SLOVENIA

Country Cancer Profile

2025

European Commission

OECD
BETTER POLICIES FOR BETTER LIVES

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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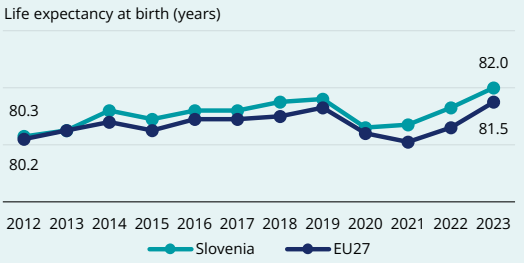
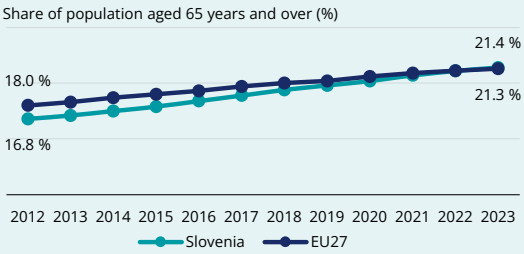
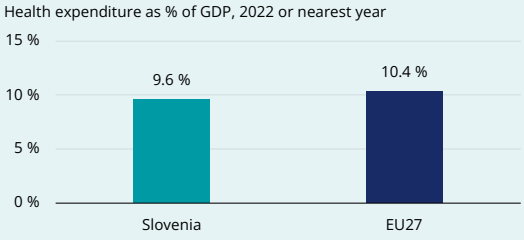
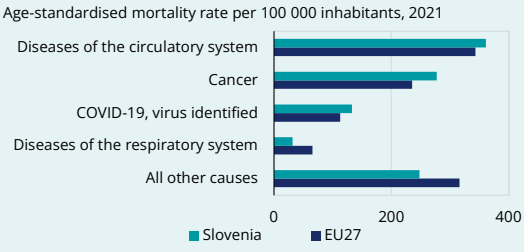


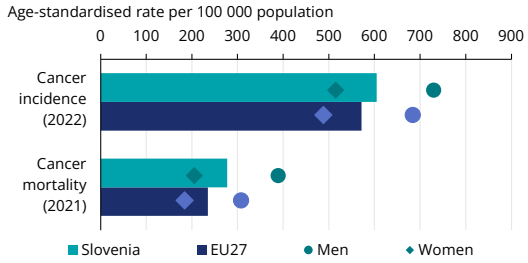






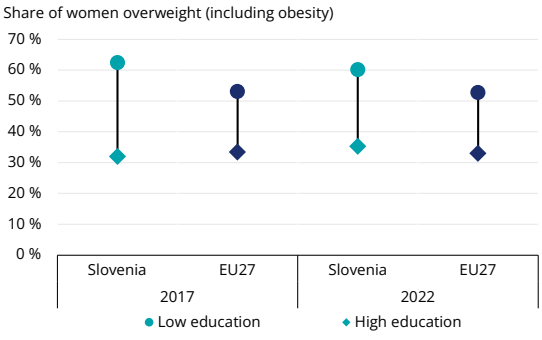
Source: Eurostat Database.

1. Highlights



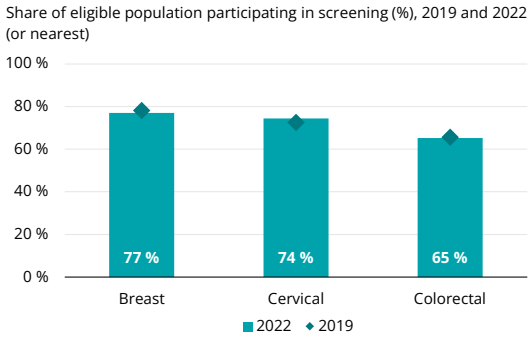
Cancer in Slovenia

Both estimated cancer incidence and cancer mortality rates in Slovenia are above the EU averages. Incidence has almost doubled in the last 20 years, although avoidable mortality has decreased substantially in the last decade. Cancer incidence and mortality are more prevalent among men than women in Slovenia – especially among men with lower education levels.



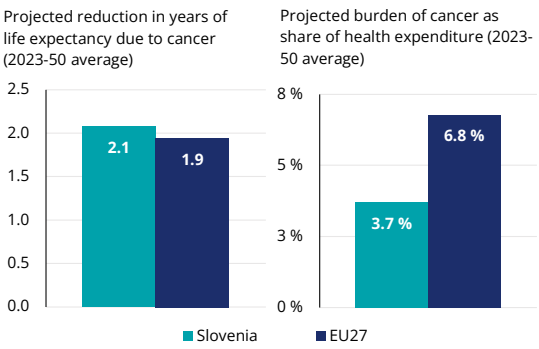
Risk factors and prevention policies

Smaller improvements have been made in Slovenia than in other EU countries on overweight and obesity, air pollution and human papillomavirus (HPV) vaccination. Unfavourable lifestyle risk factors tend to cluster among young adults, people with lower education or lower income levels, and those residing in the eastern regions of Slovenia. For example, the rate of overweight and obesity was 70% higher among Slovenian women with lower education levels than those with higher education levels. Prevalence of cigarette smoking has decreased, but use of e-cigarettes and heated tobacco products has increased among adolescents. Stricter legislation on new tobacco and nicotine products was endorsed in 2024.



Early detection

Slovenia has adopted population-based screening for cervical, colorectal and breast cancer. The programmes are implemented according to European quality guidelines; they are covered by social health insurance and are managed centrally. The participation rates in all three organised screening programmes in Slovenia have remained high despite the COVID-19 pandemic. The national cervical cancer screening programme is reaching three year uptake above 70%. Pilot HPV testing and liquid biopsy introduction are in preparation. Expansion of the target age range and personalised risk assessment are being considered in the national breast cancer screening programme, and updated guidelines have been adopted for the national colorectal screening programme in 2023.



Cancer care performance

In Slovenia, cancer care is accessible by more than 99% of the population, fully covered by social health insurance. Multidisciplinary integrated care for people with cancer is a quality standard in Slovenia, facilitated by the National Cancer Control Programme 2022-26. Surveillance of cancer care quality and late sequelae of childhood cancer is performed through the Slovenian Cancer Registry and National Cancer Control Programme expert groups. Comprehensive rehabilitation and specialist palliative care are being developed at all levels of cancer care, but additional human resources are needed. Overall, between 2023 and 2050, the burden of cancer is expected to account for 3.7% of total health expenditure, below the EU average.

2. Cancer in Slovenia

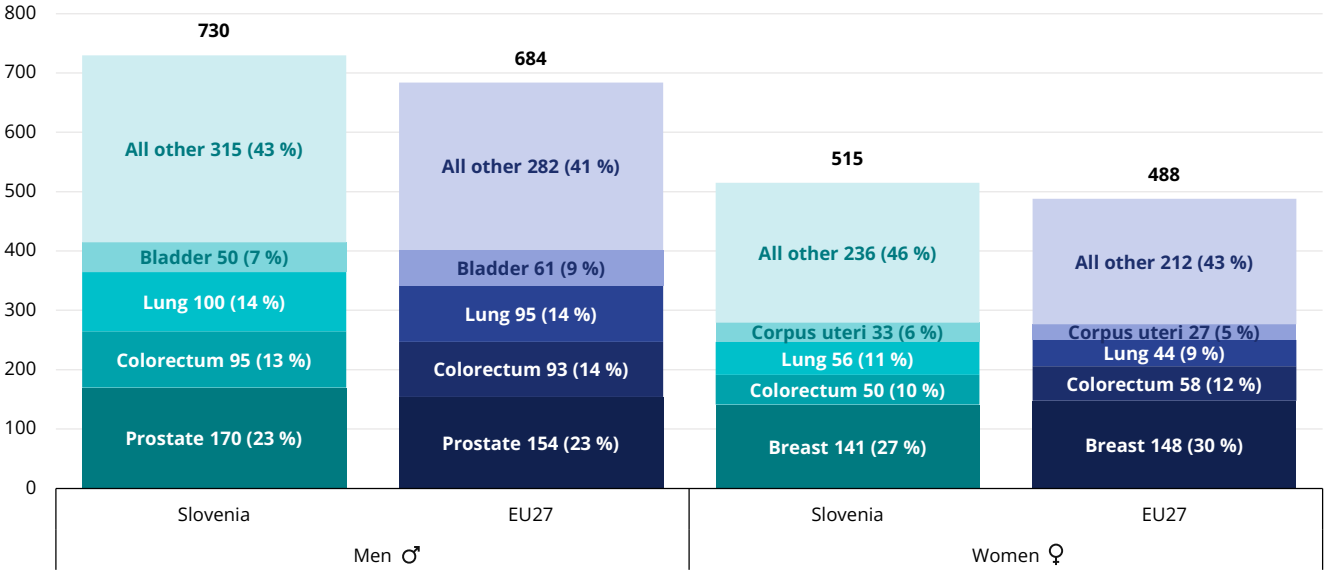
Slovenia has rates of cancer incidence above the average among EU countries

According to the European Cancer Information System (ECIS) of the Joint Research Centre based on incidence trends from pre-pandemic years, around 14 000 new cancer cases were expected in Slovenia in 2022. The age-standardised cancer incidence rate among men was estimated to be the eleventh highest in the EU, with 730 new cases per 100 000 inhabitants, while the rate among Slovenian women ranked twelfth, with 515 cases per 100 000 (Figure 1). According to national data, the crude incidence rate has almost doubled in the last 20 years, and has increased by an average of 1.7% per year over the last 10 years (by 1.0% for men and 2.4% for women) (SCR, 2023). As the Slovenian population has among largest shares of elderly people across EU countries, ECIS estimates that the number of cancer cases will increase 22% by 2040.

In 2022, the most common types of cancer in Slovenia (lung[1], breast, prostate and colorectal cancer) accounted for almost 50% of all diagnosed cancers (Figure 1). The highest share of cancer incidence among men is represented by prostate cancer (23% of all cancers), which is similar to the EU average. Among Slovenian women, breast cancer represents the biggest share of incidence, at 27% of cancer cases, which is lower than the EU average (30%).

Figure 1. Lung cancer among Slovenian women is more prevalent than the average across the EU

Age-standardised incidence rate per 100 000 population, estimates, 2022



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.

Overall and avoidable mortality for the majority of cancer sites have decreased faster in Slovenia than across the EU

In Slovenia, the age-standardised cancer mortality rate per 100 000 inhabitants in 2021 was 277 – the fourth highest in the EU, where the average was 235 per 100 000 (Figure 2). As in all other EU+2 countries[2], the mortality rate was significantly higher among men than women. The gap in mortality between sexes in Slovenia (184 per

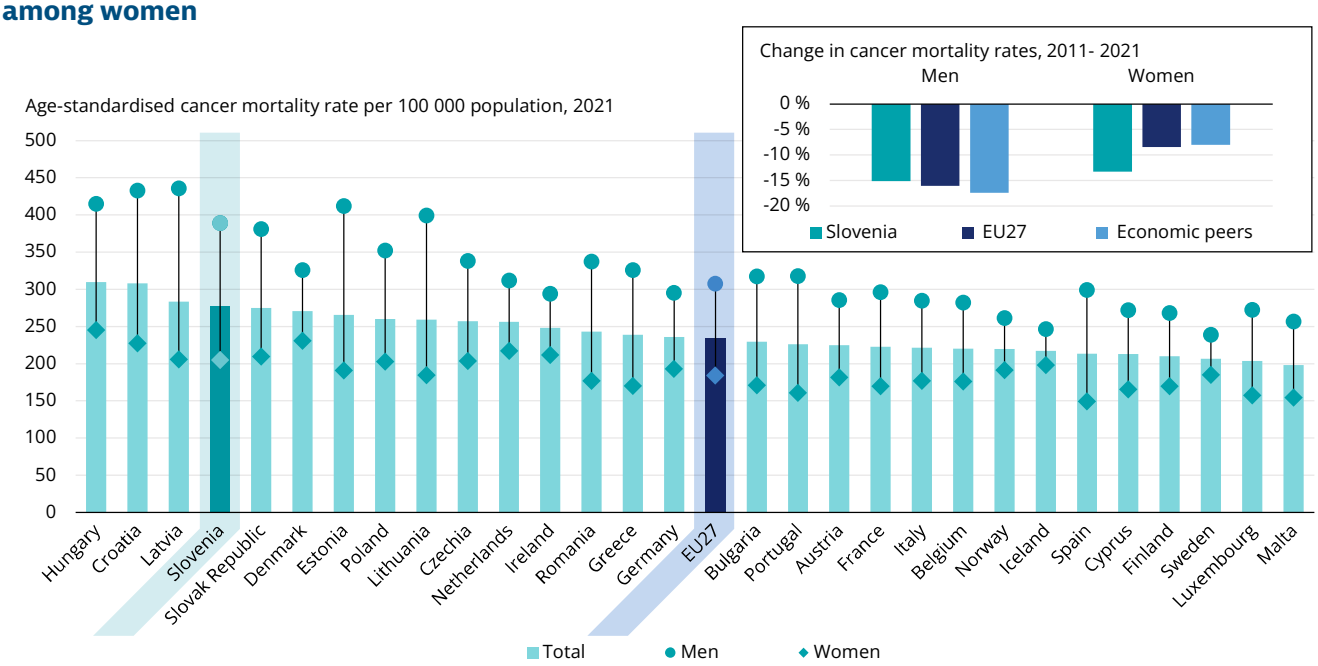
1 *Lung cancer also refers to trachea and bronchus cancers.*

2 *EU+2 countries include 27 EU Member States (EU27), plus Iceland and Norway.*

100 000) was greater than the EU average (124 per 100 000).

Cancer mortality rates fell significantly between 2011 and 2021 – by 15% for men and 13% for women. Compared to the country's economic peers[3], the decrease in mortality was lower among men (by 2 percentage points), but greater among women (by 5 percentage points).

Figure 2. In the last decade, cancer mortality rates have fallen substantially in Slovenia, especially among women



Notes: Economic peers are defined as tercile clusters based on 2022 GDP per capita in purchasing power standard terms. Economic peers for SI are CY, CZ, ES, FI, FR, IT, LT and MT.
Source: Eurostat Database.

Lung, colorectal and breast cancers were the three leading causes of cancer deaths in Slovenia in 2021. Lung cancer mortality accounted for 19% of all cancer deaths and colorectal cancer for 11%, followed by prostate cancer (8%) and breast cancer (7%).

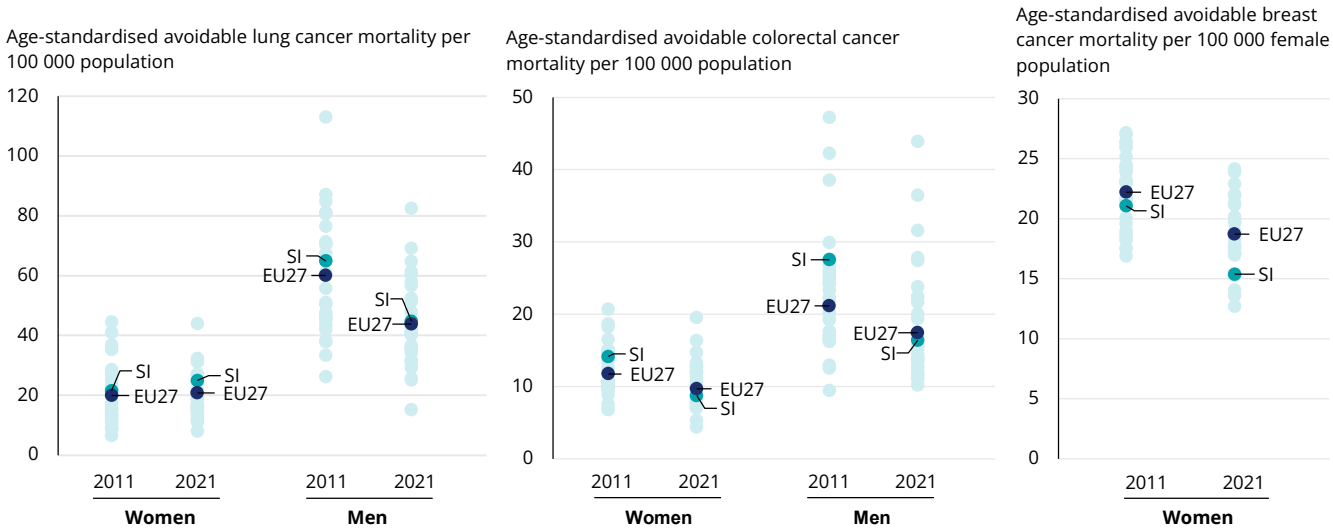
In 2021, the avoidable mortality rate[4] for lung cancer (classified as preventable) in Slovenia was 25 per 100 000 women (20% above the EU average) and 45 per 100 000 men (2% above the EU average). During 2011-21, the rate increased by 16% for women and decreased by 31% for men, although both rates were above the EU averages in 2021 (Figure 3). Mortality rates reflect trends in incidence of lung cancer, which reflect smoking patterns from decades earlier. Early detection and other public health interventions are needed to reduce preventable lung cancer mortality rates, especially among women.

Avoidable mortality from breast and colorectal cancer (classified as treatable) was lower in Slovenia than the EU averages, at 15 per 100 000 women for breast cancer, and 9 per 100 000 women and 16 per 100 000 men for colorectal cancer in 2021. Compared to 2011, Slovenia's avoidable mortality rates for breast and colorectal cancer had decreased nearly twice as much as the EU averages (by 27% compared to 16% for breast cancer, and by 38% compared to 18% for colorectal cancer among women). The reductions in breast and colorectal cancer mortality in Slovenia suggest progress in implementing more effective and timely healthcare interventions (see Section 4).

3 *Economic peers are defined as tercile clusters based on 2022 GDP per capita in purchasing power standard terms. Economic peers for SI are CY, CZ, ES, FI, FR, IT, LT and MT.*

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 3. Avoidable mortality from breast and colorectal cancer in Slovenia decreased more than the EU averages during 2011-21



Notes: Avoidable mortality figures relate to deaths of people aged under 75. EU26 for smoking and drunkenness; EU25 for overweight.
Source: Eurostat Database. Data refer to 2021.

Overall cancer mortality rates are higher in less educated than high educated men

According to the EU-CanIneq study, the age standardised overall cancer mortality rate among Slovenian men is higher among those with lower education levels. However, this gap (63%) is narrower in Slovenia than the EU average gap (84%). For women, on the other hand, cancer mortality rates in Slovenia do not differ by education level, although a gap exists across the EU (Figure 4).

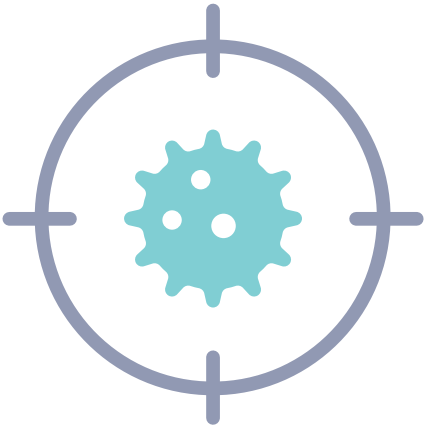
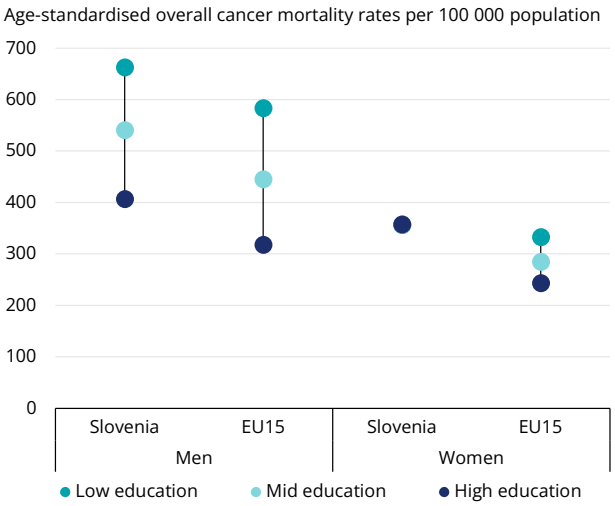


Figure 4. In Slovenia, the education gap in cancer mortality among men is similar to the EU average, but there is no such gap among women

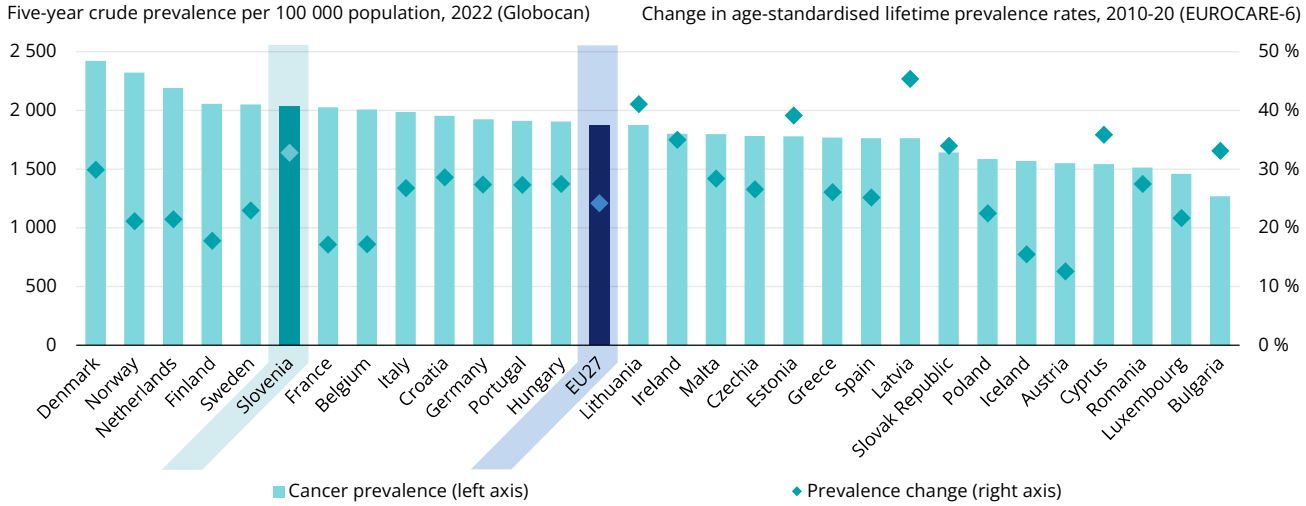


Notes: Data come from the EU-CanIneq study and refer to 2015-19. EU15 refers to unweighted average of 14 EU countries and Norway.
Source: European Commission/IARC/Erasmus MC (2024), Mapping socio economic inequalities in cancer mortality across European countries. ECIR Inequalities factsheet.

The number of people with a history of cancer has increased in Slovenia

In 2022, Slovenia had five year prevalence[5] of 2 036 cancer cases per 100 000 population – the sixth highest rate in the EU+2 countries and well above the EU average of 1 876 per 100 000 (Figure 5). Between 2010 and 2020, cancer prevalence in Slovenia increased by 33%, compared to 24% across the EU. By the end of 2024, more than 125 000 people were living with cancer in Slovenia (60% of them women), and the number of survivors was almost five times greater than 35 years ago. Breast and prostate cancer contribute the largest shares of the increase in prevalence (SCR, 2023).

Figure 5. Slovenia has the sixth highest five-year cancer prevalence in EU+2 countries, and it increased more than the EU average during 2010-20



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

The Slovenian National Cancer Control Programme focuses on measures to improve the quality of life of people with cancer

Slovenia is in the middle of the third period of its National Cancer Control Programme (NCCP), which has been set for 2022-26 (IOL & Ministry of Health, 2024). In line with Europe's Beating Cancer Plan (European Commission, 2021), the policy priorities of the current NCCP are to reduce incidence and increase the survival rate and quality of life of people with cancer (Box 1). Comprehensive rehabilitation and palliative care programmes have started to be implemented gradually (see Section 4).

In the NCCP 2022-26, Slovenia has set a strategic goal of establishing a national network of oncology providers at all levels of healthcare to achieve comprehensive, high-quality and cost-effective care for all. Particular focus is placed on monitoring the entire continuum of cancer care, ensured by the population-based Slovenian Cancer Registry (SCR). National clinical registries have been established at the SCR for the five most common cancer types (skin melanoma, lung, breast, colorectal and prostate cancer) and for follow-up of paediatric cancers. National multidisciplinary teams of experts use these data to assess the quality of cancer care and make recommendations for improvements, which are provided to policy makers by the NCCP's governance structures.

The NCCP is co-ordinated by the Institute of Oncology in Ljubljana (IOL), where screening, diagnosis, treatment and follow-up for people with cancer are carried out at a national level. Civil society has been involved as a partner in planning and implementation of the NCCP since its inception. People living with cancer and their caregivers are treated as equal stakeholders through representative non-governmental organisations (NGOs). The IOL also has a board of cancer patients who serve as an advisory group and oversee its work.

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.*

Box 1. Slovenia's National Cancer Control Programme aims to align with the four pillars of Europe's Beating Cancer Plan

The NCCP 2022-26 includes measures and policies such as combating risk factors associated with cancer incidence like smoking (including new tobacco-related products), alcohol consumption, unhealthy diet and physical inactivity, environmental pollution, and exposure to hazardous substances, including radiation, and infections; continuing the three screening programmes and study on establishing new screening programmes for lung and prostate cancer; ensuring equal access and timely treatment for patients nationwide, further implementing quality cancer care indicators and introducing novel therapeutic methods in haemato-oncology; and establishing expert groups to monitor specific cancer types, implementing quality indicators, palliative care and rehabilitation programmes for cancer patients. The NCCP also focuses on improving the research domain by supporting population-based, translational and clinical research and increasing patient participation in clinical trials. Although the two transversal themes of cancer inequalities and paediatric cancer are not prioritised, the plan includes discussion and measures on these topics (Table 1).

Table 1. Slovenia's National Cancer Control Programme is aligned with Europe's Beating Cancer Plan

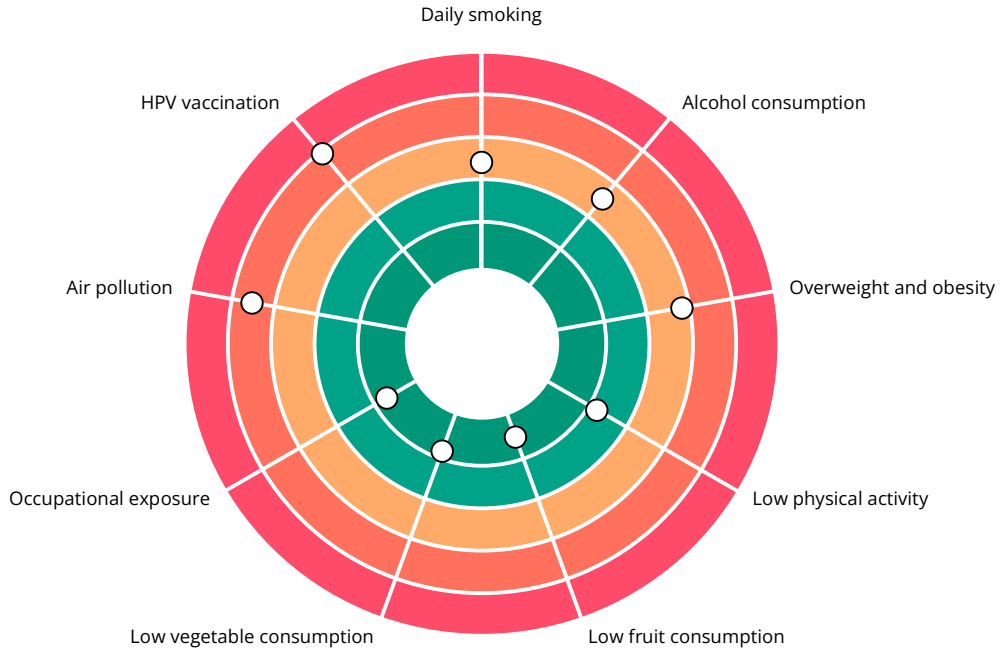
Pillars of EBCP				Transversal themes of EBCP		
Prevention	Early Detection	Diagnosis and treatment	Quality of life	Cancer inequalities	Paediatric cancer	Research and innovation
●	●	●	●	●	●	●

Notes: EBCP = Europe's Beating Cancer Plan; Blue indicates that the NCCP includes a specific section on the topic; orange indicates that the topic is covered in one of the NCCP's sections without being the only focus; and pink indicates that this topic is not covered in the NCCP.
Source: Adapted from "Study on mapping and evaluating the implementation of the Europe's Beating Cancer Plan" (not yet published).

3. Risk factors and prevention policies

In Slovenia, the five most common cancer types are mainly attributable to lifestyle and behavioural risk factors. In the fields of healthier nutrition, higher levels of physical activity and lower occupational exposure to chemicals among adults, Slovenia has made substantial improvements compared to other EU countries. Poorer performance is observed, however, in higher prevalence of overweight and obesity, alcohol consumption, smoking, air pollution and lower prevalence of HPV vaccination (Figure 6). National surveys show that unfavourable lifestyle risk factors tend to cluster among young adults, men, people with lower education or income levels and those residing in the eastern regions of Slovenia (Gabrijelčič et al., 2021).

Figure 6. Slovenia has a lower performance than other EU countries on overweight and obesity, human papillomavirus vaccination and air pollution

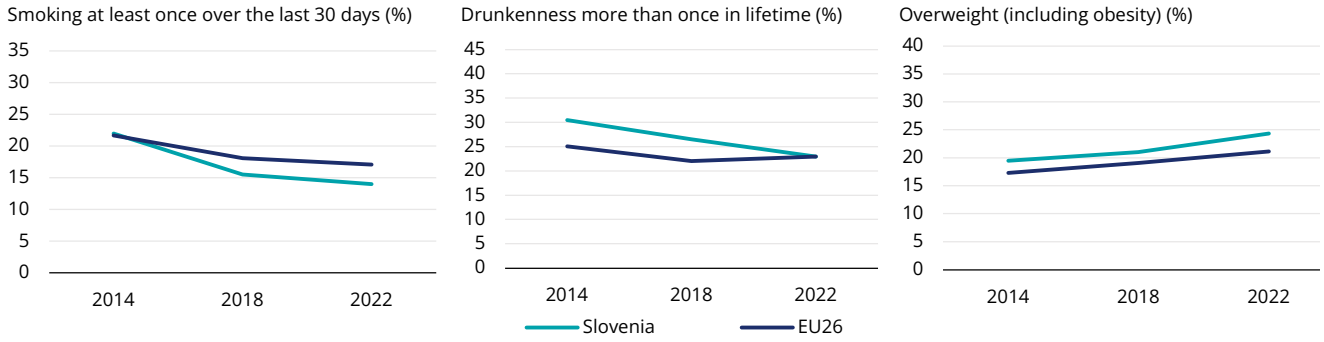


Notes: The closer the dot is to the centre, the better the country performs compared to other EU countries. No country is in the white "target area" as there is room for progress in all countries in all areas. Air pollution is measured as particulate matter with a diameter less than 2.5 micrometres ($PM_{2.5}$).
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 (15-year-old girls).

Use of e-cigarettes, heated and smokeless tobacco products has risen alarmingly among Slovenian adolescents

Prevalence of smoking at least once over the last 30 days among 15-year-olds in Slovenia decreased by 8 percentage points during 2014-22, which was a larger reduction than across the EU (Figure 7). Results of the European Health Interview Survey (EHIS) in 2019 showed disparities by education: 20% of adolescents aged 15-19 with attained lower education levels smoked, compared to 6% of those already enrolled into higher education. However, increased use of e-cigarettes, heated and smokeless tobacco products, and nicotine pouches raises concern. The Health Behaviour in School-aged Children Survey and a national web survey on pandemic fatigue showed that 7% of 13-year-olds and 19% of 15- to 17-year-olds used e-cigarettes in Slovenia in 2022.

Figure 7. Slovenian adolescents are smoking less 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.

Following many activities undertaken by the National Institute of Public Health (NIPH) and Ministry of Health, with strong support from NGOs, stricter tobacco control legislation was passed in March 2024, banning all flavours in e-cigarettes and heated tobacco products, implementing warning labels on new nicotine products, and prohibiting smoking in all public places. There is good access to all main modalities for smoking cessation – such as a national quitline, individual and group counselling support to quit smoking, and antinicotine medications. The majority of these are free of charge and offered within primary care, in local communities. Nevertheless, there is room for improvement in public health measures, such as increased taxation of tobacco and related products, advertising regulation, and stricter control over prohibition of sales to minors.

Alcohol consumption in Slovenia has remained consistently high over time

In Slovenia, alcohol remains a major public health problem, with the consumption rate similar to the EU average in 2022. Since 2012, Slovenians have consumed 10-11 litres of pure alcohol per year (10 litres in 2022). In 2020, 5 breast cancer cases per 100 000 women and 10 colorectal, 3 pharyngeal and 3 liver cancer cases per 100 000 men were attributed to alcohol – rates higher than the EU averages. The economic burden of health-related consequences of alcohol consumption represented 3% of all annual expenditure on the healthcare system during 2015-17 (Sedlak et al., 2019).

Among Slovenian 15-year-olds, prevalence of drunkenness more than once in a lifetime decreased by 8 percentage points during 2014-22 (see Figure 7).

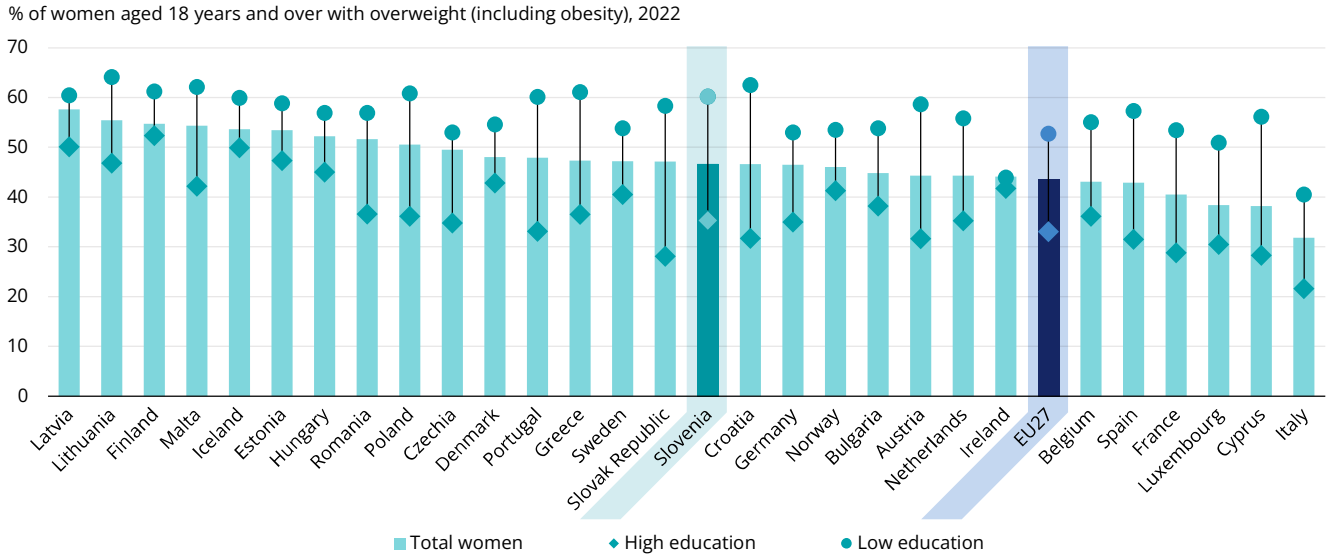
Many preventive actions are regularly carried out in Slovenia, including the national campaign “40 dry days”, action on road safety and awareness campaigns on avoiding alcohol consumption. At the primary healthcare level, individual risk assessments and brief interventions were systematically introduced in 2022 to provide support for people with harmful drinking problems or alcohol dependency. Some key measures such as regulation of advertising, reduction of affordability and regulation of illegal or unregistered alcohol production are yet not in place in Slovenia.

Inequalities in overweight and obesity rates by education level are large

In 2022, 56% of the Slovenian population aged 18 and over was overweight or obese – a higher rate than the EU average (51%). During 2017-22, the share of overweight adult women stayed the same (47%), while the share of overweight adult men increased by 3 percentage points to 66%. This gender gap is even wider if education is also considered: Slovenian men with higher education levels (58%) had higher prevalence of overweight than similarly educated women (35%) in 2022.

Among Slovenian women in 2022, the rate of overweight and obesity was higher among women with lower education levels (60%) than those with higher education levels (35%) – notably higher than the EU averages of 53% among women with lower education levels and 33% among those with higher education levels (Figure 8). This gap narrowed slightly during 2017-22, as the share of overweight and obese women with higher education levels increased by 3 percentage points (from 32% to 35%) and exceeded the EU average (33%) in 2022.

Figure 8. More Slovenian women are overweight and obese than the EU average – especially those with lower education levels



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

The results of the 2020 national survey on health-related lifestyles revealed that every second Slovenian predominantly consumes unhealthy food. The trend is more pronounced among men, young adults and individuals with lower education and income levels. The Slovenian Government responded to this trend with the comprehensive multisectoral National Nutrition and Physical Activity Strategy 2015-25. This supports an increase in consumption of fruit and vegetables, a reduction in intake of sugar and salt, a reduction in unhealthy fat content in food products, consumption of breakfast every day and encouraging breastfeeding. It also strives to reduce malnutrition and frailty among elderly people and those with chronic conditions, and encourages regular physical activity to reduce overweight and obesity among the Slovenian population. An important part of the measures also involves creating an environment that will encourage an active lifestyle. Initiatives on all these topics have been updated in two year action plans.

In 2022, 24% of Slovenian 15-year-olds were overweight or obese (see Figure 7). This rate had increased by 5 percentage points during 2014-22, and was steadily above the EU average (21% in 2022). Key factors driving the high rates of overweight and obesity among adolescents are sedentary lifestyles, unhealthy nutrition and low levels of physical activity, which worsened during the COVID-19 pandemic, as shown by a national survey on pandemic fatigue. Among 15-year-olds in Slovenia, 29% consumed fruit consumption daily (compared to 30% in the EU on average) and 30% consumed vegetables daily (compared to 34% in the EU). The share of 15-year-olds engaging in 60 minutes of physical activity daily in Slovenia is quite low – at 17%, although this is slightly higher than the 15% EU average.

Socio-economic position is also a key driver of overweight among adolescents. In Slovenia, the proportion of 11- to 15-year-olds who were overweight in 2022 was estimated to be 28% among those in the bottom 20% of family affluence – 11 percentage points more than among those in the top 20% of family affluence (17%).

Recently, Slovenia introduced additional policies to address overweight in children and their families. These include, for example, programmes aimed at lifestyle and behavioural change as part of prevention programmes for the paediatric population. Healthier nutrition is also actively supported at all levels of education through the national school-based system of healthy nutrition standards, which also comprise school-owned kitchens, subsidies for school meals and restrictions on sales of unhealthy food. Nutrition programmes for high-school and university, front-of-package food labelling, and taxation on unhealthy food and drinks are, however, less well established.

Exposure to environmental risk factors is a public health concern in Slovenia

Estimated mean population exposure to air concentration of $PM_{2.5}$ has fallen considerably during the last decade in Slovenia – from 20 µg/m^3 in 2011 to 14 µg/m^3 in 2020, but it still remains above the EU+ 2 average (12 µg/m^3). Policy approaches to limit air pollution have consisted of subsidies for public transport use by vulnerable population groups and limits on maximum ticket prices on public transport, improvements in active transit infrastructure, and other measures to promote the green transition.

Additionally, two common cancers in Slovenia (skin melanoma and lung cancer) are also attributable to solar radiation and radon (SCR, 2023). Radon naturally clusters in the southern parts of Slovenia, and around 5% of lung cancer cases are attributed to it annually (Birk et al., 2024). In 2023, official construction guidelines considering protection from radon in buildings were issued.

A web survey on tanning salon visits among high school pupils showed that almost one third of respondents sunbathed to gain a tan, while only one third used protection (Uršič et al., 2024). There is no targeted prevention or legal regulation of adolescents using tanning salons. However, a prevention programme on safety in the sun is carried out regularly in kindergartens and schools.

Transnational and cross-sectoral efforts to increase human papillomavirus vaccine uptake among Slovenian adolescents are under way

The WHO data for Slovenia show that 52% of schoolgirls aged 15 were vaccinated against HPV in 2023 – below the EU average of 64%; this share declined through the COVID-19 epidemic to 45% in 2022 (NIPH, 2024a) At the beginning of school year 2021/22, free vaccination of boys aged 12 was rolled out. Within the HPV vaccination programme, 24% of boys received all recommended doses of their vaccine in 2023 (compared to 51% on average in the EU). For girls, stark disparities were observed among regions, with the lowest coverage in the capital region of Ljubljana (37%) and the highest in the smaller region of Ravne na Koroškem (71%).

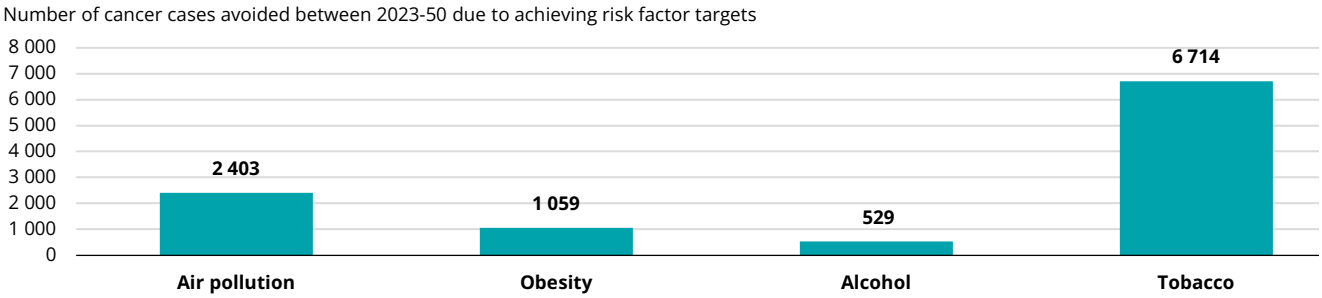
To tackle this problem, cross-sectoral and cross-disciplinary co-operation was established. Slovenia established a media campaign and humorous publication on HPV vaccination addressed to parents (IOL, 2024a). The IOL became a partner in the EU Joint Action Project Partnership to Contrast HPV of 2022-25, with the aim of increasing vaccination uptake in regions with low coverage. In addition, a national communication strategy to promote trust in HPV vaccination started in 2024, and training courses were organised for healthcare professionals on communicating the benefits of HPV vaccination.

There is opportunity to reduce new cancer cases in Slovenia by focusing on primary prevention

Like all countries in Europe, Slovenia has a substantial opportunity to reduce new cancer cases by focusing on primary prevention. In 2021, Slovenia spent a lower proportion of total health expenditure (5%) on prevention than the EU average[6] (6%). According to OECD Strategic Public Health Planning (SPHeP) modelling work, with an increase in primary prevention Slovenia could prevent thousands of new cancer cases between 2023 and 2050. The largest potential reduction (6 714 avoided cancer cases) could be achieved if tobacco reduction targets were met (Figure 9). Meeting the alcohol target could reduce the cancer burden by 529 cases; an additional 2 403 cases could be avoided if air pollution targets were met, and 1 059 if obesity targets were met.

6 *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.*

Figure 9. Slovenia could prevent over 6 000 new cancer cases between 2023 and 2050 by meeting tobacco control targets



Note: 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

Cervical, breast and colorectal cancer screening are widely available and accepted

Slovenia has adopted organised population-based screening for cervical, colorectal and breast cancer. All three screening programmes have been implemented according to European guidelines for quality assurance on cancer screening resulting in one of the highest participation rates across EU countries. They are also widely accepted by professionals and the public. They are covered by social health insurance (SHI) and are managed centrally (Box 2).

Box 2. Breast, cervical and colorectal cancer screening programmes have a very good reputation among the population, reflected in high participation rates

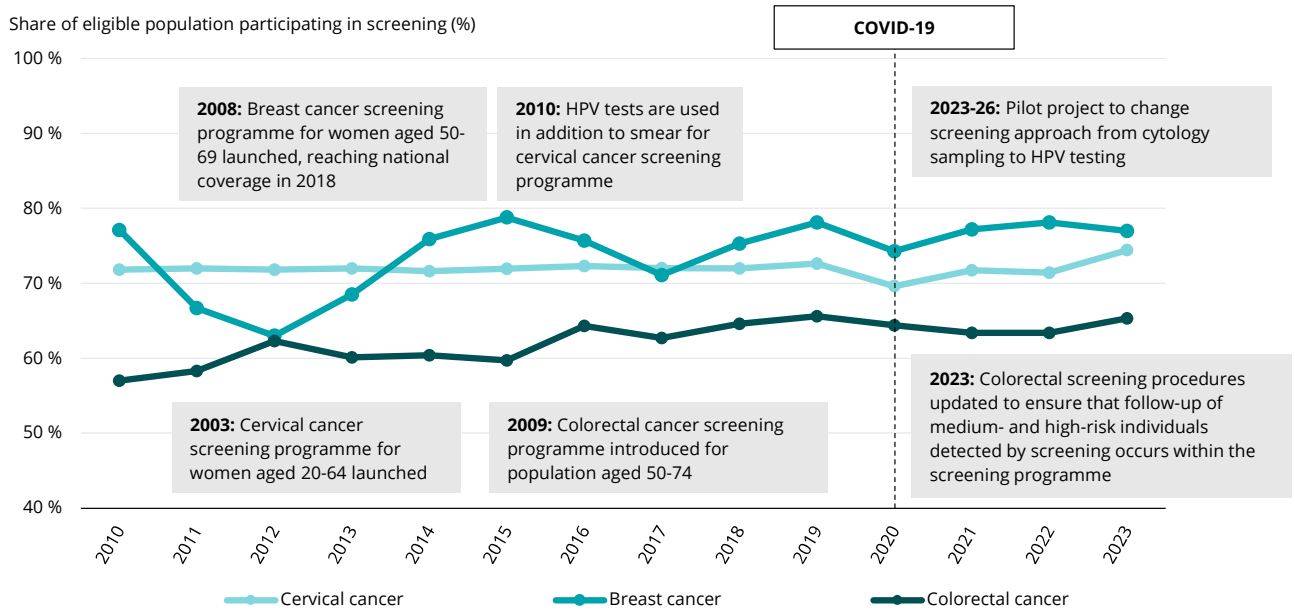
Organised screening programmes in Slovenia deliver high-quality screening and have been very well accepted by the public and professionals, as reflected in high participation rates. All three programmes are centrally managed by two institutions: the IOL for cervical and breast cancer screening and the NIPH for colorectal cancer screening. The managing team provides a screening registry, with an up-to-date database used for inviting the eligible population and to monitor the quality of delivery of each step in the screening process. Quality assurance protocols based on European guidelines on cancer screening are in place, and continuous education for all health providers is provided regularly. Each programme has its own communication strategy and has developed approaches to reach vulnerable populations and less responsive population groups, but all three programmes also collaborate when addressing the general public.

Screening programmes in Slovenia are part of the SHI scheme, which means that no out-of-pocket payment is necessary from the user. They all use proactive approaches to inviting the eligible population to screening, at defined intervals. This proactive, transparent and high-quality approach has established trust in the programmes among the general population.

The participation rate has been high in all three programmes since organised screening began (cervical cancer in 2003, breast cancer in 2008 and colorectal cancer in 2009). While coverage rates dropped slightly during 2020, they have been increasing steadily ever since (Figure 10).

Communication activities during the COVID-19 pandemic were targeted at the public to stress the importance of participation in screening; the safety measures in place and safe delivery of screening were also communicated extensively.

Figure 10. Participation rates in all three organised screening programmes in Slovenia have remained high, despite COVID-19



*Notes: *The National cervical cancer screening invites women aged 20-64 to have a smear test every three years. Data refers to the three-year cervical cancer screening participation rates, with a marker showing the last year from this period (e.g. for the period 2020-23 the rate provided is for 2023). **For the national breast cancer screening, all women aged 50-69 are invited to digital mammography every two years. From 2020, data are taken from yearly programme reports. ***National colorectal cancer screening invites men and women aged 50-74 to perform a faecal immunochemical test on two samples of stool every two years.*
Sources: Screening registry data: IOL (2024a; 2024b), NIPH (2024b).

On the basis of screening registry data, the NIPH provides annual reports on the state of population health in 212 Slovenian municipalities. These also present participation rates for all three organised cancer screening programmes, among others. Based on the findings, regional public health authorities support the municipalities and community healthcare services to improve their health indicators, with strong emphasis on encouraging and promoting the cancer screening programmes.

Cervical cancer screening uptake is over 70% in all Slovenian regions

The organised cervical cancer screening programme is well established in Slovenia. It has been available since 2003 for women aged 20-64, who are invited to have a smear test every three years carried out by gynaecologists in primary care. Samples are processed by nine designated laboratories, and results are collected centrally. Since 2010, HPV tests have also been in use.

Screening uptake during 2013-23 was on average above 70%. In 2020-23, all Slovenian regions reached screening uptake above 70% – the highest in Goriška region at 83% and the lowest in Pomurska region at 71%. By municipality, 180 out of 212 exceeded the 70% screening uptake threshold, with lower numbers mostly in smaller municipalities. Screening uptake remains highest among younger age groups (81.6% among women aged 20-24). During 2020-23, screening uptake was also above 70% for the first time among those aged 50-55, while it remained below that level among women aged 55-64 (IOL, 2024b).

Information on screening uptake is provided regularly by the screening programme to primary care gynaecologists, who are actively supported to improve local screening uptake. Communication also focuses on older women and on stimulation of HPV vaccination among school children.

During 2023-26, the cervical cancer screening programme is carrying out a pilot project to change the screening approach from cytology sampling to HPV testing, in line with the updated Council recommendation of 2022 (IOL, 2024b).

The organised breast cancer screening programme in Slovenia is exploring options to expand the target age of invited women

The Slovenian organised breast cancer screening programme has been operational since 2008, reaching national coverage in 2018. All women aged 50-69 are invited to digital mammography every two years. All procedures, output and outcome indicators are closely monitored, and are reaching European quality target values. As shown in Figure 10, the response rate for breast cancer screening has been high since the programme

began. Some differences among regions have persisted (in 2023 the highest uptake was 82.8% in Novo mesto; the lowest was 74.1% in Krško) (IOL, 2024a), while differences among municipalities are also monitored regularly. Communication strategies are planned to address these differences, together with surveys of non-responders.

A Slovenian survey from 2022 of women participating in the breast cancer screening programme shows a high level of satisfaction, especially related to the invitation system (SMS notifications were added in 2020), kindness of administrative and radiography personnel, and the mammography experience itself. In 2024, another survey has been carried out to explore experience or fear of pain among attenders, with the aim of providing an action plan to tackle this issue in the future.

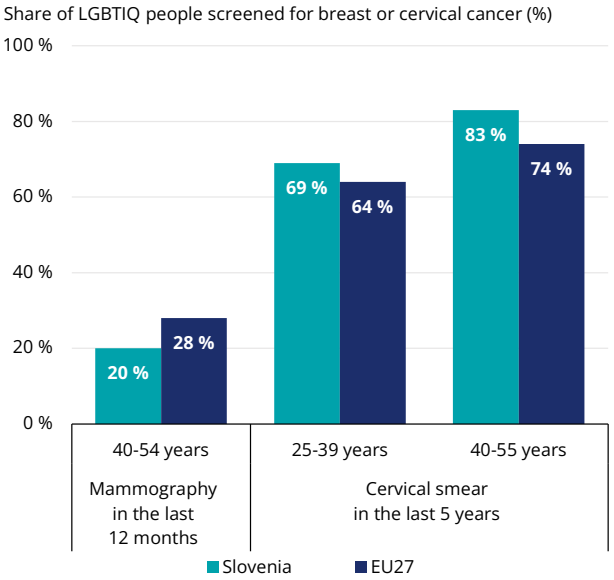
After the updated Council recommendation was instituted in 2022, the programme prepared a basic feasibility analysis to expand the age range of invited women to 45-74. A more in-depth analysis and proposal of expansion was being prepared in 2024. According to previous good practices and guidelines set by the National Screening Committee, the expansion will be piloted prior to nationwide implementation.

A study has been undertaken on the possibility of implementing personalised approaches to breast cancer screening to provide personalised screening plan according to individual risk scores. Further research is also planned before possible implementation.

Among LGBTIQ people, breast cancer screening participation is lower compared to the EU average, while cervical cancer screening rates are higher

According to the EU LGBTIQ Survey III, participation in cervical cancer screening among LGBTIQ persons is higher in Slovenia than in other EU countries (Figure 11). In 2023, 69% of LGBTIQ cisgender females, trans women and intersex aged 25-39 in Slovenia reported having had a smear test in the previous 5 years (higher than the 64% EU average), while 83% of those aged 40-55 in Slovenia reported a smear test (higher than the 74% EU average). This aligns with the relatively high screening rates seen in Slovenia in the general population as compared with the EU. However, for breast cancer screening, 20% of relevant LGBTIQ people aged 40-54 years reported having had a mammogram in the previous 12 months, lower than the EU average of 28%.

Figure 11. LGBTIQ persons in Slovenia participate more in cervical cancer screening than their counterparts in the EU



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).

Uptake of organised colorectal cancer screening in Slovenia is lower among men than women

In Slovenia, the organised screening programme for colorectal cancer was introduced in 2009. Men and women aged 50-74 are invited to perform a faecal immunochemical test on two samples of stools every two years; positive results are followed by a colonoscopy carried out by certified gastroenterologists. Since 2019, the colonoscopy can be performed under sedation or general anaesthesia to improve uptake and enhance satisfaction with the programme. In 2023, the operating procedures of the programme were updated, with special emphasis on follow-up of medium- and high-risk individuals discovered by screening. Follow-up of these patients will be provided within the screening programme, which will deliver timelier and better quality care, notably because the screening registry keeps track of them. The new operating procedure is expected to further reduce inequalities (NIPH, 2024b).

The response rate has increased steadily every year, except during the COVID-19 pandemic. In 2023, it reached 65%, with some differences among regions: it was lowest in Koper, at 62%, and highest in Kranj, at 69% (NIPH, 2024b). Participation rates are monitored at the municipality level, with the aim of targeting specific activities in some municipalities. Recently, involvement of general practitioners and community health nurses

was enhanced to support the non-responding population. However, a significant gap in response between men (59%) and women (71%) is still observed, and results from EHIS in 2019 showed response rates 5 percentage points lower among the population on lower than higher income levels, although only a small difference was found between different educational levels. After the COVID-19 pandemic, additional communication activities were launched, involving national and local radio and TV adverts, bus posters and demonstrations of supersized bowel models at local events. The involvement of colorectal cancer screening programme ambassadors is crucial – especially among men and other non-responding groups.

Slovenia is exploring the option of developing new cancer screening programmes

Slovenia has begun to explore options to carry out screening for lung and prostate cancer, in line with the updated Council recommendation of 2022. For both cancer types, expert groups have been established within the NCCP, and the Ministry of Health – with the Slovenian Research Agency – has financed a research project to investigate proposals for organised screening. The research project will finish in 2025, and pilot projects are planned thereafter.

The updated Council recommendation also proposes to explore the possibility of search and treat strategies for Helicobacter pylori (H. pylori) infection to prevent gastric cancer. Slovenia has an intermediate level of gastric cancer incidence and mortality, and figures are declining slowly. Slovenian professionals are participating in two ongoing EU projects in the field of H. pylori screening feasibility. The results of these studies will provide further insight into the possibility and effectiveness of such screening to prevent gastric cancer.

All possible future screening programmes will be steered towards implementation by the National Screening Committee established in 2020 (IOL & Ministry of Health, 2024). Its main aim is also to apply the highest possible quality standards, building on experience from the three established screening programmes.

5. Cancer care performance

5.1 Accessibility

Slovenia provides good coverage of cancer care

Cancer care expenditure in Slovenia relies fully on the SHI scheme endorsed by a single public insurer – the Health Insurance Institute of Slovenia (HIIS). This includes a broad benefits package covering prevention activities, cancer screening programmes, diagnostics and treatment procedures, anticancer medicinal products, follow-up, rehabilitation and palliative care. Treatments not available in the country, such as proton therapy, are provided abroad and are fully reimbursed. From 2023, the previous complementary, voluntary health insurance provided by private insurers was cancelled by the Slovenian Government and reorganised into an obligatory deductible as an addition to the SHI scheme managed by the HIIS.

Slovenia's National Cancer Control Programme has established a group of healthcare management and policy makers

The NCCP 2022-26 has set a goal of improving access to cancer care by providing a network of specialised and comprehensive healthcare providers. Thus, a NCCP group of healthcare management and policy makers has been established to discuss pending systemic issues, such as shortages of qualified healthcare workers, improvement of collaboration among oncology healthcare providers, and limitations in diagnostics and treatment options.

In Slovenia, comprehensive and multidisciplinary cancer care is centralised at four tertiary-level healthcare centres, two of which provide radiotherapy. The IOL is the single hospital in Slovenia dedicated exclusively to oncology, where 57% of all people with newly diagnosed cancer start their systemic therapy. Care of rare cancer types is centralised at the IOL, which is also actively

involved in the European Reference Networks (ERNs). Other secondary-level hospitals and some ambulatory providers also provide diagnostics or treatment for people with cancer, especially for the most common cancer types. Most secondary-level hospitals collaborate with the IOL via weekly online multidisciplinary tumour boards and consultations, at which patient cases are presented, and best treatment options agreed upon.

While a referral from primary healthcare is necessary to access diagnostics and specialised cancer care, there is a shortage of primary care physicians

Access to diagnostics and specialised cancer care is granted by a referral system from primary care physicians. Suspected cancer cases are subject to a "very fast" referral category, in which healthcare should be delivered within 14 days. All citizens have the right to an appointed physician at the primary care level, but recent years have seen a shortage of primary care physicians, so a proportion of the population no longer has an appointed physician. In 2023, to address this urgent issue, the national healthcare system established non-appointed ambulatory services at the primary care level for people without an appointed primary care physician to provide uninterrupted healthcare for all.

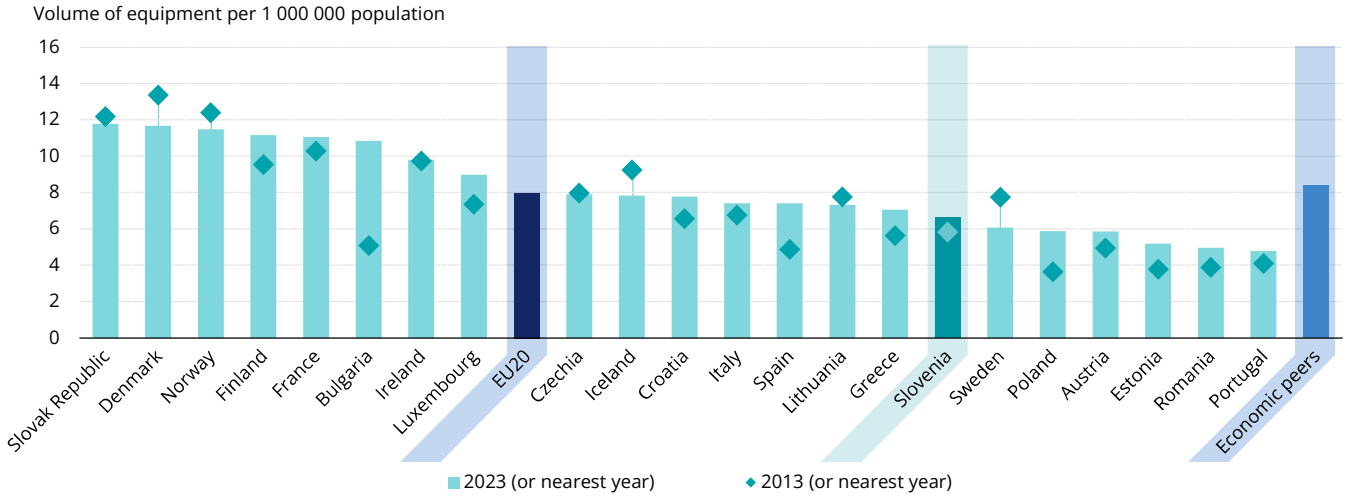
Slovenia has increased the supply of medical equipment in recent years

Slovenia has below the EU average numbers of computed tomography (CT) scanners (17 per 1 000 000 population in 2023 compared to 26 per 1 000 000 across the EU), magnetic resonance imaging (MRI) units (17 per 1 000 000 compared to 18 per 1 000 000 across the EU) and positron emission tomography (PET) scanners (1.9 per 1 000 000 compared to 2.3 per 1 000 000 across the EU), although the volume of diagnostic equipment for oncology, which is considered a priority, is sufficient. The bottleneck of PET scans needed before decisions on cancer treatment was partially resolved by provision of extra equipment in 2023, with plans for further expansion in 2025. Another bottleneck occurred in availability of imported radiopharmaceuticals for medicinal use – especially during the COVID-19 pandemic and during weekends and holidays – so Slovenia has decided to invest in developing its own production in the future.

In Slovenia, the volume of radiation therapy equipment was 6.6 per 1 000 000 population in 2022, which is 17% lower than the EU average (8 per 1 000 000) and 21% lower than the average of its economic peers (8.4 per 1 000 000) (Figure 12). The volume has increased by 13% since 2012.

To avoid waiting times, radiation therapy services are run on all available equipment on all-day schedules six days per week, when necessary. Expansions of radiation therapy equipment are planned for both locations providing radiotherapy, but the expansion of current facilities is needed, with construction work already under way.

Figure 12. In Slovenia, the volume of radiation therapy equipment has increased in the last decade, but it still lags behind the averages across the EU and the country's economic peers



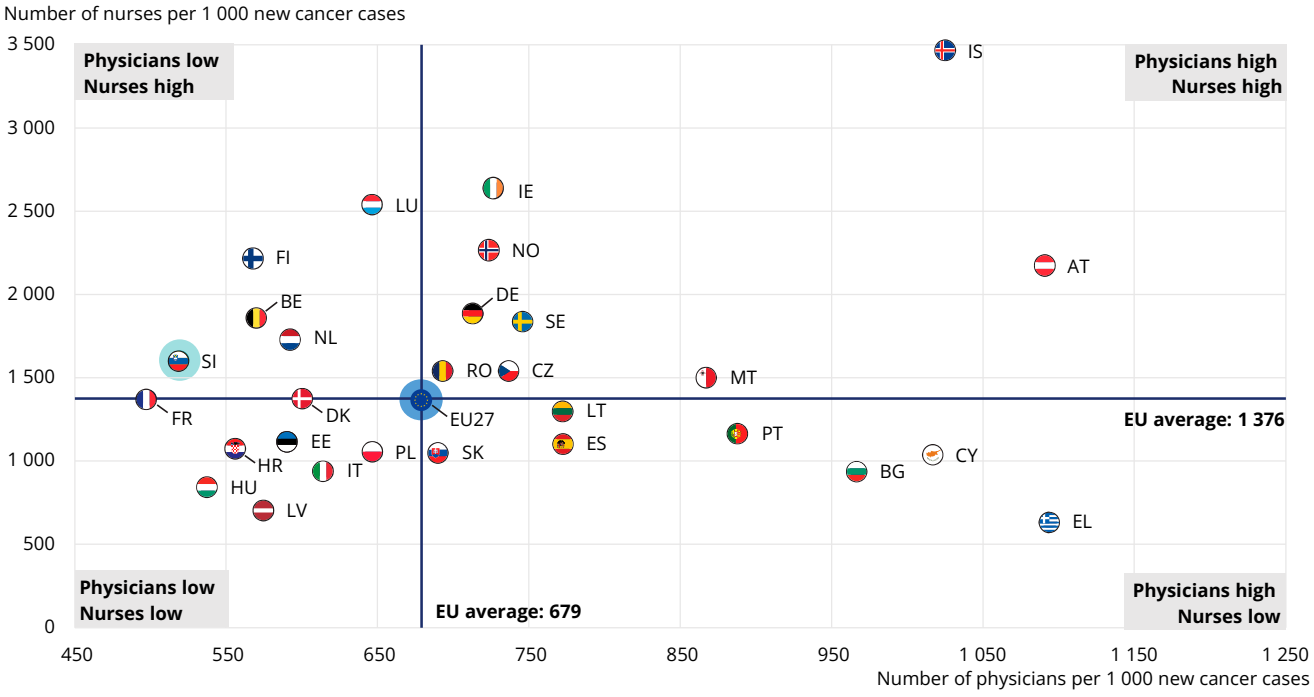
Notes: The vast majority of radiotherapy equipment in EU countries is found in hospitals. Data for Portugal and France includes equipment in hospitals only while data for other countries refer to all equipment. Economic peers are defined as tercile clusters based on 2022 GDP per capita in purchasing power standard terms. Economic peers for SI are CZ, ES, FI, FR and IT. The EU average is unweighted.
Source: OECD Health Statistics 2024.

A shortage of oncology specialists persists, and a similar issue is arising with nursing personnel

Slovenia has a low supply of physicians and a high supply of nurses relative to new cancer cases (Figure 13). The country has 519 physicians per 1 000 new cancer cases, which is lower than the EU average of 679 per 1 000 in 2022. It has 1 602 nurses per 1 000 new cancer cases, which is slightly higher than the EU average of 1 376 per 1 000 new cancer cases. In recent years, however, the issue of a lack of nursing staff has been growing throughout the healthcare and social care system in Slovenia. This has become more pronounced since 2022, with post-COVID-19 burnout and staff exiting the healthcare sector, retiring in large cohorts, alongside increasing demands due to the ageing population.

To address this issue, the NCCP group of healthcare managers and policy makers has encouraged stronger collaboration between and within existing healthcare facilities and staff. It has introduced nurse co-ordinators, tele-expertise for collaboration among healthcare institutions (such as multidisciplinary tumour board online meetings between institutions throughout the country) and telemedicine services for patients (such as teleconsultations for health issues or follow-up). There has also been an increase in training capacities in the field of general and specialist palliative care (see Section 5.4) and clinical psychology, enlarging the teams and introducing collaborations with newly established mental health centres at the primary care level for patients from diagnosis onwards. Procedures have been rationalised by encouraging substitutions among healthcare workers and administration staff, and co-ordinator nurses are being introduced within hospitals. In the field of follow-up, palliative care and comprehensive rehabilitation, collaboration among tertiary, secondary and primary levels of healthcare has been encouraged through a joint decision-making process for survivorship, easier access to medical records at the primary level and 24/7 support for specialist palliative care and mobile palliative teams. Thus, all available capacities are being used in a more efficient way.

Figure 13. Slovenia has a low supply of physicians and a high supply of nurses per 1 000 new cancer cases compared to the EU average



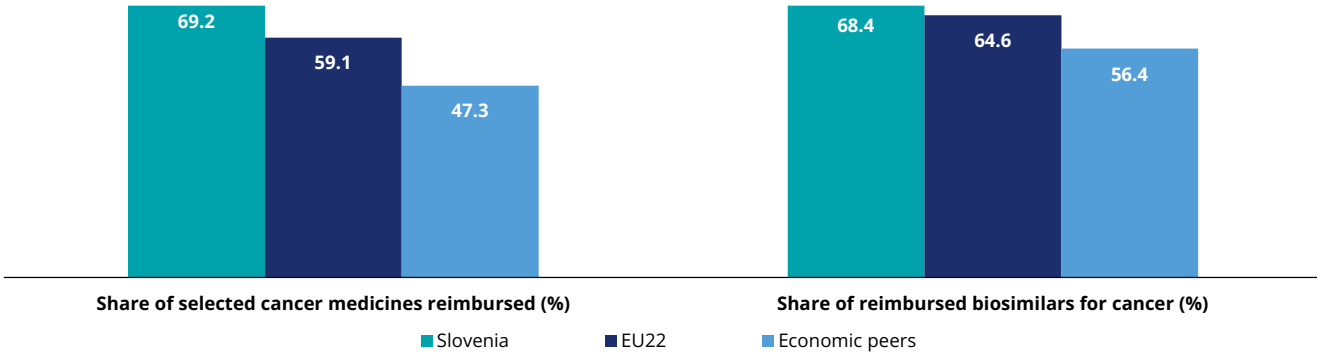
Notes: The data on nurses include all categories of nurses (not only those meeting the EU Directive on the Recognition of Professional Qualifications). Data refer to practising nurses except in Portugal and the Slovak Republic, where they refer to professionally active nurses. In Greece, the number of 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.

All oncology care in Slovenia is accessible by all patients free of charge, on a par with emergency healthcare services

Comprehensive cancer care is completely covered by the SHI for more than 99% of the Slovenian population, while for others – such as unemployed or homeless people and migrants – various government schemes are in place that cover expenses. Access to anticancer medicinal products is good, since all medication is available through the SHI scheme. Cross-border treatment, such as proton therapy, is also reimbursed (IOL, Ministry of Health, 2024). New medicines in Slovenia are introduced more quickly (293 days after European Medicines Agency approval) than the EU average (516 days after approval). A special board at the HIIS facilitates relatively fast introduction of new drugs approved by the European Medicines Agency, although the small size of the Slovenian market sometimes poses a challenge for pharmaceutical companies when starting administrative procedures. This can also be a challenge when considering patients' inclusion in clinical trials. Options for compassionate use of anticancer medicines are also available at the recommendation of the treating oncologist to a special board at the HIIS.

In Slovenia, the proportion of selected oncology medicines for breast and lung cancer with high clinical benefit that are publicly reimbursed is 69%, which is higher than the averages across the EU (59%) and among the country's economic peers (47%) (Figure 14). The share of biosimilars for cancer medicines with public reimbursement is 68% in Slovenia, which is substantially higher than the averages across the EU (65%) and among its economic peers (56%).

Figure 14. Slovenia has a substantially higher share of reimbursed new anticancer drugs and biosimilars than the averages across the EU and the country's economic peers



Notes: The analysis includes a sample of 13 indications of 10 new cancer medicines for breast and lung cancer with a high clinical benefit and 19 biosimilars of three cancer medicines (bevacizumab, rituximab, trastuzumab), with active marketing authorisation by the European Medicines Agency as of 26 March 2023. The data represent the share of the indications or biosimilars that were on the public reimbursement list on 1 April 2023. Economic peers are defined as tercile clusters based on 2022 GDP per capita in purchasing power standard terms. Economic peers for SI are CY, CZ, ES, FR, LT and MT. The EU average is unweighted.
Source: Hofmarcher, Berchet and Dedet (2024), "Access to oncology medicines in EU and OECD countries", https://doi.org/10.1787/c263c014-en.

Palliative care capacities are being strengthened, but are still not adequate for Slovenia's needs

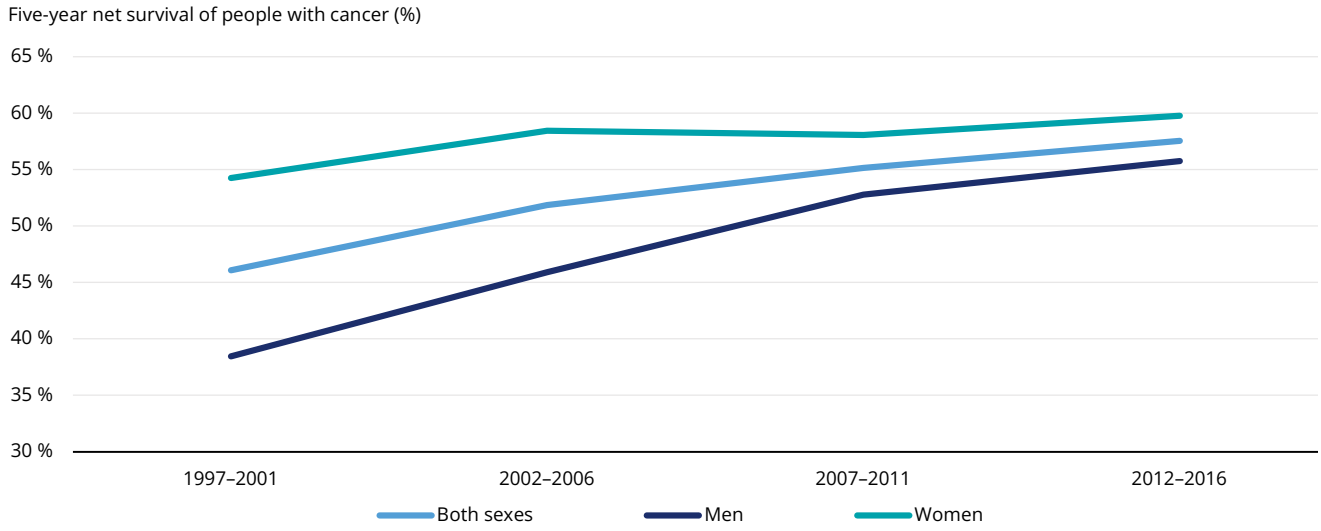
Recently, five specialist mobile palliative care teams were established, but they struggle with shortages of staff. Numbers of beds for specialist palliative care are scarce: they are only provided by the IOL and General Hospital Slovenj Gradec; elsewhere, provision is in general hospital wards. The primary care level provides general palliative care, which is also limited due to staff shortages. Recently, intensive education on palliative care for healthcare staff at all levels of care has been offered by the Slovenian Association of Palliative and Hospice Care. During 2024, 20 hour courses on palliative care basics for all healthcare professionals have been given monthly across Slovenian regions. Two 40 hour courses for medical residents, and two 60 hour specialist palliative care courses aimed at physicians and nurses have also been given in 2024, with additional three paediatric palliative care courses planned for later in the year.

5.2 Quality

Survival of people with cancer in Slovenia is improving steadily

In Slovenia during 2016-20, five-year net survival for adult men with cancer was 58% and for adult women with cancer was 62%. Survival is monitored regularly in annual reports by the SCR, with more comprehensive analyses conducted every 10 years. In the last such analysis covering 1997-2016, five-year net survival had increased by 11 percentage points – with a greater increase among men (17 percentage points) than women (6 percentage points) (Figure 15). Stage at diagnosis, age at diagnosis and appropriate treatment are key features that influence survival of people with cancer. Improvements were seen among all age groups, including the oldest (75 and over).

Figure 15. In the past 20 years in Slovenia, inequalities in cancer survival by sex have diminished substantially



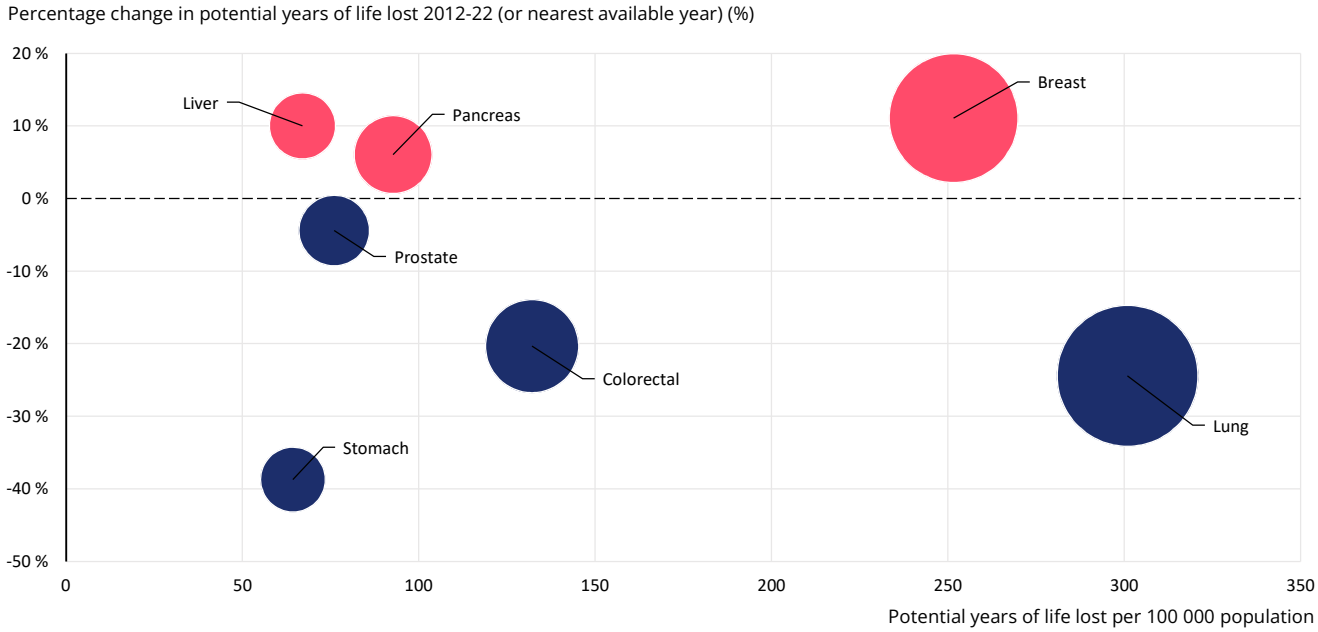
Source: SCR (2023).

Additionally, survival rates among both sexes have improved for the three most common cancer types: colorectal cancer (by 14 percentage points to 62% in 2012-16), skin melanoma (by 12 percentage points to 91%) and lung cancer (by 8 percentage points to 18%). They also increased among women with breast cancer and men with prostate cancer. However, survival rates for pancreatic, oesophageal, liver and biliary cancer and brain tumours have remained low, similar to other EU countries.

The potential years of life lost has decreased for many cancers in Slovenia

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 2020 in Slovenia, overall potential years of life lost due to all cancer types was 1 388 per 100 000 population, which is 2% higher than the EU average (1 355 per 100 000) (Figure 16). The total has decreased by 18% since 2012, compared to a 19% decrease across the EU. Between 2012 and 2020, potential years of life lost due to lung cancer decreased by 19%, due to stomach cancer by 39%, and due to colorectal cancer by 20%. In contrast, breast, pancreas and liver cancers registered an increase in the number of potential years of life lost between 2012 and 2022 of around 11%, 6% and 10% respectively.

Figure 16. In the last decade, potential years of life lost have decreased for the majority of selected cancer types in Slovenia



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.

Multidisciplinary integrated care for people with the majority of cancer types is the quality standard in Slovenia

The NCCP focuses on providing high-quality care for people with cancer in Slovenia. A system of quality care in oncology is assured through various mechanisms: accreditation, quality indicators, multidisciplinary tumour boards, and national clinical guidelines and pathways.

According to the NCCP, a national network of designated high-quality and cost-effective oncology providers is being developed. The IOL – the main oncological tertiary centre in Slovenia, where about 60 % of all patients with cancer are treated – received the Organisation of European Cancer Institutes Cancer Centre accreditation for multidisciplinary integrated care and research on cancer in 2022. Four tertiary-level health care centres (IOL, University Medical Centre Ljubljana, University Medical Centre Maribor and University Clinic Golnik) provide more than 90 % of all primary systemic treatment, and more than 60 % of first-line surgery to people with cancer in Slovenia. These hospitals are actively working on improved collaboration through networking for seamless transfer of patients to provide the best treatment options. Moreover, Slovenia is collaborating internationally with the ERNs and European Joint Action Projects on Networks of Expertise.

New quality indicators are being developed with the Slovenian Cancer Registry

The SCR, situated at the IOL, has provided data on the cancer burden and cancer control at the national level since the 1950s. From 2017, it also provides quality indicators for skin melanoma to monitor compliance of care with national guidelines. Quality indicators for four other common cancer types (lung, breast, colorectal and prostate) and late sequelae of childhood cancer are being implemented from 2025. Through the NCCP, national expert groups have been given the task of setting up quality indicators for cancer care and monitoring the performance of different institutions, leading to proposals for improvement. Quality indicators include information on different stages of the process of diagnosis and treatment, including primary diagnosis, pre-treatment diagnostics, treatment decision making, type and timelines of treatment, complications or side-effects of treatment, outcomes of the disease, supportive care and follow-up. Information on case volumes, availability of supportive treatment (such as psycho-oncology, nutritional support and physiotherapy) and facilities (such as central pharmacy and clinical trial unit) are collected as well. Annual reports and proposals for improvement are presented to policy makers through the NCCP's governance structures.

Guidelines and clinical pathways, which are updated regularly, are prepared in multidisciplinary settings and adopted by the National Medical Expert Board appointed by the Ministry of Health.

Slovenia collects and monitors patient-reported experience and outcome measures

Patient-reported experience measures (PREMs) are monitored and provided to patients in written and digital format as part of the national e-Health portal. Moreover, the IOL is carrying out digitalisation of patient-reported outcome measures (PROMs) to become part of regular clinical documentation, and providing timely feedback of patients to oncologists. National implementation of PROMs is being planned. In 2024, a multistakeholder group for Value-Based Healthcare was established in Slovenia to implement PROMs in four therapeutic areas including oncology.

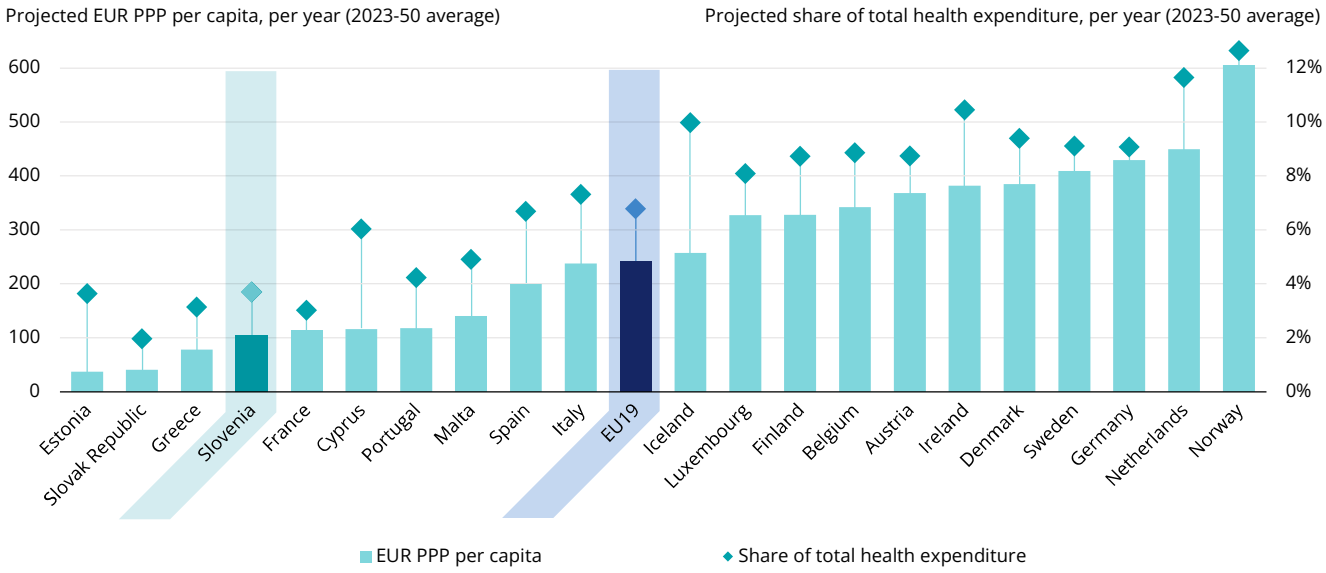
People with cancer or a history of cancer are included in the comprehensive cancer care process through collaborations with the NCCP (they are part of the steering board, and annual meetings are held for all NGOs in the field of cancer). Patients also have a patient board at the IOL, and NGOs hold information desks to provide patient information in several hospitals.

5.3 Costs and value for money

The burden of cancer on health expenditure in Slovenia is expected to be lower than in the EU

According to OECD SPHeP modelling work, between 2023 and 2050, total health expenditure is estimated to be 4% higher in Slovenia due to the burden of cancer. This equates to an average of EUR (PPP) 103 per person per year (Figure 17). This figure is lower than the EU19 average (EUR PPP 242). Overall, the per capita health expenditure on cancer care is expected to grow by 62% in Slovenia between 2023 and 2050, compared to 59% in the EU27.

Figure 17. The burden of cancer on health expenditure will remain below the EU average over 2023-50



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.

In terms of other costs, it is estimated that cancer will have a major impact on the workforce in Slovenia. Between 2023 and 2050 on average, cancer is expected to lead to a loss of 144 full-time equivalent workers (FTEs) per 100 000 people due to the combination of increased unemployment and increased part-time work, as well as 35 FTEs per 100 000 due to absenteeism and 40 FTEs per 100 000 due to presenteeism.[7]

Slovenia is considering the establishment of a health technology agency

Decisions on reimbursement of new cancer medicines are made by a special board for medicines at the HIIS (see Section 5.1).

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

Reimbursement of cancer medicines in Slovenia is not restricted to narrower indications or narrower population age groups as approved in the European Medicines Agency approvals. Approval for introduction of new technologies is in the hands of National Health Board. Slovenia has not yet introduced a health technology assessment agency, while the law on quality assurance in healthcare was passed at the end of year 2024.

Quality indicators of cancer care have been established (see Section 5.2), which could also create a more efficient decision-making process, if prioritisation and selection of reimbursement are applied.

People with cancer in Slovenia tend to experience some level of financial toxicity

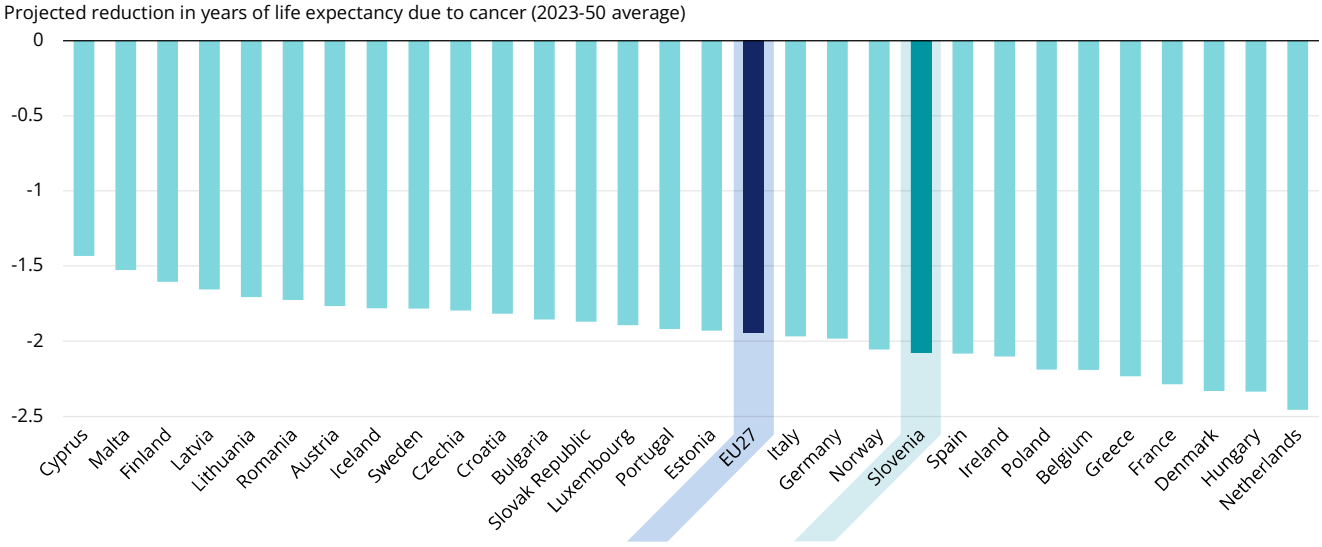
The latest study among people with cancer in Slovenia showed that the majority (85%) did not have any major financial expenses due to cancer. However, 43% reported suffering from low to moderate financial toxicity[8] (Skubic, 2024). Higher risk of experiencing low to moderate financial toxicity was associated with lower income, lower education levels, rural environment, younger age, unemployment, active cancer treatment and some types of cancer. Lower income was also associated with lower quality of life among people with cancer. The risk was particularly higher for breast cancer patients. A recent interventional study on individualised comprehensive rehabilitation for women with breast cancer showed that such an intervention can significantly reduce the direct and indirect costs of cancer diagnosis and treatment and increase quality of life (Bešić et al., 2023) (see Section 5.4).

5.4. Well-being and quality of life

Cancer is expected to take a higher toll on Slovenian life expectancy than the EU average

According to OECD SPHeP modelling work, cancer is expected to reduce life expectancy in Slovenia by an average of 2.1 years between 2023 and 2050 compared to a scenario without cancer (Figure 18). This is slightly higher than the EU average of 1.9 years. In addition, cancer may take some toll on the mental health of the patients through its associated symptoms and treatment side effects, impact on daily life, social roles and work. According to the OECD's SPHeP model, the country is expected to have much higher depressive symptoms rates because of cancer, at an additional age-standardised rate of 27 cases per 100 000 per year. This is among the highest rates in the EU, after Portugal, the Slovak Republic and Spain.

Figure 18. Life expectancy among the Slovenian population is expected to fall by 2.1 years 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.

8 *Financial toxicity is the term used to define the objective and subjective financial burden of an illness and/or treatment that has a significant impact on patients' quality of life.*

Many supportive care and related programmes exist for people with a cancer diagnosis in Slovenia

In Slovenia, the latest advances in comprehensive cancer care have focused on improving quality of life for people with cancer and a history of cancer. To cover essential needs of people during the cancer care continuum, many supportive programmes are offered by the hospitals and NGOs. At their first appointment with an oncologist, people with cancer are encouraged to be accompanied by a relative or caregiver to improve communication and information provision. They receive information leaflets, which are also freely and easily accessible on the web. Psycho-oncological treatment is provided to people in psychological distress or with mental health problems at the Department for Psycho-oncology, which has been operating at the IOL for 40 years. The Cancer Patients' Association and some other NGOs offer peer-to-peer support, education and lay psychological help, which is also available for caregivers.

Generally, multidisciplinary oncology care at the IOL is integrated with nutritional support, physiotherapy, rehabilitation and chronic pain treatment for patients in need, as well as early specialist palliative care for patients with advanced cancer. However, to develop comprehensive cancer care further, additional human resources are needed.

To facilitate a return to work and strengthen local community activities helping people with cancer, the NCCP strives to strengthen the network of oncology and family medicine providers and to support co-operation between oncology providers and cancer patients' organisations. In addition, informal caregiver can take paid sick leave to accompany or care for a relative, which is covered by the SHI, or can obtain an official status of "home caregiver".

Early comprehensive rehabilitation is being introduced in regular clinical practice for women with breast cancer

During 2019-22, a pilot intervention study on early comprehensive individualised rehabilitation for women with breast cancer was carried out by the IOL and many partner institutions (Bešić et al., 2023). Comprehensive individualised rehabilitation is co-ordinated by a registered nurse, while care entails psycho-oncological appointments, nutritional evaluation, physiotherapy, pain and menopausal symptom treatment, occupational rehabilitation, primary prevention activities for healthy life style, information support of the general practitioner and telemedicine services. Evaluation suggests positive results in the intervention group – with higher quality of life, fewer cancer-related problems, less adverse effects of treatment, more smoking cessation, reductions of sick leave by 50 days on average, less frequent retirement on the grounds of disability, and higher work ability compared to the control group. As a result, early comprehensive rehabilitation was integrated into regular clinical care of breast cancer patients at the IOL in 2023. Additional educational programmes on returning to work for women with breast cancer are offered by NGOs.

A pilot study on comprehensive rehabilitation for people with colorectal cancer is being carried out. For all other patients at the IOL, triage is done via European Organisation for Research and Treatment of Cancer questionnaires at the time of diagnosis, followed by repeated surveys after four and nine months to address the most prominent problems.

Legislation on the right to be forgotten was passed in Slovenia

One of Europe's Beating Cancer Plan initiatives was to address fair access for people with a history of cancer to financial and insurance products (European Commission, 2021). In Slovenia, a law on the right to be forgotten for people with a history of cancer was approved in the autumn 2024.

Mobile units have improved access for people with needs for specialist palliative care

In Slovenia, general palliative care must be provided by all healthcare providers to all patients with incurable and advanced illness. Specialist palliative care is provided only at the secondary and tertiary levels for people with complex disease related needs by a stationary unit and/or mobile palliative care team (MPCT) in and out of the hospitals. Provision of specialist palliative care expanded in 2021, with the introduction and systemic financing of MPCTs starting in around half Slovenian regions; more are being established. The MPCTs also collaborate extensively with primary care physicians to improve accessibility and quality of home based palliative and end-of-life care.

A designated oncology MPCT is situated at the IOL, covering specialist palliative care needs of people with incurable cancer treated at the IOL. As with other MPCTs, it consists of ambulatory services, a mobile unit for home based care, 24/7 telephone consultations and counselling service. Additionally, a tertiary-level hospital department for interdisciplinary specialist palliative care of cancer

patients has operated at the IOL since 2007. It also serves as an education hub.

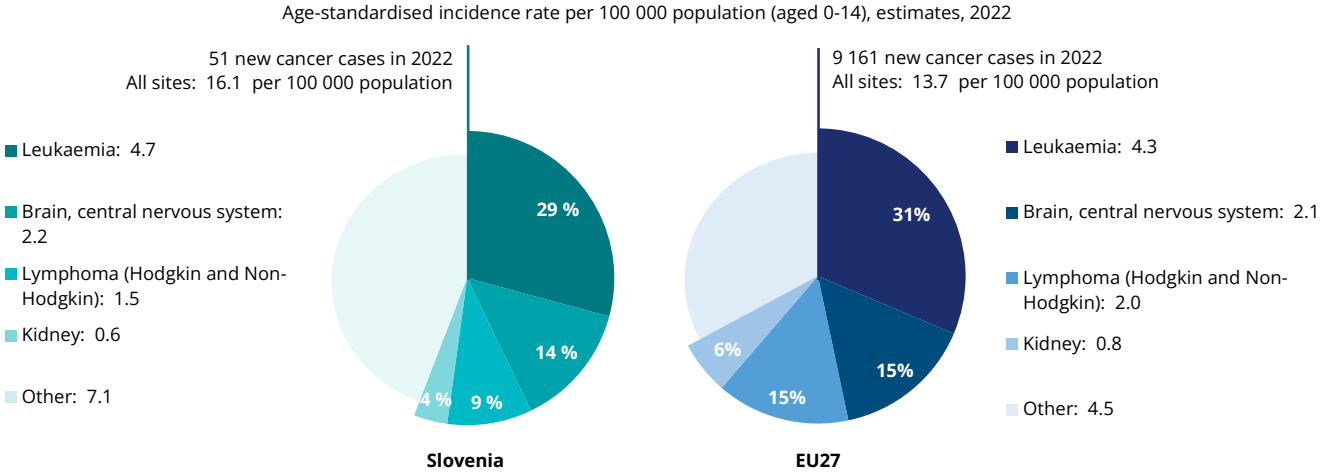
Palliative care services in Slovenia are covered by SHI, while hospices operate outside health system financing. However, hospices are only available in a limited number of Slovenian regions.

To develop the field of palliative care comprehensively, educational activities were scaled up in recent years. Medical doctors and registered nurses are required to participate in organised training, and must pass an examination to enrol in specialist palliative care services. Professionals in palliative care and NGOs in the fields of cancer and hospice care offer many educational programmes (see Section 5.1) raising awareness about palliative care, end-of-life care and dying, aimed at patients, their caregivers and the general public. In addition, education courses for residents of clinical specialisations have been provided since 2023, and the plan is that they will become obligatory when formal requirements are met. Finally, palliative care will also become an obligatory course for medical students at the Faculty of Medicine at Ljubljana University in school year 2025.

6. Spotlight on paediatric cancer

According to ECIS, it is estimated that 51 children and adolescents up to age 14 were diagnosed with cancer in 2022 in Slovenia. Incidence rates for ages 0-14 in 2022 were estimated at 16.1 per 100 000 children in Slovenia, as compared to 13.7 in the EU27 (Figure 19). Incidence rates among boys are higher than among girls in Slovenia, a similar pattern in the EU. The most common cancer groups are leukaemia, estimated at 4.7 cases per 100 000 children (29%), brain and central nervous system, at 2.2 cases per 100 000 population (14%), lymphoma, at 1.5 cases per 100 000 (9%) and kidney, at 0.6 per 100 000 population (4%).

Figure 19. Cancer incidence rates among children in Slovenia are higher than in 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.

While cancer incidence rates among ages 0-14 are higher in Slovenia as compared to the EU, the country has a similar cancer mortality rate among children aged 0-14 than in the EU (with a 3-year average mortality rate of 2.1 per 100 000 children according to Eurostat). Prevalence of individuals surviving childhood cancer for 5-30 years after diagnosis has doubled in the last three decades, with the age structure shifting towards older ages.

According to the European Society of Paediatric Oncology (SIOPE)'s Organisation of Care & Research

for Children with Cancer in Europe (OCEAN) Project, Slovenia has one institution treating children with cancer (SIOPE, 2024). Paediatric cancer care is thus centralised and provided at one facility: University Medical Centre Ljubljana, in the Division of Paediatrics. Follow-up appointments and treatment of late sequelae for people with a history of childhood cancer is also centralised at a designated department at the IOL, which has been operating since 1986. Surveillance data and quality indicators are available by the SCR from 2019, which operates a clinical registry on childhood cancer and related late sequelae.

Ten of 13 infrastructural and treatment modalities such as surgery for solid tumours, stem cell transplantation, photon radiation therapy, palliative care, chemotherapy and survivorship clinic are available in the care for paediatric cancer patients in Slovenia, while proton radiation therapy, brachytherapy and new treatment in phase I or II of clinical trials are not available yet. In 2018, 88% of the 68 medicines identified as essential for treating cancer in patients aged 0 to 18 were available in Slovenia, compared to 76% in the EU on average (Vassal et al., 2021). However, out of the 436 clinical trials involving paediatric and adolescent cancer patients in Europe between 2010 and 2022, only 8 were running in Slovenia (2%), while there is predominantly a lack of monocentric/national and early-phase clinical trials. While this is similar to the low rates seen in other Central and Eastern European or small countries (such as Romania at 4%), it is significantly lower than the 14% in the Czech Republic (SIOPE, 2024).

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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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