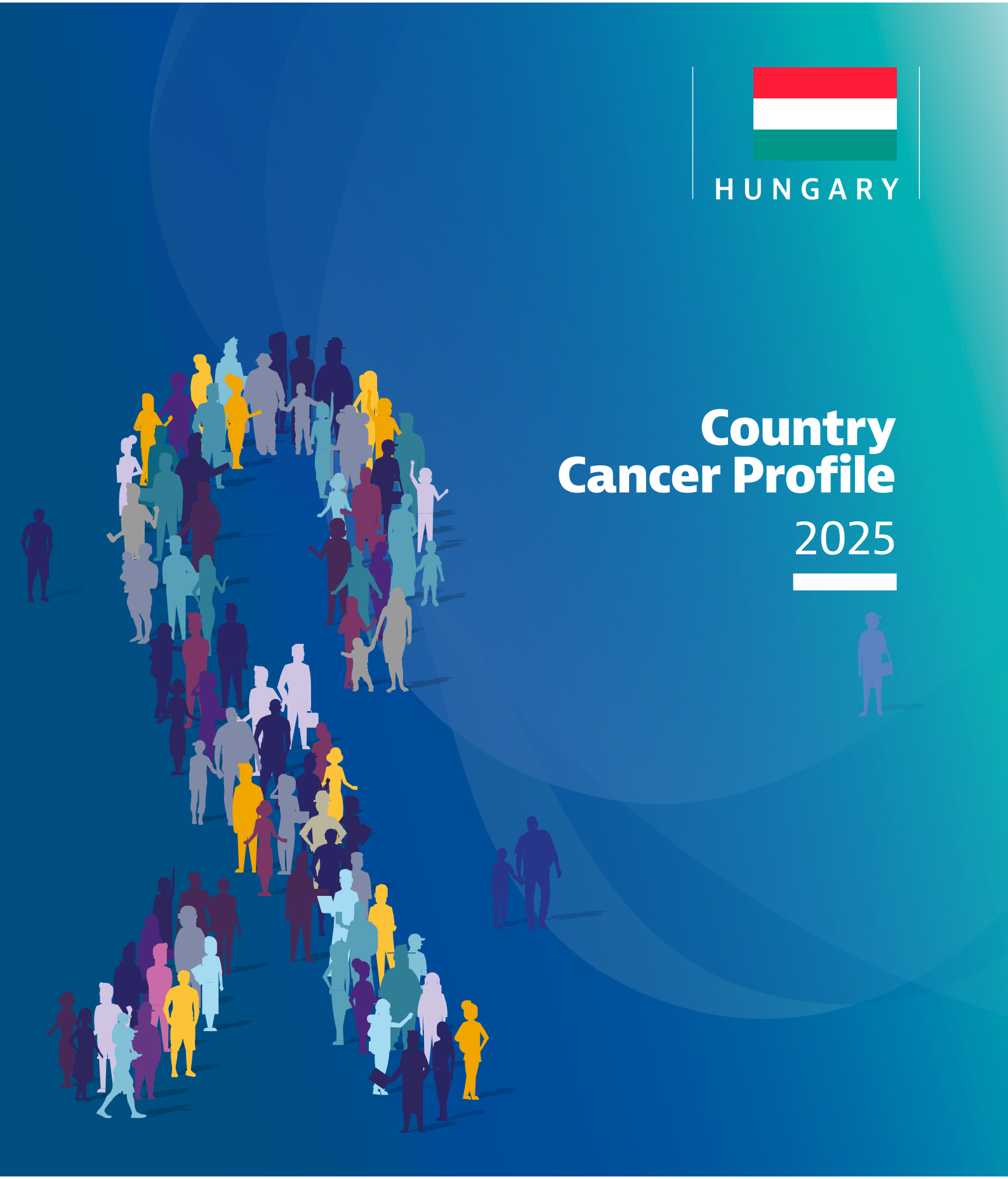
European Cancer Inequalities Registry



HUNGARY

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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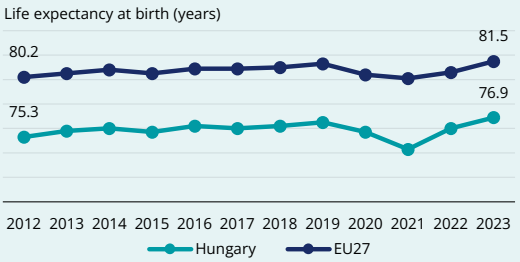
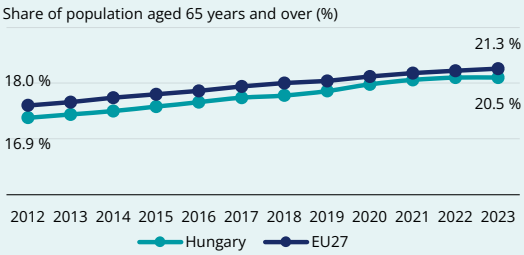
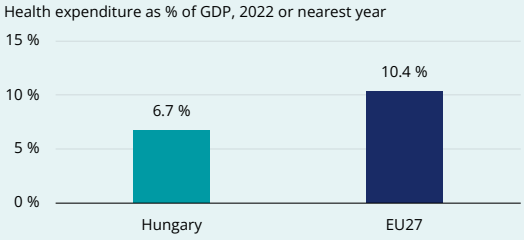
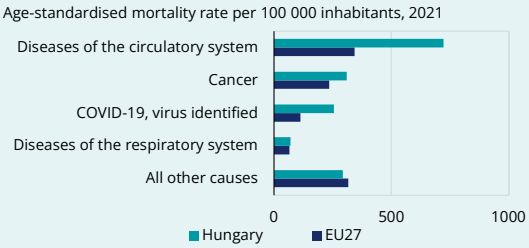


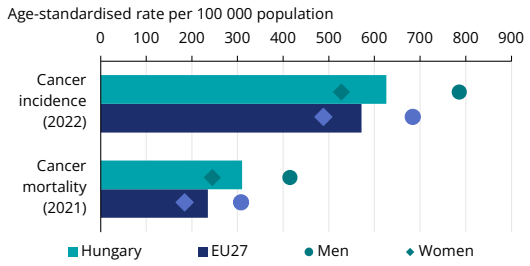






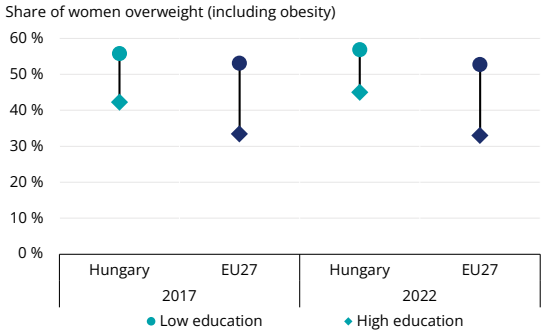
Source: Eurostat Database.

1. Highlights



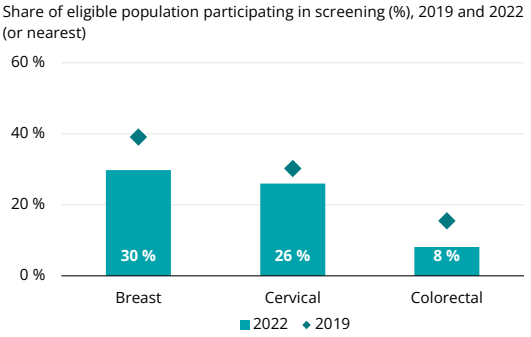
Cancer in Hungary

Estimated cancer incidence and cancer mortality in Hungary are above the EU averages for both men and women, driven by a high burden of lung cancer and colorectal cancer. Despite a reduction in cancer mortality rates since 2011, in 2021, with 310 cancer deaths per 100 000 population, Hungary continued to have the highest cancer mortality rate in the EU. Cancer mortality was significantly higher among men (415 per 100 000) than among women (245 per 100 000).



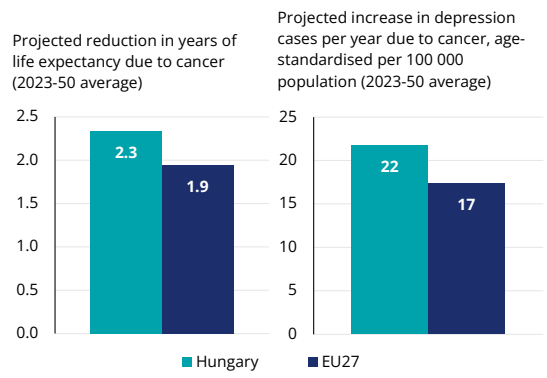
Risk factors and prevention policies

The high prevalence of risk factors for cancer among both adults and adolescents gives cause for concern in Hungary. Prevalence of smoking, drunkenness and overweight among Hungarians all exceed the EU averages. The prevalence of overweight among Hungarian adult women was 52%, 8 percentage points higher than the EU average. As in most countries, rates of overweight were a third higher among those with lower than higher education levels. Policies are in place that aim to decrease smoking prevalence and increase physical activity among adolescents.



Early detection

Participation in organised screening programmes for breast and cervical cancer decreased in Hungary over time, reaching 30% in the case of breast cancer and 26% in the case of cervical cancer in 2022. However, many women choose to undergo cervical cancer screening procedures in private sector. Colorectal cancer screening coverage is also low (8%). Efforts to leverage digital solutions and expand the range of screening services aim to alleviate the cancer burden among the Hungarian population.



Cancer care performance

Improved five-year survival over the last decade suggest improvements in cancer care quality in Hungary. Measures in recent years have focused on improving access to high-quality cancer care through renewal and expansion of diagnostic and treatment equipment. However, human resource shortages are a persistent challenge in the cancer care system. Furthermore, in the coming years, cancer is expected to have a greater negative impact on the life expectancy and mental health disorders of Hungarians than of people across the EU.

2. Cancer in Hungary

Lung and colorectal cancer incidence are higher in Hungary than the EU averages

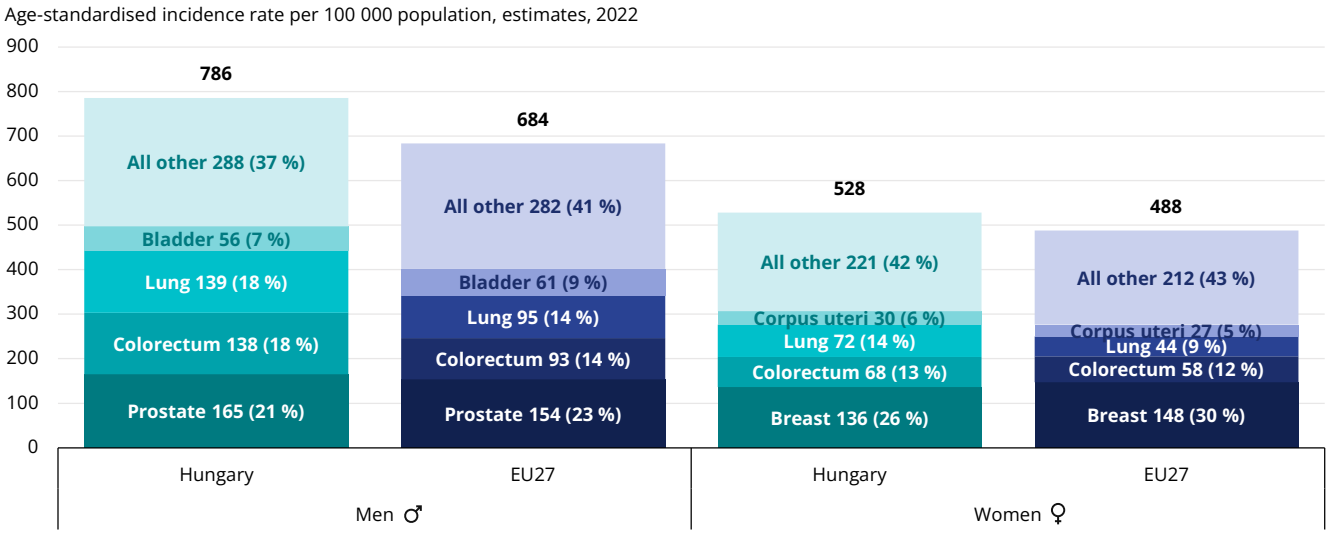
Preliminary data from the National Cancer Registry show that Hungary had 70 816 new cancer cases in 2022 (excluding non-melanocytic malignant neoplasm of the skin), which is higher than the number recorded in the preceding two years (66 459 in 2020 and 66 652 in 2021), while not reaching pre-pandemic levels (74 249 in 2019).

According to age-standardised estimates of the European Cancer Information System (ECIS) of the Joint Research Centre based on incidence trends from pre-pandemic years, in 2022, around 626 new cancer cases occurred per 100 000 Hungarians.

Cancer incidence among Hungarian women (528 per 100 000) exceeded the EU average (488 per 100 000) by 8%; among men (786 per 100 000) it exceeded the EU average (684 per 100 000) by 15%.

The distribution of newly diagnosed tumours by cancer site in Hungary showed similar patterns to the EU averages among both men and women (Figure 1). As in the EU, the most commonly diagnosed cancers were prostate cancer (21%) among men[1] and breast cancer (26%) among women, although these cancers were responsible for proportionally less disease burden in Hungary than in the EU, where the averages were 23% for prostate cancer and 30% for breast cancer.

Figure 1. In 2022, high rates of lung and colorectal cancers drove cancer incidence in Hungary above the EU average



Notes: Data are estimated 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.

For both sexes, relatively high overall cancer incidence in Hungary is driven by higher rates of diagnosis of lung[2] and colorectal cancers than across the EU. Among men, incidence rates were 139 per 100 000 population for lung cancer (compared to an EU average of 95 per 100 000) and 138 per 100 000 for colorectal cancer (compared to an EU average of 93 per 100 000). Estimated incidence rates of lung cancer (72 per 100 000 population) and colorectal cancer (68 per 100 000) were also significantly higher among Hungarian women than the EU averages of 44 per 100 000 for lung cancer and 58 per 100 000 for colorectal cancer.

1 *Based on the population-based registration, in 2022 among men colorectal cancer and lung cancer were the most common malignancies with 5 835 and 5 629 new cases (17% and 16%), respectively, while 4 726 patents were reported with new prostate cancer (14%).*

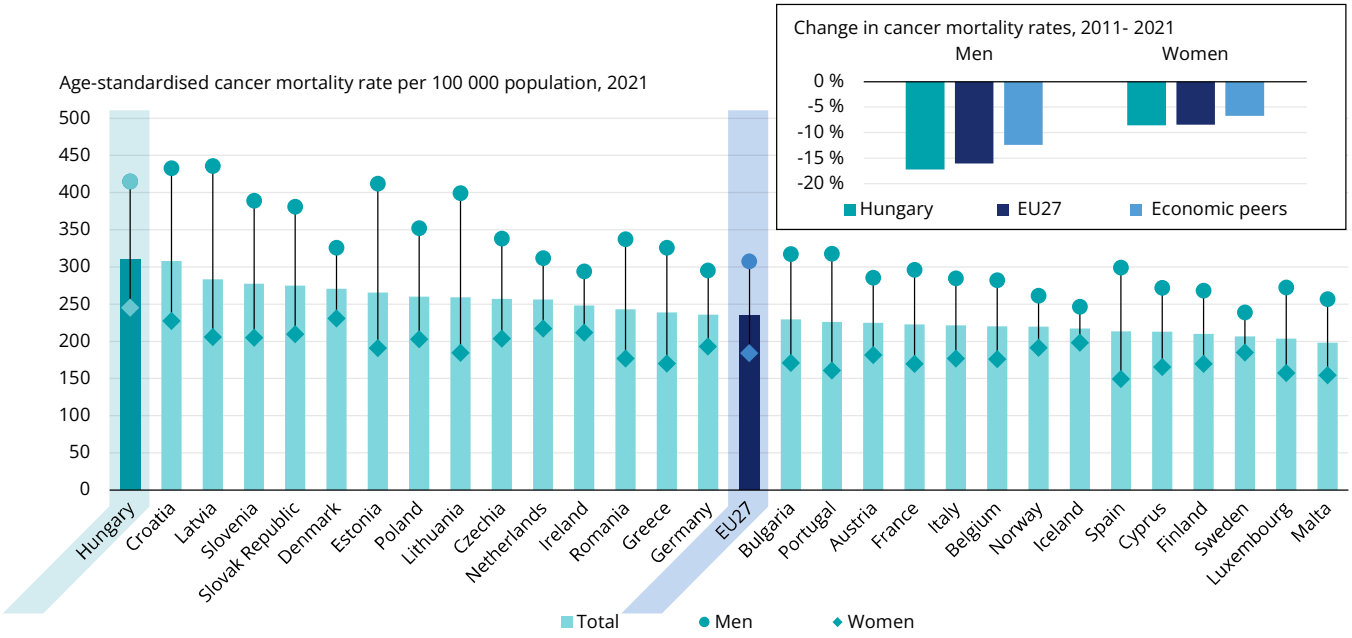
2 *Lung cancer also refers to trachea and bronchus cancers.*

Looking forward, ECIS estimates that cancer cases will increase by 8.5% between 2022 and 2040.

Despite a decrease between 2011 and 2021, cancer mortality in Hungary remains the highest in the EU

In 2021, 310 Hungarians died of cancer per 100 000 population (Figure 2). This is the highest recorded mortality rate in the EU+2 countries[3]. As in all other EU countries, Hungarian men had significantly higher mortality rates than women. However, between 2011 and 2021, cancer mortality decreased significantly in Hungary among both men (by 17%) and women (by 9%). In both cases, the reductions were larger than the average reductions across the country's economic peers[4] (12% for men and 7% for women).

Figure 2. In 2021, cancer mortality in Hungary exceeded the EU average by 32%



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

By cancer type, the leading causes of death remain lung cancer (78 per 100 000 population), colorectal cancer (50 per 100 000 population) and breast cancer (23 per 100 000 population). Although during 2011-21 mortality rates decreased for each of these types in Hungary (Box 1), in 2021 the country still had the highest registered mortality from these cancers across the EU. This is partly explained by the high rate of autopsies performed in Hungary compared to other European countries (Kiss et al., 2022).

Box 1. The effects of COVID-19 on cancer incidence and mortality in Hungary are being analysed

Data from Hungary's National Cancer Registry reveal that between the periods 2018-19 and 2020-21, average cancer incidence decreased by about 10% (MTA, 2023). The pandemic and associated containment measures – for instance the temporary halting of population-based cancer screening programmes – partly account for this. A reduction in the number of cancer patients treated, and (varying) drops in treatment episodes have also been reported (Mayer et al., 2022). The Hungarian Central Statistical Office registered a 5% decrease in cancer mortality between 2019 (32 012) and 2022 (30 456).

Evidence suggests that undetected cancer cases were revealed later because of the pandemic – at a more advanced stage. Analysis of cancer survival rates for lung, colorectal and breast cancer patients during 2020-21 based on the National Cancer Registry found no worsening in outcomes compared to 2019, suggesting that patients whose disease was detected continued to receive adequate oncological care. However, by 2021, the number of stage 3 patients was proportionately higher, mainly at the expense of stages 1 and 2 (MTA, 2023).

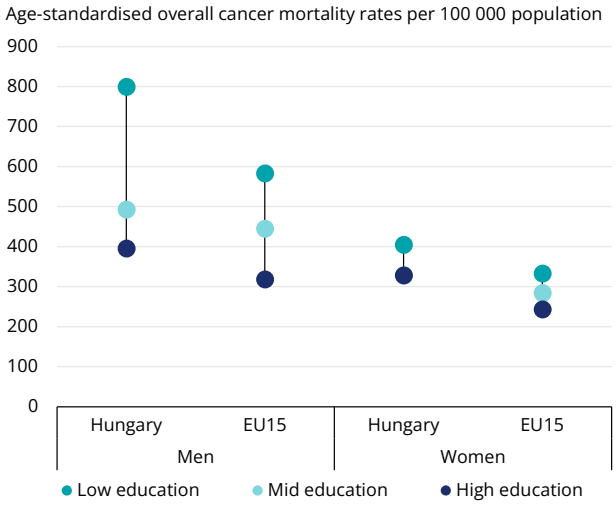
3 *EU+2 countries include 27 EU Member States (EU27), plus Iceland and Norway.*

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

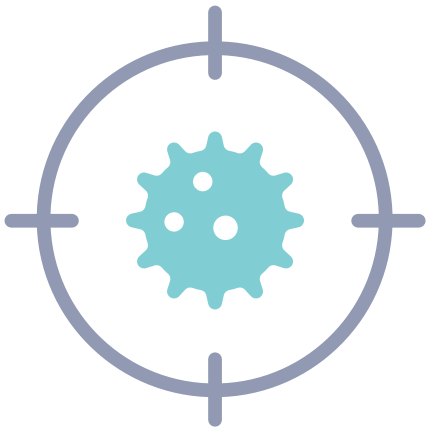
Education-related inequalities are larger among Hungarian men than the EU average

Although higher levels of education are associated with lower rates of cancer mortality among both men and women, differences in mortality rates are more pronounced among men with different levels of education than they are among women (Figure 3). The gap in age-standardised mortality rates between individuals with higher and lower levels of education is 404 per 100 000 men – wider than the EU15 average (265 per 100 000). In the case of Hungarian women, this gap is only 77 per 100 000 population – below the EU average (89 per 100 000).

Figure 3. Inequalities in cancer mortality are more pronounced among men than among women in Hungary



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.



In Hungary, avoidable mortality rates for the leading causes of cancer consistently exceed the EU averages

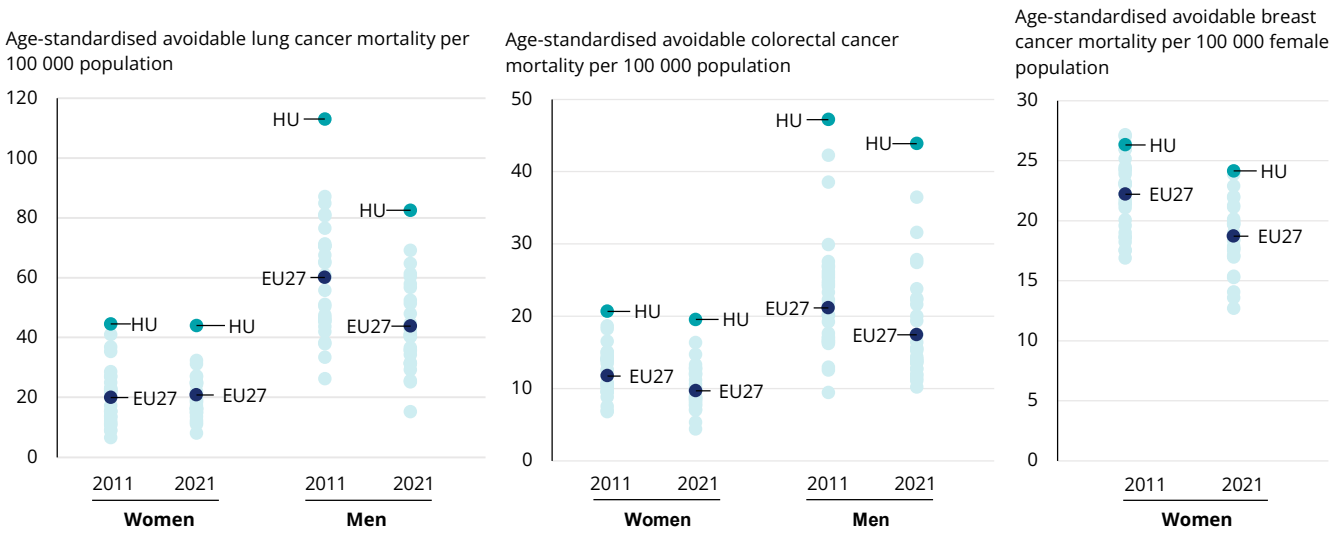
Thanks to improved prevention strategies and advances in treatment options, today a significant proportion of cancer deaths in people under 75 years old are considered potentially avoidable[5]. The high rates of avoidable mortality from lung cancer (classified as preventable) compared to the EU averages suggest the need for more focus on public health interventions and primary prevention. In 2021, lung cancer mortality rates for Hungarian women (44 per 100 000) and men (83 per 100 000) were 112% and 88% higher than the EU averages (21 per 100 000 among women and 44 per 100 000 among men). However, the Hungarian rates show a reduction by 1% among women and by 27% among men since 2011. While the 27% decrease among men is in keeping with the EU trend over the same period, for women, the EU average increased by 4% in 2011-21 (Figure 4).

Avoidable mortality in 2021 in the Hungarian population from breast and colorectal cancers (both classified as treatable) was higher than the EU average. As in the EU, rates decreased since 2011 for both cancer types, but the percentage decrease across the EU was higher than the reduction in Hungary. The high burden associated with avoidable cancer mortality among Hungarians suggests that there is scope to improve access to timely and effective cancer care.

In 2021, avoidable mortality from breast cancer in Hungary was 24 per 100 000 women, which is 29% higher than the EU average (19 per 100 000). The rate had decreased by 8% since 2011, while the EU average had decreased by 16%. For colorectal cancer, in Hungary in 2021, avoidable mortality was 20 per 100 000 among women (twice as high as the EU average of 10 per 100 000) and 44 per 100 000 among men (2.5 times higher than the EU average of 18 per 100 000). Compared to 2011, the rate had decreased in Hungary by 6% among women and 7% among men, while the corresponding EU averages had decreased by 18% for both men and women.

5 *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. Between 2011 and 2021, avoidable mortality rates for breast, colorectal and lung cancers remained higher in Hungary than the EU averages

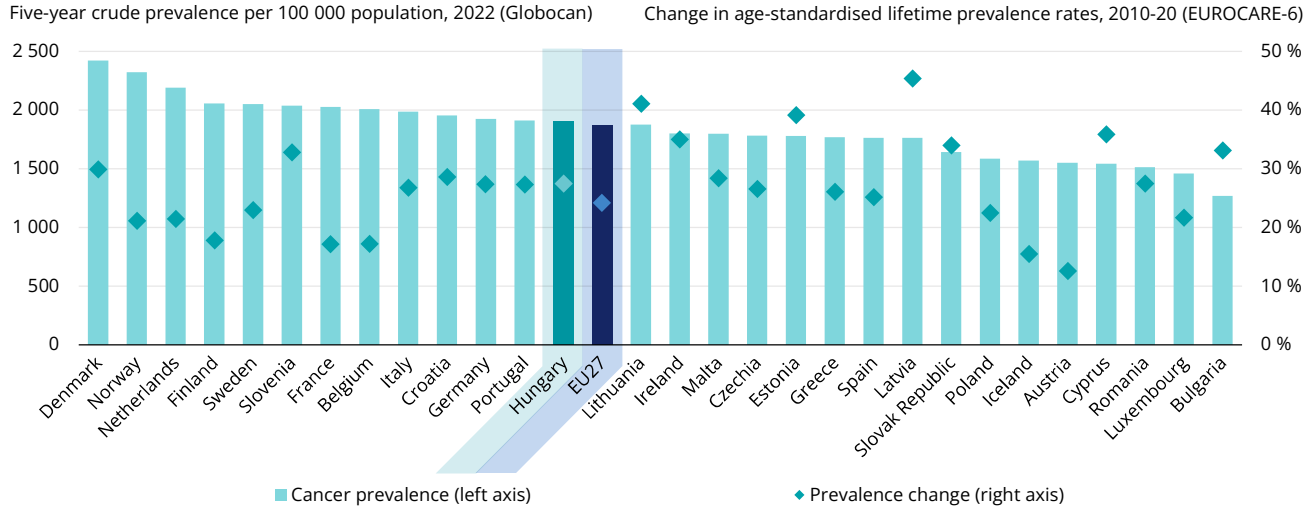


Note: Avoidable mortality figures relate to deaths of people aged under 75.
Source: Eurostat Database. Data refer to 2021.

As in the EU, the prevalence of cancer increased in Hungary

In 2022, Hungary had five-year prevalence[6] of 1 906 cancer cases per 100 000 population, which is close to the EU average of 1 876 cases per 100 000. Between 2010 and 2020, lifelong cancer prevalence increased by 28% in Hungary and by 24% across the EU (Figure 5). This rise highlights the growing importance of focusing on quality of life and survivorship (see Section 5.4), as people are living longer with cancer, and more people have a history of the disease.

Figure 5. In 2022, five-year prevalence of cancer in Hungary was close to the EU average



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

The National Cancer Plan, addressing all aspects of oncology care, guides development of oncology care in Hungary

The National Cancer Plan has provided a basis for development of oncology care in Hungary since 2018 (Box 2). Its overall objective is a 10% reduction in cancer mortality by 2030. To achieve this, measures are outlined for each aspect of cancer care, from prevention to palliative care. These include the continued renewal and expansion of oncology equipment and increased funding for

6 *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 pursuit of the robotic surgery programme. Furthermore, emphasis is placed on reducing carcinogenic factors among the Hungarian population, introduction of new screening programmes and reform of existing ones. The launch of accreditation of the entire Hungarian oncology care system, by the Organisation of European Cancer Institutes is also among current priorities (MTA, 2023).

Box 2. The pillars of the Europe Beating Cancer Plan are covered by the Hungarian National Cancer Plan (2018-30)

The Hungarian National Cancer Plan (2018-30) describes measures to 1) mitigate major cancer risk factors such as tobacco and alcohol consumption, poor nutrition, human papillomavirus infection and occupational exposure; 2) improve the efficacy of (fully covered) population-based cancer screening programmes for breast, cervical, and colorectal cancer and expand the palette of population-based screening services (through the introduction of low-dose computed tomography (CT) lung cancer screening); 3) ensure quality cancer care in a centralised system of cancer care centres through infrastructural developments, the optimisation of patient pathways and preparation of the European accreditation of the Hungarian oncology care system; 4) increase support for cancer patients to help them reintegrate to daily life through the development of onco-rehabilitation and onco-psychological care capacities and 5) strengthen and increase Hungary's role in cancer research (Table 1). Furthermore, some measures aim to attenuate disparities, especially in geographical access to early detection programmes. Care for children with cancer is the responsibility of the Hungarian Paediatric Oncology Network, which also operates the National Childhood Cancer Registry (see Spotlight on paediatric cancer).

Table 1. Hungary's National Cancer Plan broadly aligns 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 Hungary's National Cancer Plan includes a specific section on the topic; orange indicates that the topic is covered in one of the Plan's sections without being the only focus; and pink indicates that this topic is not covered in the Plan.
Source: Adapted from "Study on mapping and evaluating the implementation of Europe's Beating Cancer Plan" (not yet published).

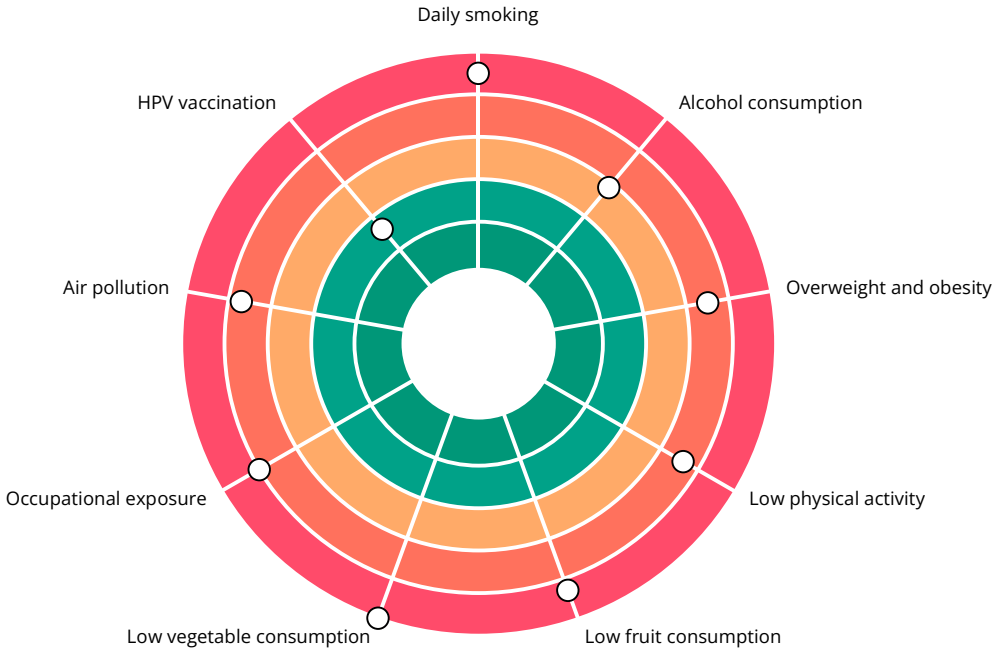
3. Risk factors and prevention policies

Prevalence of behavioural and environmental risk factors is higher in Hungary than across the EU

Prevalence of risk factors among Hungarians is a significant contributing factor to the cancer burden (see Section 2). According to estimates from the Institute for Health Metrics and Evaluation, in 2021, the risk of tobacco use associated with neoplasms contributed to 5% of total deaths in the country. Dietary risks contributed to 2%, high alcohol consumption to 1% and low physical activity to 0.3% of all deaths among the Hungarian population.

Hungary performs poorly compared to EU+2 countries on several risk factors, including overweight or obesity, low physical activity, low fruit and vegetable consumption, occupational exposure, air pollution and daily smoking (Figure 6). In 2021, spending on prevention[7] represented 8% of current health expenditure, an increase of 4 percentage points from 2020 due to COVID-19-related spending, higher than the EU average of 6%.

Figure 6. Hungary is among the bottom third of EU countries on a number of 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 human papillomavirus (HPV) vaccination (15-year-old girls).

A national school-based vaccination programme aims to increase human papillomavirus vaccination coverage

Among the risk factors measured in Figure 6, Hungary performs relatively well on human papillomavirus (HPV) vaccination. The proportion of girls who received all recommended doses of the HPV vaccine by age 15 in 2023 was 76% in Hungary, compared to 64% on average in the EU. For boys, this figure stood at 64%. Since 2014, school-based

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.*

vaccination programmes for girls (extended to boys in 2020-21) aim to increase HPV vaccination coverage.

Hungarians' level of exposure to air pollution is higher than the EU average

In 2020, estimated mean population exposure to $PM_{2.5}$ was higher in Hungary (14 µg/m³) than across the EU (12 µg/m³). Exposure to air pollution was estimated to cause 107 premature deaths per 100 000 population in Hungary, which was the third highest figure in the EU, after Bulgaria (165 per 100 000) and Poland (128 per 100 000).

Novel nicotine and tobacco products are gaining ground in Hungary

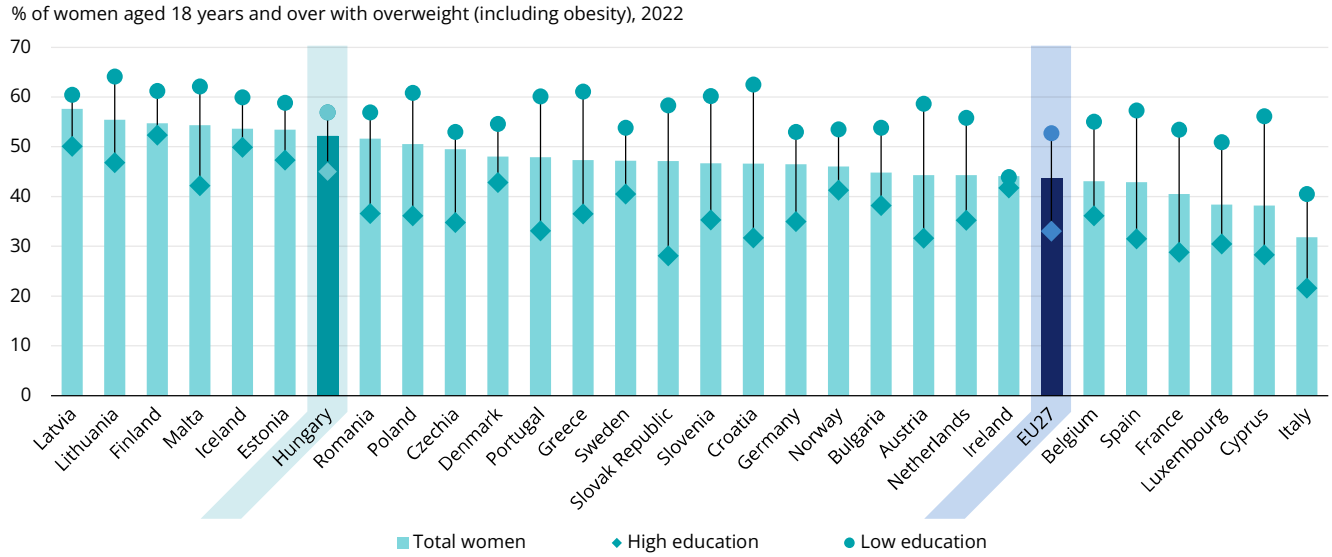
Hungarian rates of smoking were among the highest in the EU in 2019, when 25% of Hungarians aged over 15 reported daily smoking. This reflects a slight reduction in smoking rates since 2014 (26%). However, novel nicotine and tobacco products have been gaining ground. Over 2014-19, the share of regular vaping product users increased from 0.6% to 2%. E-cigarette use is also prevalent among 15-year-old Hungarians: in 2022, the shares who reported having used e-cigarettes in the past 30 days (33%) or ever (47%) were among the highest in the EU, significantly exceeding the EU averages of 21% (past 30 days) and 35% (ever).

Overweight and obesity are growing public health concerns in Hungary

Rates of overweight and obesity among people aged over 18 are higher in Hungary than the EU average across socio-economic groups. Furthermore, while prevalence of overweight decreased slightly in the EU (from 52% to 51%) in 2017-22, it became more commonly reported in Hungary (from 56% to 58%). In 2022, more than half of women (52%) and men (65%) were reportedly overweight, while 22% of Hungarians qualified as obese (approximately 20% of women and 25% of men). By contrast, 15% of Europeans were obese in 2022 (14% of women and 16% of men).

Among Hungarian women, the prevalence of overweight (including obesity) among adult women was 52%, which is higher than the EU average (44%). As in most countries, rates of overweight were higher among those with lower (57%) than higher (45%) education levels (Figure 7).

Figure 7. Half of Hungarian women were overweight in 2022, exceeding the EU average



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

Dietary habits account for the high and increasing prevalence of overweight in the Hungarian population. In 2022, fruit and vegetable consumption was below the EU average across socio-economic groups in Hungary. A high proportion of Hungarians reported eating fruit (59%) and vegetables (67%) less than once a day, compared to the EU averages of those eating fruits (39%) and vegetables (40%).

In 2022, Hungarians reported doing physical activity less than three times in a typical week more often (74%) than the EU average (70%). Low levels of physical activity were more commonly reported among those with lower education levels across age groups. Altogether, 73% of Hungarians with higher education levels reported low levels of physical activity, while among those with lower education levels, the proportion reached 76%.

Smoking, repeated drunkenness and rates of overweight remain more prevalent among Hungarian adolescents than across the EU

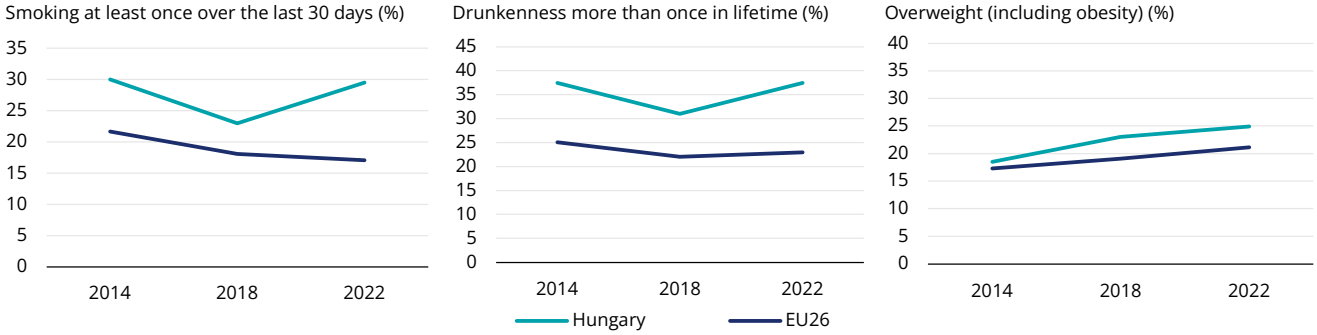
In 2022, several risk factors continued to be more prevalent among 15-year-olds in Hungary than the EU average. Prevalence of smoking among adolescents was significantly higher (30%) than the EU average (17%). Similarly, a higher proportion of Hungarian 15-year-olds reported drunkenness (38%) than the EU average (23%). Adolescents reporting smoking and drunkenness show an increasing trend in Hungary since 2018 (when 23% reported smoking and 31% reported drunkenness). The COVID-19 pandemic may in part explain this pattern.

Among 11- to 15-year-olds in 2022, a high proportion of Hungarians reported smoking and drunkenness regardless of family affluence. Among those in the top income quintile, both smoking (13%) and drunkenness (19%) exceeded the EU averages (9% for smoking and 12% for drunkenness), while the share of those in the bottom income quintile who engaged in these behaviours was the highest among EU countries (23% for smoking and 22% for drunkenness).

Rates of overweight among adolescents have increased steadily: while in 2014, only 19% of 15-year-old Hungarians were overweight, by 2022, the proportion had risen to 25%. Although this increase conforms to the EU trend, in 2022, overweight was more prevalent among Hungarian 15-year-olds than the EU average (21%) (Figure 8).

Poor nutrition contributes to overweight and obesity. Among 15-year-olds in Hungary, 24% consumed fruits daily (compared to 30% in the EU on average) and 27% consumed vegetables daily (compared to 34% in the EU).

Figure 8. Trends in risk factors prevalence among 15-year-olds are unfavourable in Hungary



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.

Hungary aims to promote active lifestyles among adolescents

Between 2014 and 2022, the share of 15-year-old Hungarians who reported doing 60 minutes of physical activity daily increased from 18% to 21%, exceeding the EU average (15%) in 2022. This may in part reflect steps taken by the Hungarian Government to promote active lifestyles among adolescents; since 2012, daily physical education has been part of school curricula in Hungary. In addition, since 2023, the public health product tax has been leveraged to encourage active lifestyles. In force since 2011, this excise tax targets specific food and drink products known to pose health risks. Since August 2023, companies subject to this tax can donate 10% of the tax amount to finance programmes that promote active lifestyles. An expert committee has been set up to devise the programmes funded through this measure: infrastructural developments facilitating active lifestyles and activities for school-aged and disadvantaged children are among its priorities.

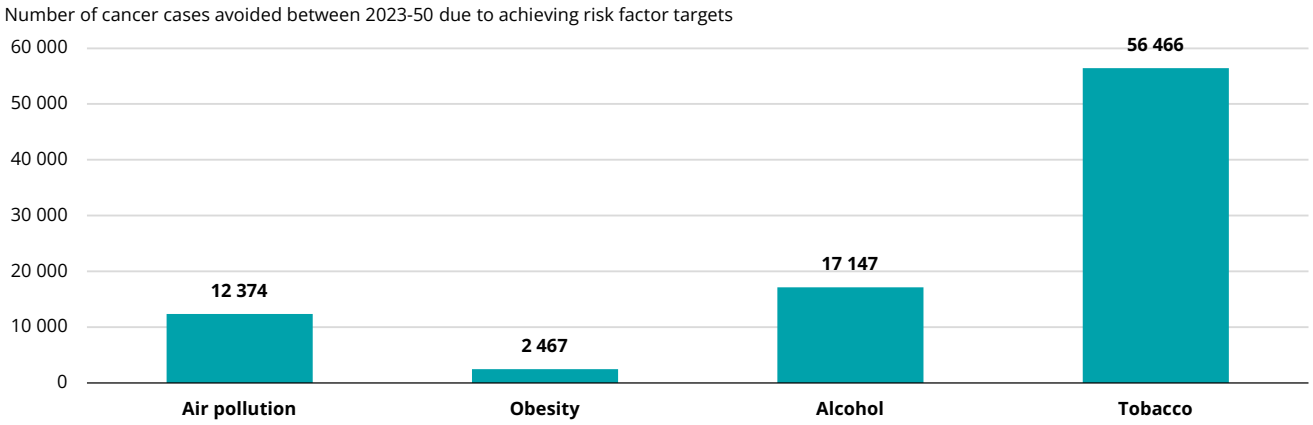
A stringent tobacco control regime would reduce the expected burden of cancer in Hungary over the next two decades

Due to the high burden of lung cancer in Hungary (see Section 2), reducing prevalence of tobacco consumption would have a significant positive effect on reducing incidence of cancer in Hungary. According to OECD Strategic Public Health Planning (SPHeP) modelling work, if tobacco prevalence targets were met, over 2023-50, Hungary would avoid 56 466 new cancer cases (Figure 9). Meeting the alcohol target could reduce the cancer burden by 17 147 cases; an additional 12 374 could be avoided if air pollution targets were met, and 2 467 cases if obesity targets were met.

Several tobacco control measures have been in force in Hungary since 2011-13. These include

reorganisation of tobacco retail sales, banning smoking in enclosed public places and excise tax increases, as well as compulsory warning labels on tobacco products. In 2021, to comply with minimum EU excise duty on cigarettes, the government introduced two increases to the tax levy on tobacco products. Furthermore, in 2022-23, Hungary implemented plain packaging and extended warning labels to heated tobacco products to deter the rise of their popularity.

Figure 9. Reduced tobacco consumption could prevent more than 56 000 cancer cases between 2023 and 2050



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.

To curb minors' access to tobacco products, Hungary operates one of the strictest tobacco retail licensing schemes

As a part of the government's anti-tobacco legislation, a measure implemented in 2013 reorganised tobacco retail sales in Hungary. As a result, licensed retailer density decreased by 85% between 2010 and 2020 (from 4 to 0.6 per 1 000 people). This correlated with a drop in cigarette use among adolescents (aged 13-16), although following significant reductions in the short term, impacts on youth smoking prevalence were minimal 2-3 years after the regulatory changes. This highlights the need for continuous monitoring and complementary tobacco control strategies (Joó et al., 2024).

4. Early detection

Social health insurance covers the three national population-based screening programmes that operate in Hungary

Population-based screening programmes for breast, cervical and colorectal cancers – fully covered by compulsory social health insurance – aim to ease access to early detection services for at-risk groups in Hungary.

The programme for breast cancer has been in operation since 2002 and targets women aged 45-65 – a broader age range than in most EU countries, at 50-69. Invitation letters sent every two years contain fixed appointment dates at a mammography centre. The programme includes 49 mammography screening providers across Hungary. To facilitate geographical access, each of these centres is responsible for a fixed geographical area, and invitees are referred to the appropriate centre based on their location.

In the framework of the cervical cancer screening programme (initiated in 2003), women aged 25-65 are invited for cytology every three years.

The colorectal cancer screening programme was launched in 2018 and targets Hungarians aged 50-70 every two years. The two-step process includes a faecal immunochemical test and (in case of a non-negative result) a colonoscopy. Until 2023, the programme was financed in the framework of a project funded by the Hungarian Government and the European Social Fund. If their General Practitioner (GP) joined the programme, eligible people were invited by a letter to contact their GP to obtain the test kit, otherwise they could request it electronically and receive it by post. Nearly 40% of Hungarian GPs reportedly joined the programme.

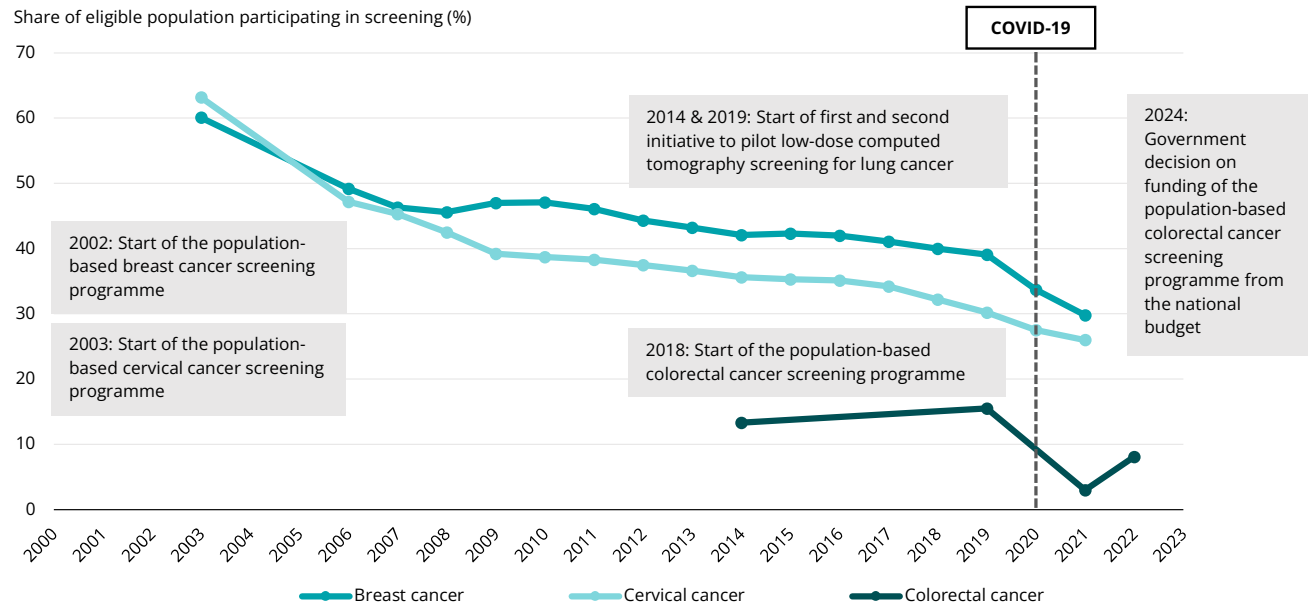
Based on the lessons learned from the project, in 2024, the health administration classified colorectal screening – like breast and cervical screening – as a targeted public health screening programme, and a 2024 government decision mandates that future funding must be provided from the national budget.

The COVID-19 pandemic further exacerbated the decline in population-based screening participation rates in Hungary

Programme data show that 30% of the target population participated in the breast cancer screening programme in Hungary in 2021. That year, the participation rate for the cervical cancer screening programme declined to 26%; for the colorectal cancer screening programme it was 8%, which is the lowest among the 15 EU countries reporting programme data in 2022. Based on data on faecal blood tests for diagnostic and screening purposes from the National Health Insurance Fund, screening coverage oscillated between 5% and 7% in 2012-21. The participation rate among women exceeded that among men in all Hungarian counties (Kívés et al., 2022).

Participation rates for all three programmes have been declining in Hungary. Although in the last few years, the COVID-19 pandemic was a significant factor (for instance, the breast cancer screening participation rate fell from 39% to 30% between 2019 and 2021), available data reflect a longer trend (Figure 10). Between 2006 and 2021, participation in early detection services fell for breast cancer (from 49% in 2006 – a drop of 39%) and cervical cancer (from 47% in 2006 – a drop of 45%). A lack of information, insufficient communication and inadequate levels of prevention-oriented behaviour play a role in this trend (Döbrőssy et al., 2010).

Figure 10. Hungary has experienced a continuing decline in organised screening programme participation rates



Notes: Data refer to mammography screening among women aged 50-69 within the past two years, cervical cancer screening among women aged 20-69 within the past three years, colorectal cancer screening coverage among the population aged 50-70 over the past two years. Screening data for breast and cervical cancer in 2003, and for colorectal cancer in 2014 and 2019, reflect survey data. All others are programme data.
Source: OECD Health Statistics 2024.

However, actual screening coverage may be higher, as many Hungarians seek these services outside the organised screening programmes. Many Hungarian women undergo cervical cancer screening procedures in the private sector. Likewise, recent evidence suggests that about 30% of women targeted by the breast cancer screening programme undergo diagnostic mammography examination in public or private care (MTA, 2023).

To increase participation in organised screening programmes, a national awareness-raising campaign involving government, professional and patient organisations and the media is among the expert recommendations to achieve the goals of the National Cancer Plan (see Section 2).

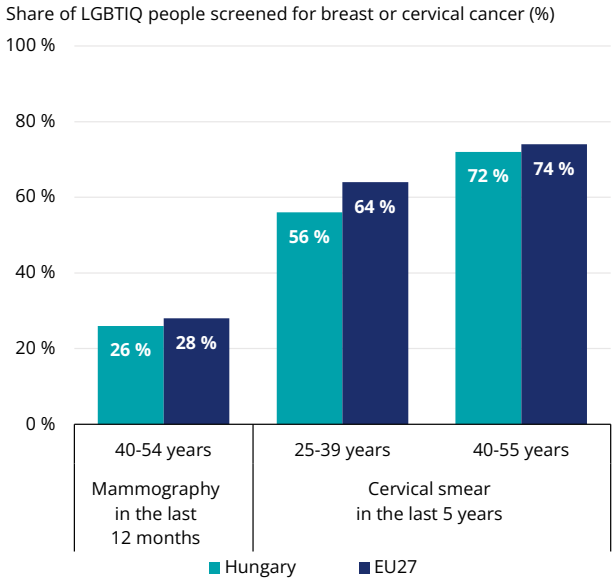
There are inequalities in access to cancer screening services

Data from the Survey of Health, Ageing and Retirement in Europe reflect significant differences by education level in access to early detection services among Hungarian women. In 2021-22, only 31% of women with lower education levels reported having received a mammogram compared to 40% of women with higher education levels.

There is also evidence of inequalities in disfavour of ethnic minority groups, showing that the Roma population in Hungary is less likely to seek cytological screening services than the non-Roma population. Further efforts to raise awareness and health literacy, and to enhance the knowledge and sensitivity of health workers towards the Roma population, are needed to improve participation (Mózes & Feith, 2023).

In addition, according to the EU LGBTIQ Survey III, participation in cancer screening among LGBTIQ persons is lower in Hungary than in other EU countries (Figure 11). For breast cancer screening, 26% of LGBTIQ cisgender females, trans women and intersex people aged 40-54 years reported having had a mammogram in the previous 12 months, slightly lower than the EU average of 28%. For cervical cancer screening, 56% of the relevant LGBTIQ population aged 25-39 in Hungary reported having had a smear test in the previous 5 years (lower than the 64% in the EU), while 72% of those aged 40-55 in Hungary reported a smear test (lower than the 74% in the EU).

Figure 11. LGBTIQ persons in Hungary participate less in breast and cervical cancer screening than their counterparts in the EU



Notes: 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).

Mobile screening units in socio-economically disadvantaged communities aim to address inequalities in participation rates

In the framework of the Hungarian Mobile Health Screening Programme ("Helybe visszük a szűrővizsgálatokat" – "Bring the screening closer to people") launched in 2018, screening buses target mainly socio-economically disadvantaged communities around the country. By November 2023, 10 vehicles had visited 300 such communities. Services offered include screening for melanoma, cervical and oral cavity cancers. Medical records produced during the Mobile Health Screening Programme are integrated into the Hungarian e-Health Infrastructure (EESZT). The programme supports the monitoring of the health status of the Hungarian population through bringing preventive health services closer to people and raising awareness and knowledge about the multidimensional nature of health prevention. In addition to screening, the programme focuses on the prevention of health risk factors.

Between 2021 and 2023, almost 7 000 screenings were performed for oral cavity cancer in smaller and socio-economically disadvantaged communities. Results show higher incidence of malignancies among this group (MTA, 2023).

Primary care is leveraged to improve participation in early detection programmes

In Hungary, primary care practitioners play a key role in improving access to early detection services by providing updated information for patients on screening services. To increase participation in population-based breast cancer screening, financial incentives are also available for GPs through indicator-based performance assessments. Screening coverage (the share of the target group in a GP practice who underwent mammography screening in the preceding two years) is one of the indicators used in the performance assessment scheme. These indicators constitute a scoring system that determines the distribution of additional remuneration.

Moreover, to improve access to early detection of cervical cancer, a legislative change in 2015 allowed mother and child health (MCH) nurses to perform smear sampling, conditional upon the completion of the required 40-hour training. Between 2016 and 2022, an average of 308 MHC nurses participated in the screening annually (Gyulai et al., 2022). Given their proximity to women living in socio-economically disadvantaged communities and their potential familiarity with these women, MCH nurses play a crucial role. Their expanded role aims to leverage this closeness to facilitate access to early detection (Mózes & Feith, 2023).

Initiatives for the early detection of lung cancer target at-risk and vulnerable populations

To address the high burden of lung cancer in the Hungarian population (see Section 2) initiatives using low-dose CT scanning for lung cancer screening have been launched. Results from a large-scale pilot project (HUNCHEST-II) involving 4 215 high-risk individuals aged 50-75 with heavy smoking history demonstrate that low-dose CT screening for lung cancer facilitates early diagnosis, thus supporting the introduction of systematic lung cancer screening for high-risk groups (Kerpel-Fronius et al., 2024). Recommendations to the Hungarian Government by the National Institute of Oncology include the introduction of lung cancer screening based on low-dose CT scanning for at-risk groups, and linking these efforts to smoking cessation programmes (MTA, 2023).

Furthermore, in 2024 trials of an mRNA-based vaccine against non-small cell lung cancer have been launched across seven countries, including Hungary.

Digital solutions play an important part in plans to improve early detection and timely diagnosis in Hungary

Hungary aims to leverage artificial intelligence (AI) and digital technologies in healthcare. In line with these efforts, an AI-based decision support algorithm for pathology diagnostics is being piloted to support the colorectal screening programme (see Section 5.1). Furthermore, the National Centre for Public Health and Pharmacy plans to introduce AI to support national screening programmes, starting with the breast cancer screening programme. A pilot project to test AI-supported mammography screening was launched in 2021.

The plan is also to mobilise digital solutions to increase participation in population-based screening programmes, under the assumption that the target population could be better activated through digital means than by physical invitation letters. In fact, the 2024 government decision on funding of the colorectal screening programme also instructs competent authorities to pursue information technology developments that would enable screening invitations to be sent through EgészségAblak [HealthWindow] – the official application of the national e-Health Infrastructure (EESZT).

To prompt further work on development of population-based cancer screening services, a professional panel was commissioned. The recommendations issued by this group of experts included extension of the age range of the target population for mammography (from 45-64 to 40-75) and a shift to HPV-based screening in early detection of cervical cancer. Development of the registration, follow-up and quality assurance information system and linking it to the current e-Health Infrastructure system also figure among future plans (MTA, 2023).

5. Cancer care performance

5.1 Accessibility

Social health insurance gives access to each cancer care pathway

In Hungary, entitlement to publicly financed healthcare services is guaranteed by residency and an existing legal relationship, established by an employment contract or other legal provisions. Adherence to this social health insurance is compulsory, and it gives access to all elements of cancer care – from screening to palliative care.

Although in 2021 out-of-pocket payments in Hungary were relatively high compared to the EU average (25% and 15% of total current health expenditure, respectively), oncology care is not among its main drivers. While private providers have a more significant role in screening (see Section 4), once a diagnosis is established, Hungarian patients generally receive care in the public system. The high costs associated with oncology care may explain in part why private providers do not assume a significant role in treatment. Although costs directly related to cancer care are largely covered by public financing, patients may need to purchase medicines that reduce the secondary effects of cancer treatments, for which the level of out-of-pocket payments is relatively high.

In 2022, in response to the mass cross-border displacement induced by the war in Ukraine, the responsible minister made oncology care available free of charge for people under the temporary protection scheme in Hungary through a government decree.

Human resource shortages persist in cancer care

Hungary has a low supply of both physicians (538 per 1 000 new cancer cases) and nurses (845 per 1 000). These rates are lower than the EU averages of 679 physicians and 1 376 nurses per 1 000 (Figure 12). For oncology specialists, the country reported inadequate geographical distribution and shortage of radiologists, which create bottlenecks for the timely evaluation of examinations by imaging procedures. For instance, according to the registry of the National Directorate General for Hospitals, in 2024, 242 clinical oncologists were registered in the capital city, 38% of all those who are authorised to practice this specialty in the country (629). The regional centralisation of cancer care (see Section 5.2) also plays a role in the unequal distribution of oncology specialists among counties.

In recent years, the Hungarian Government has been using financial incentives to alleviate the shortages of healthcare workers. Following a reform of their employment status in 2020 (which comprised an important 120% salary increase for doctors, and criminalised informal payments) by 2024, the salaries of nurses and other healthcare professionals have also been increased.

Furthermore, digital health solutions, such as testing AI solutions in mammography (see Section 4), aim to remediate bottlenecks in access to care.

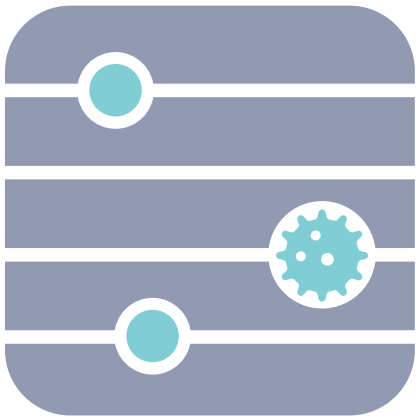
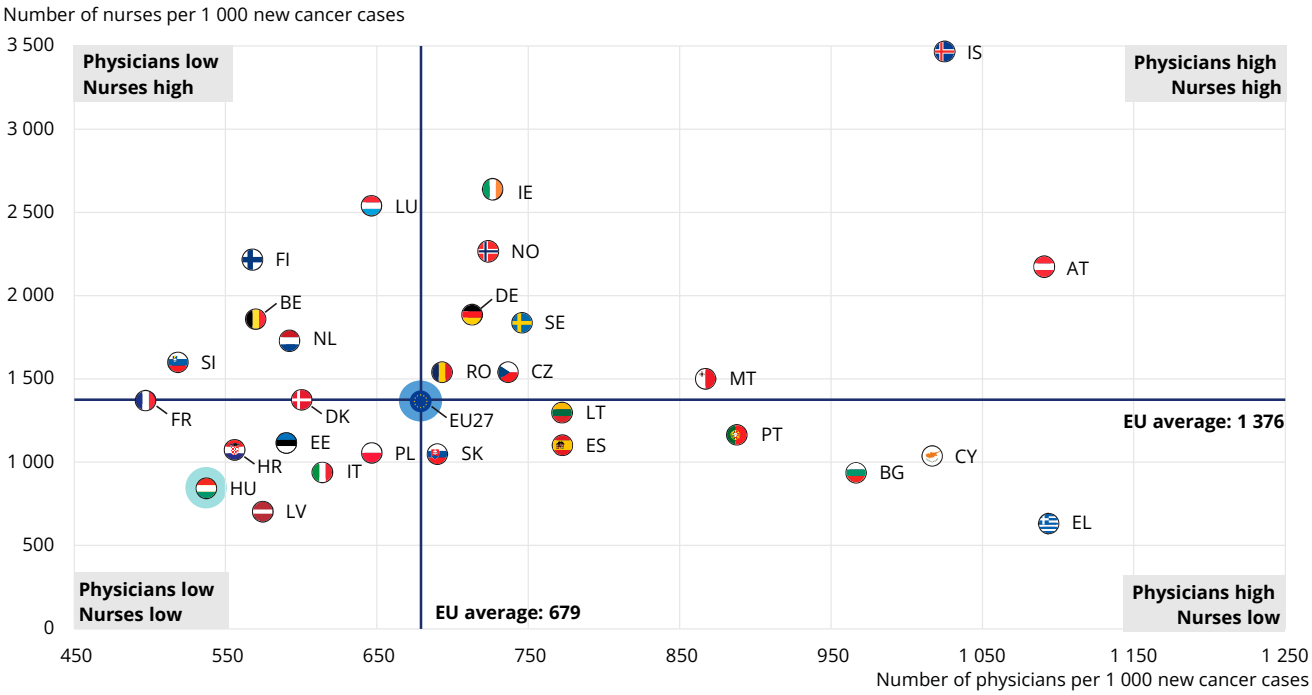


Figure 12. Hungary has a low supply of both nurses and physicians relative to the number of new cancer cases



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.

A pilot project on artificial intelligence-based decision support in pathology diagnostics is the flagship of Hungary's efforts to leverage data-driven health

Recognising the opportunities in data-driven health to address important challenges in healthcare, the ministry responsible for the health sector has recently formed an AI committee with a double mandate: to monitor AI developments in predetermined areas of interest and to prepare a roadmap for the system-level integration of AI solutions into public healthcare in Hungary.

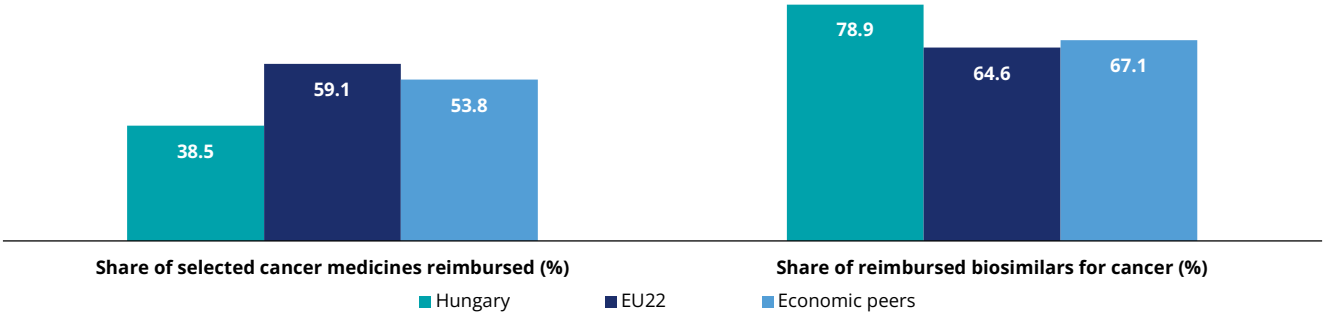
A pilot project testing a deep-learning algorithm for decision support in pathology diagnostics in eight pathology centres across Hungary aims to pave the way towards national expansion of the solution. The development is intended to support the organised colorectal cancer screening programme (see Section 4).

Integration of new cancer drugs into the public financing scheme takes a long time in Hungary

Medicines approved by EU regulators are authorised relatively quickly in Hungary. Since August 2023, the National Centre for Public Health and Pharmacy issues authorisations and performs mandatory health technology assessments of new medicines, medical devices and other preventive medical procedures.

However, integration of new medicines into the public reimbursement scheme may take a longer time. Among a sample of cancer medicines (for breast and lung cancer) with a high clinical benefit, the proportion of publicly reimbursed indications was 38.5%, which is lower than both the average among Hungary's economic peers (54%) and the EU average (59%). At the same time, the share of selected biosimilars for cancer with public reimbursement was higher in Hungary (79%) than the average either among its economic peers (67%) or the EU (65%) (Figure 13).

Figure 13. The share of reimbursed biosimilars in Hungary exceeds the EU average



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 HU are BG, EE, EL, HR, LV, PL and PT. 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.

Based on 124 indications of 51 cancer medicines authorised by the European Medicines Agency between 2011 and 2020, a median waiting time to reimbursement of 37 months was reported in Hungary – the highest among Poland, Czechia, the Slovak Republic, and Hungary (Hofmarcher et al., 2023).

In 2024, the Hungarian Government integrated new medicines, including oncological and onco-haematological medicines, into the public financing scheme (see Section 5.3).

Diagnostic imaging and therapeutic equipment have been renewed to improve access to oncology care in Hungary, although numbers are still below the EU average

Between 2011 and 2022, Hungary saw increases in the numbers of CT scanners (from 7 to 11 per 1 000 000 inhabitants), magnetic resonance imaging (MRI) units (from 3 to 6 per 1 000 000)[8] and positron emission tomography (PET) scanners (from 0.4 to 1 per 1 000 000). However, these numbers are still consistently below the EU averages of 26 CT scanners, 18 MRI units and 2 PET scanners per 1 000 000 inhabitants.

The National Cancer Plan (see Section 2) made it a priority to invest in improving access to new procedures and in refurbishing old equipment. Accordingly, several centres have received funds to replace equipment that is over 10 years old, and new molecular pathology tests, radiotherapy procedures and robot-assisted surgery have become publicly available in recent years. In 2023, it was reported that over the preceding 10 years, 80% of radiotherapy and imaging (CT and MRI) equipment had been renewed (MTA, 2023). Data from the IAEA suggest that 61% of the country's radiotherapy equipment (39 of 64 units) is less than 10 years old.

From 2024, robot-assisted surgeries are being performed in four institutions in the country, while the National Institute of Oncology also offers training in this area. The Institute's plans include development of head and neck cancer surgery and provision of robotic surgery training in all surgical specialties in the country.

A maximum waiting time for diagnostic imaging only partly addresses the issue of waiting times in cancer care

To ensure timely access to cancer care, since 2015, Hungarian regulations have stipulated that patients suspected of having cancer must have a CT or MRI scan within 14 days of referral. However, deadlines for the scan report are not regulated, so physicians may struggle to fully realise the aspirations of this legislation. Even once the image is prepared, interpretation may take more time, mainly due to human resource shortages.

To reduce waiting times further, the government has initiated public centralisation of CT and MRI equipment. This measure, scheduled for completion by late 2025, aims to improve timely access to diagnostic imaging in cancer care. Local initiatives have also been developed to improve timeliness of access to cancer care. An agreement between the city of Budapest and Semmelweis University stipulated that the capital city would finance 2093 CT examinations between July 2023 and December 2024 for residents of specific districts. These examinations are available to individuals with suspected cancer upon specialist referral, or to those with diagnosed cancer for monitoring

8 *The figures do not include CT and MRI units that exclusively perform scans for inpatients or those operating solely under private funding.*

treatment effects. Patients are scheduled to receive a CT examination within seven days, with results available within three days.

5.2 Quality

Data from the National Cancer Registry show improving five-year survival estimates

A recent analysis of National Cancer Registry population-based data comparing three consecutive periods (2005-09, 2010-14 and 2015-17) revealed improving five-year net survival estimates among Hungarian cancer patients (Table 2). Age-standardised five-year net survival improved for cancer sites that are responsible for the highest mortality rates in Hungary (lung, colon and breast). Between 2005-09 and 2015-17, the five-year lung cancer survival increased from 23% to 25%, while for colon cancer it rose from 52% to 57%.

Table 2. Five-year survival rates of Hungarian cancer patients improved between 2005-09 and 2015-17

Individuals diagnosed in	Prostate cancer	Breast cancer	Cervical cancer	Colon cancer	Lung cancer
2005-09	81%	79%	59%	52%	23%
2010-14	81%	79%	55%	55%	20%
2015-17	83%	80%	60%	57%	25%

Source: Data provided by national experts.

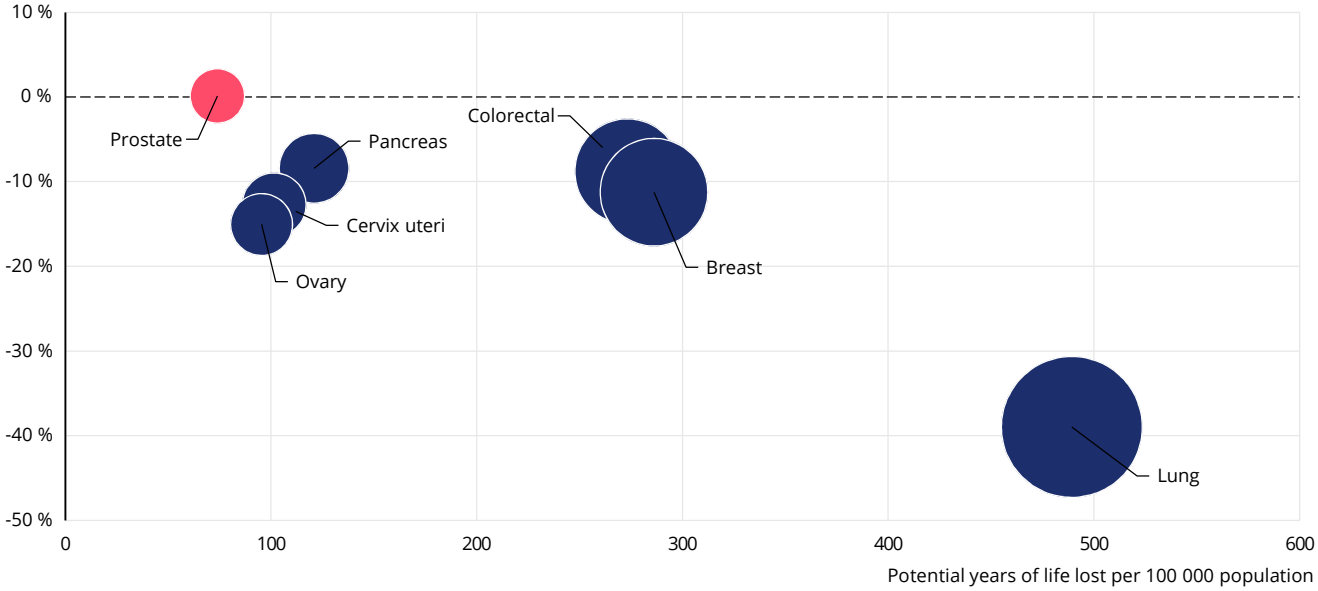
Potential years of life lost decreased for most cancers between 2012-22

In addition to survival data, potential years of life lost (PYLL) is a complementary measure of the impact of different cancers on society, putting 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 2022, the potential years of life lost due to cancer across all sites was 1 961 per 100 000 population in Hungary. This is 45% higher than the EU average (1 355 per 100 000). However, since 2012, the number of potential years of life lost has decreased slightly more in Hungary (by 27%) than the EU average (by 19%).

Between 2012 and 2022, no cancer type showed a large increase in the number of potential years of life lost. In 2022, lung cancer was responsible for the most potential years of life lost (489 years per 100 000 population) – a 39% decrease since 2012. Notably, potential years of life lost due to stomach cancer also dropped significantly (37%) between 2012, when the rate was 114 per 100 000 population and 2022, when the rate was 72 per 100 000 (Figure 14).

Figure 14. In 2022, lung cancer was responsible for the most potential years of life lost among Hungarians

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.

Financing mechanisms exercise quality control in Hungarian cancer care

Although sporadic initiatives have sought to collect care quality indicators along the cancer care pathway, national efforts to monitor quality remain limited in Hungary. In recent years, the country has been planning clinical audits for health professionals, with indicators created for each medical specialty including oncology. However, the system has not yet been launched.

These limitations are reflected in the scarce availability of quality indicators for cancer care. Likewise, collection of performance measures on outcomes and care experiences of cancer patients remains underdeveloped.

In this context, an important instrument of quality control is financing of cancer care. For diseases that are the most expensive to diagnose and treat – including cancer – Hungarian law defines financing protocols. Providers must submit statutory financial statements to the National Health Insurance Fund about costs incurred during care provision, and the Fund can verify whether care has been provided according to the prescribed financing protocols. If discrepancies are found, funding is withdrawn. The most recent update of financing protocols was instituted in early 2024 (see Section 5.3).

A unique, data-rich environment is yet to be fully leveraged to extract quality indicators for cancer care

Hospitals report registered cancer cases electronically to the National Cancer Registry quarterly. The National Health Insurance Fund complements the Registry's database with data on financing oncology care linked to social security numbers. The Registry is further supplemented by identifiable mortality statistics from the Hungarian Central Statistical Office, which helps to confirm whether the registered death is related to cancer. The Registry supports research and planning and development of the Hungarian oncology network. More human and financial resources would facilitate more complete leverage (Wéber et al., 2023).

Regional centralisation of cancer care aims to make care delivery more effective

Centralisation of cancer care delivery in Hungary at national, regional and county centres aims to optimise effectiveness and ensure sustainability, by concentrating complex and rare procedures in regional and national centres. Accordingly, diagnostic and treatment procedures (see Section 5.1) are linked to these levels of care. Molecular pathology services are available in the National Institute of Oncology and in the four regional centres. Tele- and brachytherapy is provided at the 14 county centres that operate as

radiotherapy centres. The fourteenth radiotherapy centre opened in Northern Hungary in April 2023. Evidence from the National Cancer Registry demonstrates an increase in treated oncology cases in this centre in 2023 compared to previous years, and no staffing difficulties were reported. By 2024, robot-assisted surgery has become available at four institutions in Hungary. Patients are referred to the appropriate centre by primary, outpatient and inpatient care providers at the municipal level.

County centres, located in each of Hungary's 19 counties, are responsible for provision of care for high-incidence cancers. Four regional centres provide specialist care not available in other centres and care for medium-incidence cancers. The National Institute of Oncology is responsible for treating rare cancers; it concentrates all specialised conditions for treatment of solid tumours, co-ordinates professional guideline development, provides continuing medical education and operates the National Cancer Registry.

The National Institute of Oncology is accredited as a comprehensive cancer centre. Plans to develop the cancer care system include accreditation of the entire Hungarian oncology care system around the National Institute of Oncology and the four regional oncology centres (MTA, 2023).

A national molecular oncoteam gives access to molecular pathology tests at public providers

In Hungary, optimal therapy for all cancer cases is decided by a multidisciplinary tumour board in the relevant hospital. Recently, a national molecular oncoteam, led by the National Institute of Oncology, has also been established. Based on the expert opinion of this team, multigene molecular pathology tests may be pursued at public providers. The molecular oncoteam is led by an expert in molecular pathology diagnostics; it must include a clinical oncologist, the patient's treating physician, a molecular biologist or bioinformatician with expertise in evaluation of multigene sequencing data, and the oncoteam organiser. Other professionals may also be involved, depending on the case. In May 2023 it was reported that since January 2022, 544 cases had been assessed by this team (Bödör, 2023).

Pathologists leverage telemedicine in Hungary

Consultation between Hungarian pathologists is an important tool to enhance care quality. All malignancy diagnoses have to be signed by two pathologists. For challenging cases, consultations are made easily available within and – through the application of telepathology at several Hungarian providers – between institutions. Pursuing telemedicine in oncology care is also set out in the National Cancer Plan (see Section 2), but efforts are not organised at the national level.

5.3 Costs and value for money

Various financing mechanisms operate in Hungarian cancer care

Within the frame of National Health Insurance Fund, various financing mechanisms are applied in Hungarian cancer care, depending on the type of service provided. Inpatient care procedures, surgery, chemotherapy and radiotherapy fall under diagnosis-related group financing. Outpatient care procedures, including imaging and laboratory diagnostics, are financed on a fee-for-service basis. Certain high-value or not nationally prevalent treatments and procedures are subject to itemised reimbursement covered from the budget earmarked for this purpose. In this case, procurement is managed by the National Health Insurance Fund, and providers are accountable for the amount used. Furthermore, treatments that are not covered by the social health insurance scheme may be financed by the Fund through the named-patient reimbursement scheme. Requests to access these funds have to be underpinned by expert opinion.

Tools for cost optimisation in Hungarian cancer care include centralised organisation of cancer care and statutory financing protocols (see Section 5.2). The former controls costs by optimising resource allocation (for instance, through concentrating complex and rare procedures in regional centres or the National Institute of Oncology). The latter incentivises providers to follow prescribed diagnostic and treatment protocols by making financing conditional on adherence.

From 2024, new oncology medicines are covered through social health insurance

From 1 January 2024, the Hungarian Government integrated new medicines, including oncological and onco-haematological medicines, into the public financing scheme. This was an important step to improve access to products that could previously only be accessed through the named-patient reimbursement scheme that was characterised by a lengthy procedure and administrative burden.

At the same time, the National Health Insurance Fund published new financing protocols for the treatment of 40 diseases. Several of these protocols are in the field of oncology.

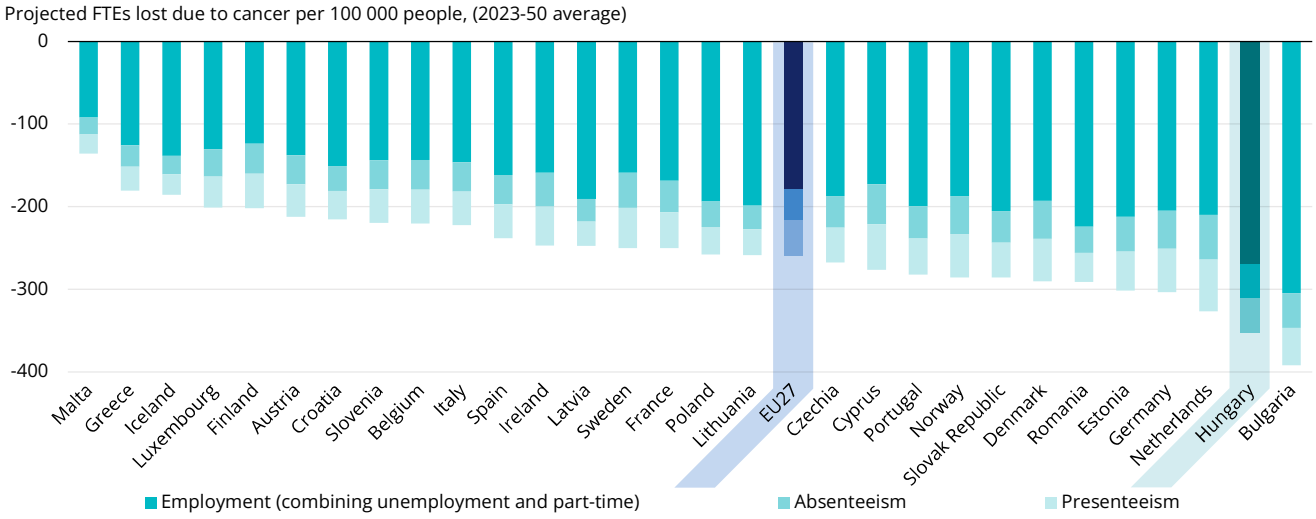
A stricter procedure aims to ensure the sustainability of the named-patient reimbursement scheme

To ease mounting pressure on the named-patient reimbursement scheme, in 2023, the National Health Insurance Fund tightened its procedures; requests are now assessed based on quantified therapeutic efficacy, available price and cost – effectiveness data alongside the expert opinion of the requesting physician. More transparency, a faster process and more objective decision making are expected, following the changes.

Hungary is expected to face one of the highest impact of cancer on its workforce between 2023-50

According to the OECD's SPHeP model, the per capita health expenditure on cancer care is expected to grow by 55% in Hungary between 2023 and 2050, compared to 59% in the EU. In addition, it is estimated that cancer will have a major impact on the workforce. Between 2023 and 2050 on average, cancer is expected to lead to a loss of 267 full-time equivalent workers (FTEs) per 100 000 people due to the need to reduce employment because of cancer, as well as 41 FTEs per 100 000 due to absenteeism and 43 FTEs per 100 000 due to presenteeism (Figure 15). This is the second highest loss in the EU, after Bulgaria.

Figure 15. The impact of cancer on Hungary's workforce is expected to be the second highest in the EU between 2023 and 2050



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.

5.4 Well-being and quality of life

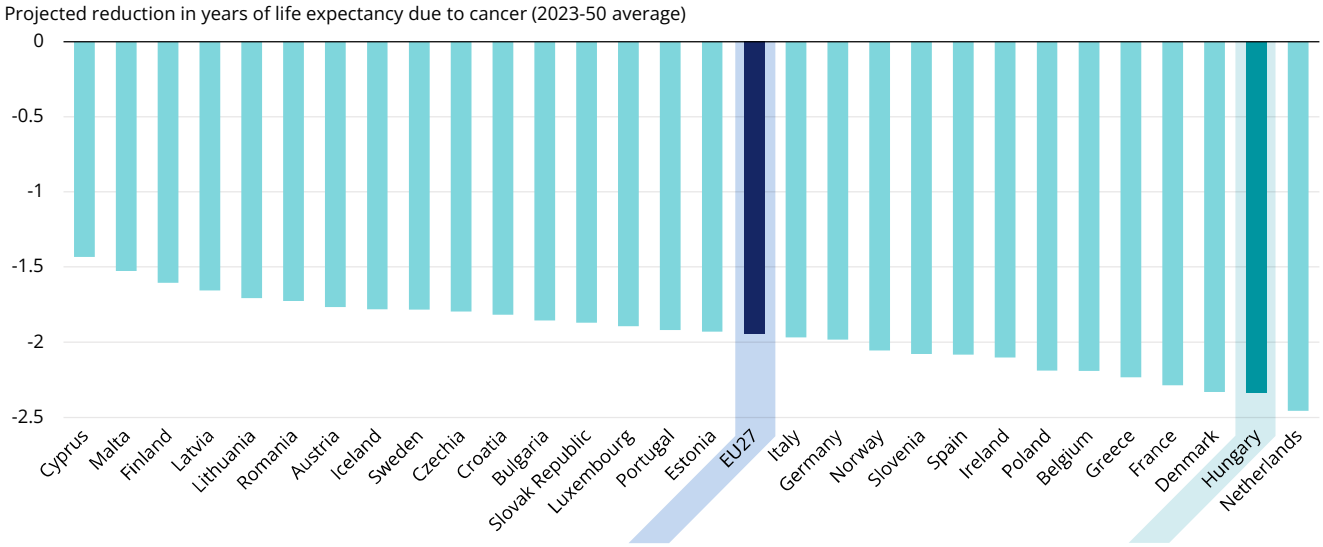
Cancer is expected to reduce life expectancy in Hungary by two years over 2023 and 2050

According to OECD SPHeP modelling work, in Hungary, between 2023 and 2050, cancer is expected to reduce life expectancy by an average of 2.3 years compared to a scenario without cancer. This number exceeds the EU average (1.9 years). In fact, Hungarian life expectancy is expected to be among those most affected by the cancer burden in the EU, second only to the Netherlands (Figure 16).

For context, it took Hungary from 2010 to 2019 to increase its life expectancy by 2 years.

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, Hungary is anticipated to have much higher depression rates because of cancer, at an additional age-standardised rate of 22 cases per 100 000 people per year. This is the fifth highest among all EU+2 countries, following Portugal, the Slovak Republic, Estonia and Greece.

Figure 16. Hungarian life expectancy is projected to be among the most negatively affected by cancer in the EU 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.

Policies to support the well-being of cancer patients are limited in Hungary

To address the psychological burden on Hungarians living with cancer, national guidelines (effective until 2024) recommend that psychosocial and oncopsychological care for patients (and their relatives) should be integrated into oncology care.

In addition, Hungary has adopted policies guiding labour market reintegration of recovered patients in general (including people with a history of cancer). However, measures that specifically aim to facilitate reintegration of cancer survivors (including provisions on the right to be forgotten) have not yet been formulated. Measures to grant paid leave to care for ill relatives have also not been adopted in the country. Informal carers of cancer patients in Hungary can only request unpaid leave for a maximum of two years.

The first prehabilitation programme aims to improve long-term outcomes for cancer patients

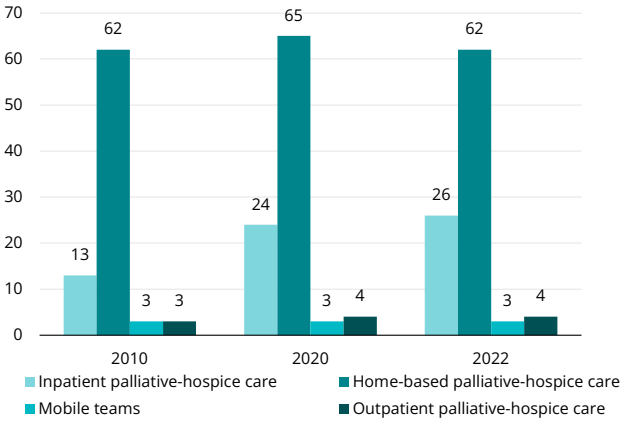
In 2022, a hospital in the city of Miskolc, with financing from the National Health Insurance Fund, integrated prehabilitation – an organised programme to prepare patients for oncological treatments – into oncology care. The service mobilises a multidisciplinary team, including health and social care workers, and aims to provide organised help to oncology patients starting from diagnosis. The programme expects better long-term outcomes, potentially including easier reintegration into everyday life after recovery. This is the first such initiative in Hungary, where rehabilitation programmes and targeted programmes to prepare for oncological interventions are not universally available (Furka, 2022). The National Cancer Plan (see Section 2) also stresses the need to strengthen rehabilitation services for oncology patients.

Several factors may hamper equal access to palliative and hospice care in Hungary

In Hungary, inpatient and home-based hospice and palliative care are covered by the compulsory social insurance scheme. While determining the duration of inpatient care is at the discretion of each provider, in general it does not exceed three months. In the case of home-based care, a 50 day-limit has been set on financing by government decree (which may be extended to 150 days in total, under certain conditions). Hospital-based mobile hospice teams may also support other healthcare professionals, patients and their relatives through consultation, and some outpatient providers also operate in the country. In 2022, 95 providers offered palliative and hospice services in Hungary: 26 in inpatient, 4 in outpatient and 62 in home-based care, alongside 3 mobile hospice teams. Between 2010 and 2022, this number rose by 22% from 78 providers in 2010 (Figure 17). Although this increase was driven mainly by the rise in inpatient providers (increasing from 13 to 26 in 2010-22), several factors create bottlenecks to access to palliative and hospice care, including insufficient funding, low bed capacities, uneven distribution of palliative and hospice care beds in the country, and a shortage of qualified

healthcare workers. Persistent challenges, including late admissions (Hegedűs, Farkas & Lukács, 2023), may be explained by these limitations.

Figure 17. The increase of palliative and hospice services between 2010-22 is driven by more inpatient providers in Hungary



Source: Hegedűs, Farkas & Lukács, 2023

Despite organised patient pathways, there is room to expand awareness about palliative and hospice care in Hungary

In Hungary, palliative and hospice care can be requested by the patient, a legal representative or relative, a GP or a specialist. Most Hungarians who receive palliative and hospice care are cancer patients. In 2022, their share comprised 82% of all home-based hospice care patients, while among inpatient hospice care patients this proportion reached 95% (Hegedűs, Farkas & Lukács, 2023). Inpatient palliative and hospice care departments are generally available at oncology care centres. To improve the quality of life of patients, current guidelines recommend that oncologists integrate palliative care into general oncology care by pursuing early consultation and collaboration with palliative care specialists.

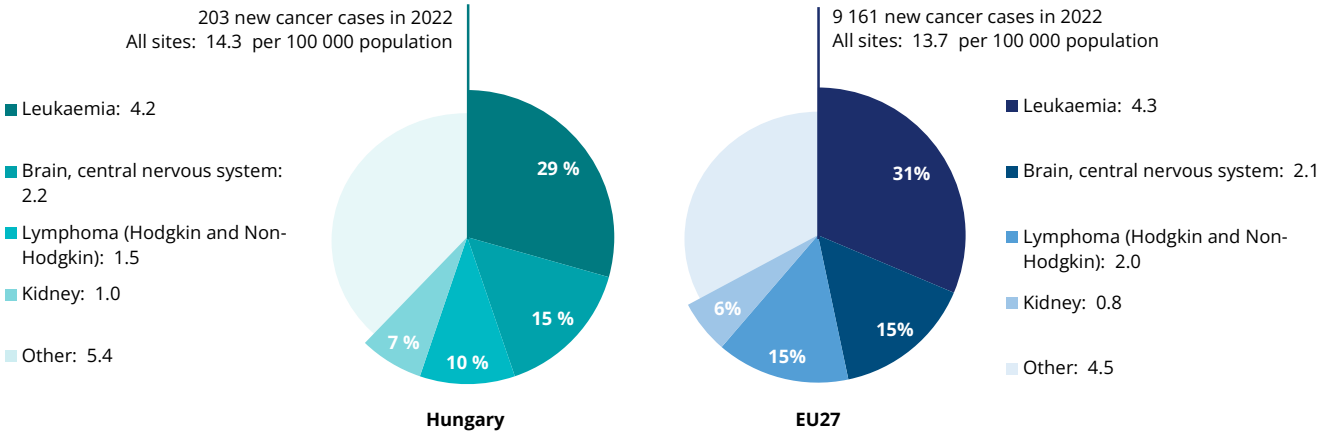
Although patient pathways are organised, the lack of adequate knowledge about availability and benefits of palliative and hospice care – among patients and sometimes even among healthcare professionals – is a persistent challenge. Professional educational programmes on palliative and hospice care are offered, but it is not a mandatory part of medical education in Hungary. Concerning the public, local programmes are in place to improve health literacy, but there is no national campaign to improve the general population's understanding of or knowledge about end-of-life-care. These factors may also contribute to late referrals of patients to palliative and hospice care.

6. Spotlight on paediatric cancer

According to ECIS, it is estimated that in Hungary 203 children and adolescents up to age 15 were diagnosed with cancer in 2022. Incidence rates for ages 0-14 in 2022 were estimated at 14.3 per 100 000 children in Hungary, as compared to 13.7 in the EU27 (Figure 18). Incidence rates among boys are slightly higher than among girls in Hungary, mirroring the EU pattern. The most common cancer groups are leukaemia, at 4.2 cases per 100 000 children (29%), brain and central nervous system cancers at 2.2 cases per 100 000 population (15%), lymphoma at 1.5 cases per 100 000 (10%) and kidney cancer, at 1 per 100 000 population (7%). In 2021, according to Eurostat, Hungary had higher mortality rate, with a 3-year average mortality rate of 2.7 per 100 000 children, compared to 2.1 per 100 000 in the EU.

Figure 18. Cancer incidence rates among children in Hungary are slightly higher than in the EU

Age-standardised incidence rate per 100 000 population (aged 0-14), estimates, 2022



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.

The Hungarian Paediatric Oncology Network operates the National Childhood Cancer Registry, which records the epidemiology, treatment methods, outcomes and long-term follow-up of childhood cancer cases (Garami & Jakab, 2024). According to the Hungarian Paediatric Oncology Network, children diagnosed with cancer are treated in eight institutions in Hungary. These institutions include paediatric university hospitals, paediatric general hospitals, university hospitals with paediatric units, and general hospitals with paediatric units that also treat children with other diseases.

According to the European Society of Paediatric Oncology (SIOPE)'s Organisation of Care & Research for Children with Cancer in Europe (OCEAN) Project, among the 13 infrastructural and treatment modalities (such as brachytherapy, stem cell transplants, palliative care and chemotherapy), 12 are available to care for paediatric cancer patients in Hungary, while proton radiation therapy is not available (SIOPE, 2024). In addition, in 2018, 65% of the 68 medicines identified as essential for treating cancer in patients aged 0 to 18 were available in Hungary, compared to 76% in the EU on average (Vassal et al., 2021).

Of the 436 clinical trials that enrolled children and young people in the EU between 2010 and 2022, 30 (7%) were running in Hungary. This proportion is higher than that recorded in some neighbouring countries such as Croatia (1%), the Slovak Republic (3%), or Romania (4%), but does not reach the share associated with others in the region, like Czechia (14%) or Poland (15%).

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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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