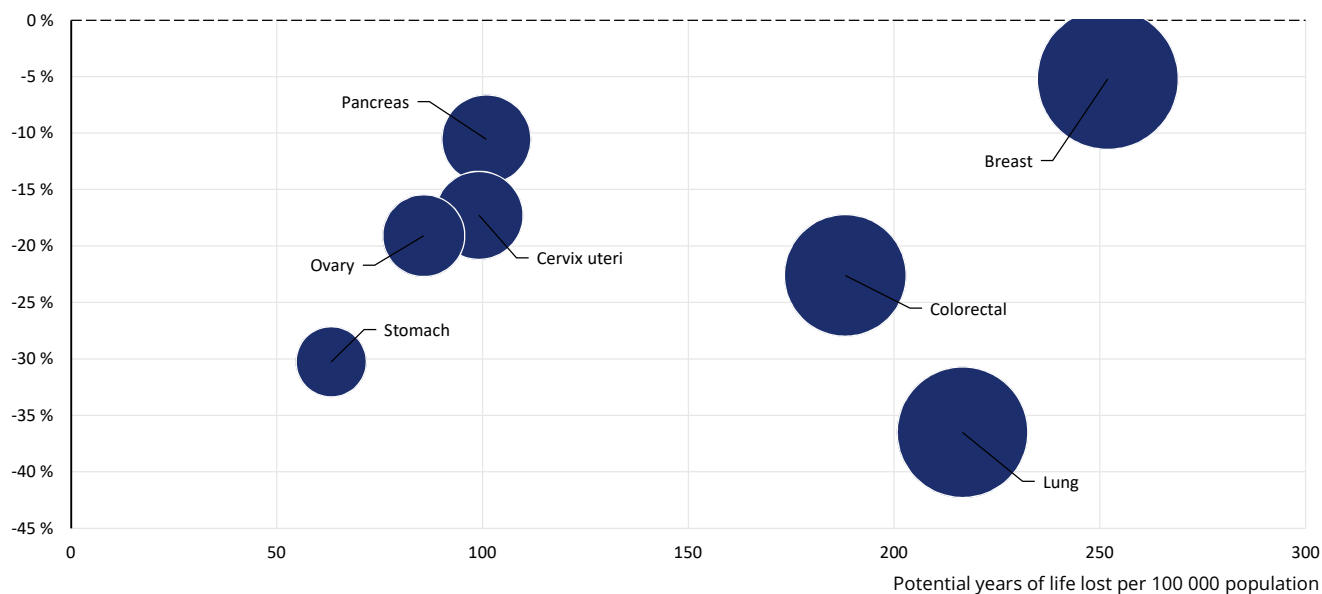
In addition to survival data, potential years of life lost (PYLL) is an interesting complementary measure of the impact of different cancers on society, because it puts a higher weight on cancer deaths among younger individuals. Examining the change in PYLL over time across various cancer sites can point to improvements in cancer care systems via reductions in premature mortality. In the Slovak Republic, the overall PYLL due to cancer across all sites in 2021 was 1 516 per 100 000 population, which is 12% higher than the EU average. Lung cancer contributed to 217 years of potential years of life lost per 100 000 population in the country.

In line with improvements in cancer mortality, the PYLL rate has decreased by 23% in the Slovak Republic since 2012 (compared to a 19% reduction in the EU).

In 2021, breast cancer was responsible for more PYLL per 100 000 women than any other cancer, at 252 years. While other main cancer sites had decreases in the PYLL rate of 10% or more between 2012 and 2021, breast cancer had a decrease of only 5% (Figure 15). This relates to increased rates of breast cancer diagnoses among younger women, when the disease tends to be more aggressive and to lead to earlier death. For example, the incidence rate of breast cancer among women aged 30-35 doubled from 12 per 100 000 in 1999 to 24 per 100 000 in 2019, compared to an increased incidence of 25% among those aged 45-50 (from 118 to 147 per 100 000) (Berta et al., 2024).

Figure 15. Potential years of life lost declined for many cancers over 2012-22

Percentage change in potential years of life lost 2012-22 (or nearest available year) (%)



Notes: The rate of PYLL from breast, cervical and ovarian cancer is calculated in women only, while the rate of PYLL from prostate cancer refers to men. Pink bubbles signal an increase in the percentage change in PYLL during 2012-22 (or latest available year); blue bubbles signal a decrease. The size of the bubbles is proportional to the PYLL rates in 2022.

Source: OECD Health Statistics 2024.

The Slovak Republic is making substantial reforms to its hospital system, including introducing minimum volume requirements

The Slovak Republic has three institutes that specialise in cancer care, 13 clinical oncology departments and two specialised lung cancer centres (NOI & NCI, 2023). None qualify as a comprehensive cancer centre, although the country is involved in the EU's CraNE Joint Action to establish a network of EU Comprehensive Cancer Centres. In this vein, substantial efforts are under way to achieve accreditation of the NCI in Bratislava as the country's comprehensive cancer centre, alongside which the network of oncology centres would be strengthened and patient care standardised across the country.

Another initiative aimed at improving quality is the establishment of international collaborations, which allow oncologists from the Slovak Republic to visit institutes abroad for continued training.

Currently while the NCI uses multidisciplinary teams across all cancer sites, and larger oncology centres have these in place for some cancers, there are no systematic requirements around their use. Furthermore, no reimbursement code is available for multidisciplinary teams, which limits their implementation.

The Slovak Republic has allotted one of the highest shares – almost 20% (or about EUR 1.27 billion) of its Recovery and Resilience Plan (RRP) funding (part of the EU's response to the COVID-19 pandemic)

– to investments in the health system. Two key investment areas are supporting the hospital network reform effort launched in 2021 and health sector digitalisation. Within the hospital reforms, five levels of hospitals were introduced based on the degree of complexity of services provided, with the aim of centralising provision of specialty care and introducing minimum volume requirements for both hospitals and physicians.

Oncology is included in some new quality measures being implemented

To ensure quality, the Slovak Republic has a certification programme for facilities providing cancer care, and requirements for continuous medical education for its health professionals. Like most EU+2 countries, the Slovak Republic makes systematic use of clinical guidelines in oncology care. As part of the hospital network reforms, quality indicators are in development. In radiation oncology these measures will assess whether an external technical audit and internal clinical audit have taken place, and assess whether modern technology is being utilised. However, these measures will take time to implement as well as require changes in practice and improved IT systems. While patient-reported measures are not yet systematically collected in the Slovak Republic, they are mentioned in Annex 4 (on quality indicators) of the Ministry of Health Decree no. 531/2023. Furthermore, the NCI is participating in the 18-country European Oncology Quality of Life

Project (EUonQoL) through a network of EU cancer centres, to develop a standardised questionnaire for assessing cancer patients' quality of life (NOI & NCI, 2024).

While the Ministry of Health is implementing an initiative to assess waiting times for hundreds of treatments across the health system, waiting times will not be assessed for oncology care. This is because the assumption is that oncology care should be delivered immediately. There are, however, a few exceptions under related specialties; for example, guidelines state that gynaecological oncology surgery should be performed within 21 days.

5.3 Costs and value for money

Per capita health expenditure on cancer care is expected to grow by 78% in the Slovak Republic in the coming decades

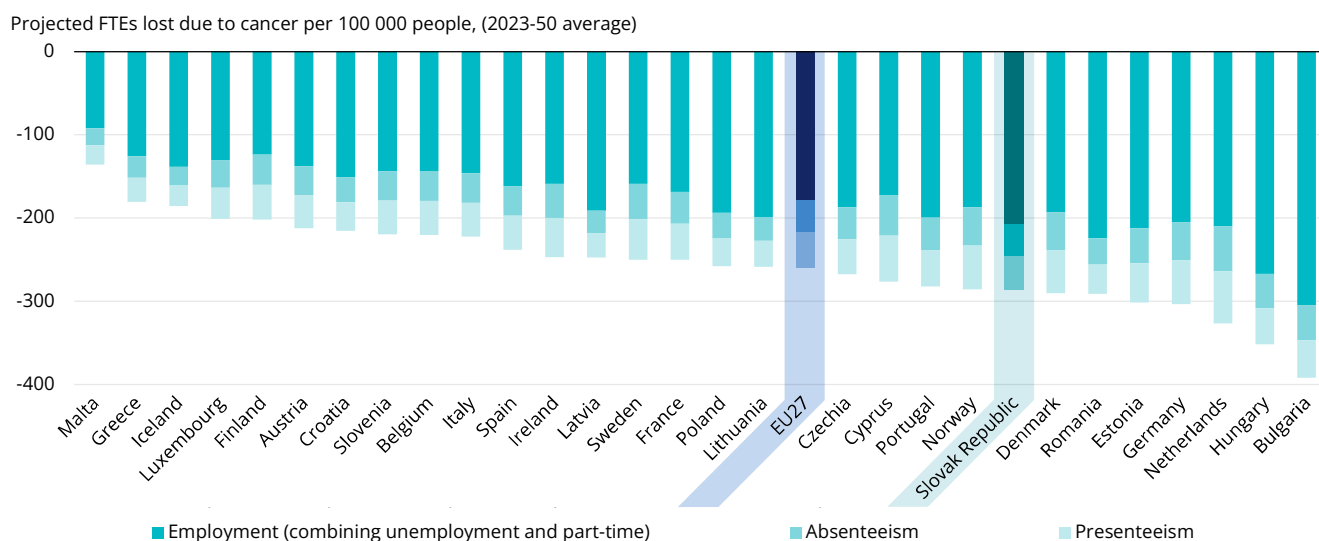
An analysis by IZA found that during the years 2015-22, the average cost of treatment for the first 12 months following a cancer diagnosis in the Slovak Republic was EUR 11 695. This amount represents all public healthcare expenses covered

by health insurance companies, including costs for drugs, inpatient and outpatient services, scans, laboratory tests, and other related expenditures.

According to OECD SPHeP modelling work, between 2023 and 2050, total health expenditure is estimated to be 2.0% higher in the Slovak Republic due to the burden of cancer. This equates to an average of EUR (PPP) 40 per person per year. This figure is much lower than the EU19 average (EUR 242). In general, countries with higher mortality rates and lower GDP per capita see a smaller burden of cancer on health spending. However, the per capita health expenditure on cancer care is expected to grow by 78% in the Slovak Republic between 2023 and 2050, compared to 59% in the EU27.

During 2023-50 on average, there is expected to be a loss of 206 full-time equivalent workers (FTEs) per 100 000 people in the Slovak Republic due to the need to reduce employment because of cancer, which is much higher than the EU average of 178 FTEs per 100 000 (Figure 16). The Slovak Republic also anticipates a loss of 80 FTEs per 100 000 people due to both absenteeism and presenteeism⁸ – similar to the EU average of 81 FTEs per 100 000.

Figure 16. Cancer is expected to lead to greater employment losses in the Slovak Republic compared to the EU average



Note: The EU average is unweighted.

Source: OECD (2024), *Tackling the Impact of Cancer on Health, the Economy and Society*, <https://doi.org/10.1787/85e7c3ba-en>.

A 2024 study found that direct healthcare spending on cancer care for eight main cancer groupings totalled EUR 478 million in 2022 (OnkoAliancia Slovakia, 2024). This is an increase of EUR 105 million (28%) between 2018 and 2022. Spending on outpatient care grew the fastest during this period, at 53%, while spending on

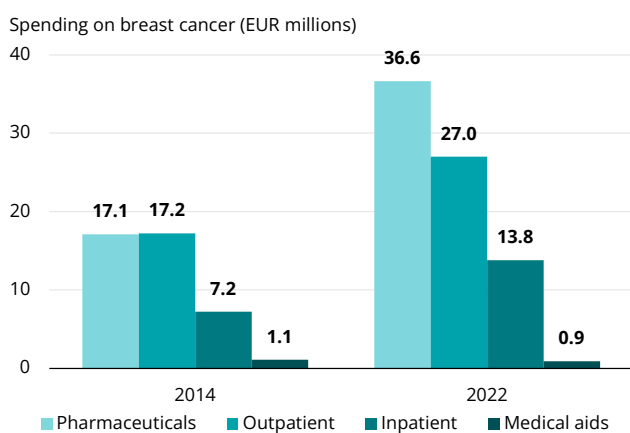
medication grew at 30% and spending on inpatient cancer care only grew by 5%. The study also estimated that indirect costs from work absences and disability due to these cancers increased by 22% during 2018-22, reaching a total of EUR 44 million in 2022.

⁸ Presenteeism refers to lost productivity that occurs when employees are not fully functioning in the workplace because of an illness, injury or other condition

Spending on breast cancer care has increased substantially, and varies greatly across regions

Data on direct costs coded for breast cancer care facilitate further assessment of cancer spending. In 2022, spending on breast cancer care in the Slovak Republic was distributed as follows: EUR 36.6 million on pharmaceuticals, EUR 27.0 million on outpatient care, EUR 13.8 million on inpatient care and EUR 0.9 million on medical aids (Berta et al., 2024). This represents growth of 83% in spending on breast cancer care since 2014, with pharmaceutical spending over doubling during this period (a growth of 114%) (Figure 17).

Figure 17. Spending on breast cancer care increased rapidly between 2014 and 2022



Source: Berta et al. (2024).

Average spending per patient in the first six months of breast cancer care ranges from EUR 6 900 in the Banska Bystrica region to EUR 8 840 in the Bratislava region. The higher spending in western parts of the country aligns with higher survival rates and may represent better access to modern care (Berta et al., 2024). There are particularly large differences in spending on medical genetics, a field used to assist with prognostic and treatment decisions. In central and eastern parts of the Slovak Republic, spending on medical genetics is less than EUR 500 per diagnosed breast cancer patient, compared to much higher spending in the western part of the country (such as EUR 1 234 in Bratislava and EUR 1 466 in Myjava).

A major goal of the new managed entry agreement system is to align oncological drug spending with clinical benefit

The new managed entry agreement regulations implemented in 2022 require pharmaceutical companies to refund to health insurers if agreed performance targets (through December 2024, namely volume of care targets) are not met. Nonetheless, until May 2024, data systems were not in place to collect the necessary coding information to enforce these agreements. As such, spending on pharmaceuticals was significantly higher than anticipated in 2023, although efforts are under way to recoup some refunds.

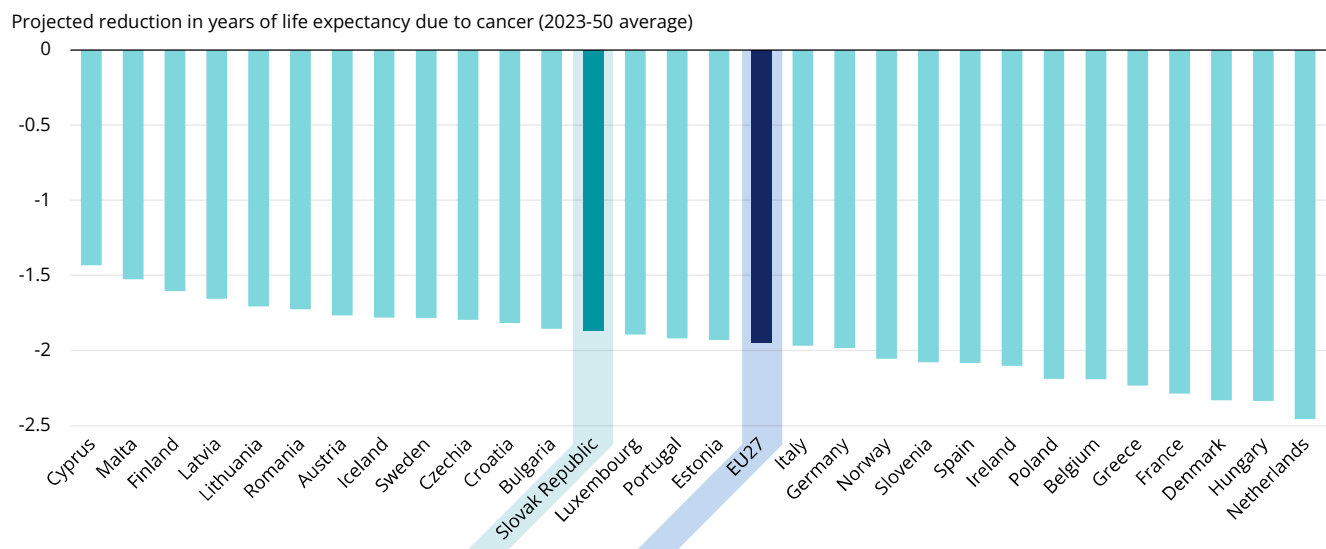
Other than negotiating managed entry agreements with pharmaceutical companies, there has been little emphasis on addressing cancer costs. While the government has put pressure on spending in other health areas such as laboratories and dental care, it is not targeting oncology as an area for cost savings.

5.4 Well-being and quality of life

Cancer is expected to cause substantially higher depression rates in the Slovak Republic

According to OECD SPHeP modelling work, in the Slovak Republic, cancer is expected to reduce life expectancy by an average of 1.9 years between 2023 and 2050 compared to a scenario without cancer, similar to the average reduction in the EU (Figure 18).

In addition, cancer takes a substantial toll on the mental health of the population through its associated symptoms and treatment side effects, and impact on daily life, social roles and work. According to the OECD's SPHeP model, the Slovak Republic is expected to have higher depression rates because of cancer, at an additional age-standardised rate of 30 cases per 100 000 per year during 2023-50 – higher than the 17 per 100 000 across the EU. This is the second highest among EU+2 countries, after Portugal.

Figure 18. In the Slovak Republic, life expectancy is anticipated to be 1.9 years lower due to cancer

Note: The EU average is unweighted.

Source: OECD (2024), *Tackling the Impact of Cancer on Health, the Economy and Society*, <https://doi.org/10.1787/85e7c3ba-en>.

Initiatives are in place to support the quality of life of cancer patients, but gaps remain

Cancer takes a major toll on the lives of those with or who have previously had the condition. Beyond treatment, the Ministry of Health's focus on support for life after a cancer diagnosis is more limited, although some initiatives are under way. During their cancer treatment, patients receive disability benefits and sick leave protection. According to the International Social Security Association, in 2021 a new benefit was introduced in the Slovak Republic providing for cash payments for carers of a sick family member at home.

The government finances fertility preservation for cancer patients undergoing certain treatments. This has worked well for some patients, such as those with testicular cancer, where there is a clear patient pathway for this procedure. In 2023, new guidelines for fertility preservation among women with breast cancer were released, and a conference targeting oncologists and gynaecologists on the matter was held. This initiative has helped providers understand which breast cancer patients to select and where to send them for fertility preservation.

Recently, an updated conception of clinical oncology care was approved in the Slovak Republic. This includes a recommendation that oncologists make a survivorship plan for each patient – based on the treatment received and anticipated side-effects – that will be sent to the patient's GP. However, given that creating such a document takes time and there is currently no reimbursement for doing so, this is not yet common practice. In parallel, existing guidelines and

awareness efforts are under way to educate GPs on how to provide follow-up care to oncology patients after their treatment, with a conference on the subject organised in September 2024.

In January 2023, a survivorship clinic for follow-up care opened at the NCI, which is currently available to all cancer patients. Discussions are taking place on developing guidelines around this type of care, identifying which groups should continue to receive care at a survivorship clinic (such as children and young adults) and which should be transferred to GPs for continued care.

Some cancers have a longer history of such services in the country. For example, the testicular cancer survivorship clinic at the NCI provides follow-up for cured patients annually throughout their lives. This includes a physical exam, various laboratory tests (some samples of which are stored in the biobank for translational research), a validated questionnaire on late toxicities and quality of life, and guidance on healthy lifestyle changes and survivorship topics (Orszaghova et al., 2024).

In terms of integration into the social sphere, aside from advocacy from some oncologists, the right to be forgotten is not on the policy agenda in the country. Similarly, specific return-to-work programmes for cancer patients have not been implemented. Other patient support initiatives are undertaken by non-governmental actors. For example, a website created in collaboration between five patient oncological associations provides support for cancer patients, ranging from information on nutrition and mental health, legal aid, social security rights, and links to experts and associations.

New legislative initiatives and funding are boosting palliative care access

The Slovak Republic has a system of palliative care that includes dedicated hospice buildings, mobile units and palliative care wards in hospitals. However, palliative care is still not a standard component of clinical practice, and identification and communication of a terminal prognosis remains challenging.

Specialised palliative care supply is well below the minimum recommended by the European Association for Palliative Care (EAPC). Many of the beds available in hospices or palliative wards are not staffed by physicians specialising in palliative care. For example, in 2022, among the 10 hospices in the Slovak Republic with a total of 180 beds, only about one-third of the beds were staffed by a palliative care physician. This represents 24% of the hospice specialised palliative care capabilities recommended by EAPC. In 2023, two new hospice facilities were added, but the supply remains below the minimum network requirements of 18 hospices established by government regulation. Similarly, while 85 beds were available in palliative care inpatient wards, only 19 of them were staffed by specialists in palliative care, which represents about 12% of the recommended supply (NOI & NCI, 2023). In 2022, the opening of a second outpatient palliative care clinic in the country was noteworthy, but outpatient palliative care clinic supply is still well below levels recommended by the EAPC. Challenges for establishing additional hospices include an administratively challenging process, with no guarantee that health insurers will contract with new providers (NOI & NCI, 2024).

Among the challenges has been the low reimbursement levels from health insurance companies, which has made it unprofitable to provide residential and home-based palliative care. As such, many palliative care providers are non-profit or religious organisations that rely on donations and out-of-pocket payments, and access to such services for low-income individuals is limited (NOI & NCI, 2023). In addition, waiting times to place patients in hospices range from two to six weeks (NOI & NCI, 2024). As of December 2023, 32 Slovak physicians had passed the palliative care specialisation exam (including five certified in 2023), and this field is growing rapidly – with 24 physicians in training in 2023.

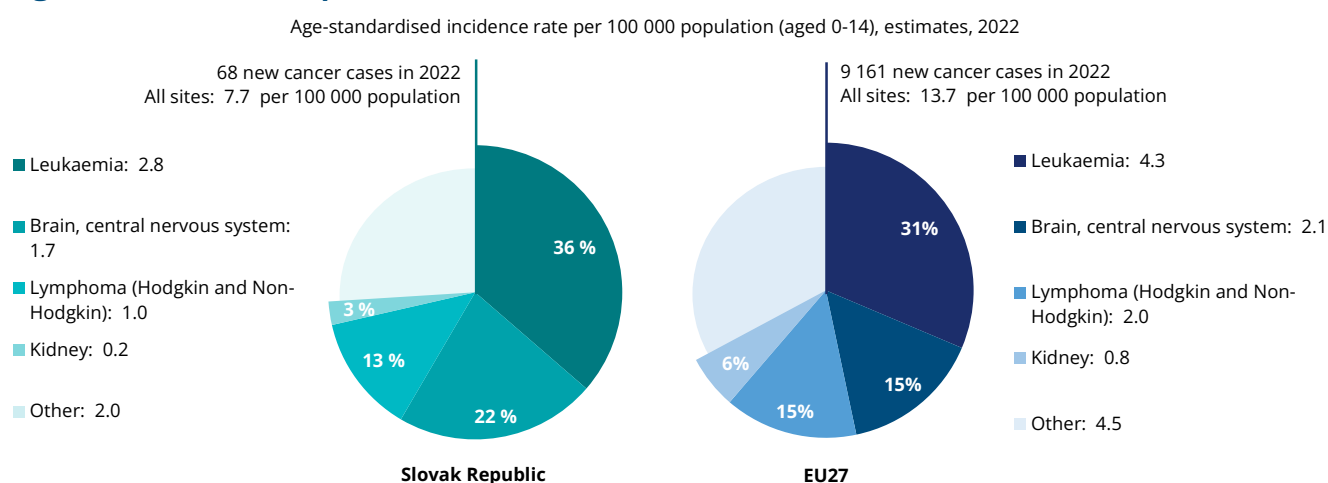
The RRP for the Slovak Republic entails investment in palliative care capacity and expansion of the hospice network by 2026. As part of the RRP, the Ministry of Health issued a call for about EUR 2.4 million to help improve the mobile hospice care network, with additional proposals planned for hospices and palliative care wards. Another major step was the enactment of Act No. 267/2022 in the Slovak Republic, which defined general and specialised palliative care and other relevant regulations (NOI & NCI, 2023). This legislation substantially improved reimbursement rates, although they may still be insufficient. As part of the changes, payment for a mobile hospice visit increased from EUR 12 to EUR 60 plus travel reimbursement, while payment for a day of hospice care increased from EUR 67 to EUR 100 (NOI & NCI, 2024).

6. Spotlight on paediatric cancer

According to ECIS, it is estimated that 68 children and adolescents up to age 15 were diagnosed with cancer in the Slovak Republic in 2022. Incidence rates for children aged 0-14 in 2022 were estimated at 8 per 100 000 children, much lower than the 14 per 100 000 EU average (Figure 19). Incidence rates among boys are slightly lower than among girls in the Slovak Republic, while the reverse holds true across the EU. The most common cancer groups

are leukaemia at 2.8 cases per 100 000 children (36%), brain and central nervous system cancer at 1.7 cases per 100 000 (22%) and lymphoma at 1 case per 100 000 (13%). Eurostat data shows that paediatric cancer mortality rates in the Slovak Republic are similar to the EU average, with a 3-year average mortality rate of 2.1 per 100 000 children.

Figure 19. The Slovak Republic has lower incidence of childhood cancers than the EU



Notes: 2022 estimates are based on incidence trends from previous years, and may differ from observed rates in more recent years. "All sites" includes all cancer sites except non-melanoma skin cancer. Source: European Cancer Information System (ECIS) for cancer incidence. From <https://ecis.jrc.ec.europa.eu>, accessed on 10 March 2024. © European Union, 2024.

According to the European Society of Paediatric Oncology (SIOPE)'s Organisation of Care & Research for Children with Cancer in Europe (OCEAN) Project, the Slovak Republic has three institutions treating children with cancer – the National Institute of Children's Diseases in Bratislava, Children's Teaching Hospital in Banská Bystrica and Children's Teaching Hospital of Košice (SIOPE, 2024). These use the same procedures for diagnosis and treatment, and two are classified as Level 5 – the highest level of specialisation under the Ministry's Hospital Reform Project (NOI & NCI, 2023).

Of 13 infrastructural and treatment modalities such as brachytherapy, stem cell transplants, palliative care and chemotherapy, 11 are available to care for paediatric patients in the Slovak Republic, while proton radiation therapy and a survivorship clinic are not. Patients can have consultations at the multidisciplinary tumour

boards in Bratislava and via an international tumour board in partnership with Children's Hospital of Philadelphia. Challenges include implementing multidisciplinary committees in leukaemia, central nervous system and solid tumours; ensuring that second opinions on pathological findings are standard procedure; and undertaking molecular and pathological diagnosis of rare tumours.

Of the 436 clinical trials involving paediatric and adolescent cancer patients in Europe between 2010 and 2022, only 12 were running in the Slovak Republic (3%). While this is similar to the low rates seen in other Central and Eastern European and small countries – such as Romania (4%) – it is significantly lower than the rate in Czechia (14%).

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Country abbreviations

Austria	AT	Denmark	DK	Hungary	HU	Luxembourg	LU	Romania	RO
Belgium	BE	Estonia	EE	Iceland	IS	Malta	MT	Slovak Republic	SK
Bulgaria	BG	Finland	FI	Ireland	IE	Netherlands	NL	Slovenia	SI
Croatia	HR	France	FR	Italy	IT	Norway	NO	Spain	ES
Cyprus	CY	Germany	DE	Latvia	LV	Poland	PL	Sweden	SE
Czechia	CZ	Greece	EL	Lithuania	LT	Portugal	PT		

European Cancer Inequalities Registry

Country Cancer Profile 2025

The European Cancer Inequalities Registry is a flagship initiative of the Europe's Beating Cancer Plan. It provides sound and reliable data on cancer prevention and care to identify trends, disparities and inequalities between Member States and regions. The Registry contains a website and data tool developed by the Joint Research Centre of the European Commission (<https://cancer-inequalities.jrc.ec.europa.eu/>), as well as an alternating series of biennial Country Cancer Profiles and an overarching Report on Cancer Inequalities in Europe.

The Country Cancer Profiles identify strengths, challenges and specific areas of action for each of the 27 EU Member States, Iceland and Norway, to guide investment and interventions at the EU, national and regional levels under the Europe's Beating Cancer Plan. The European Cancer Inequalities Registry also supports Flagship 1 of the Zero Pollution Action Plan.

The Profiles are the work of the OECD in co-operation with the European Commission. The team is grateful for the valuable comments and suggestions provided by national experts, the OECD Health Committee and the EU Thematic Working Group on Cancer Inequality Registry.

Each Country Cancer Profile provides a short synthesis of:

- the national cancer burden
- risk factors for cancer, focusing on behavioural and environment risk factors
- early detection programmes
- cancer care performance, focusing on accessibility, care quality, costs and quality of life.

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Series: EU Country Cancer Profiles



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