





#### **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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### Key health system and demographic statistics

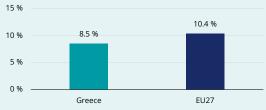




2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023

————Greece ————EU27

#### Health expenditure as % of GDP, 2022 or nearest year

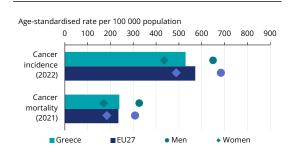


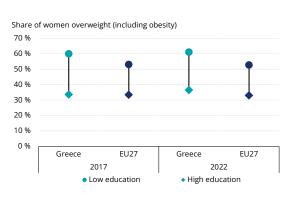
Age-standardised mortality rate per 100 000 inhabitants, 2021  $\,$ 

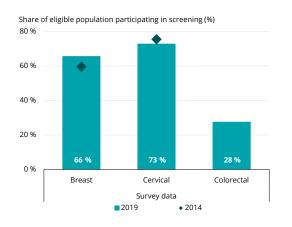


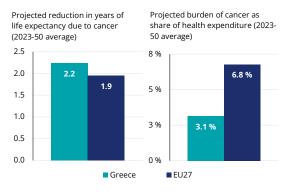
Source: Eurostat Database.

# 1. Highlights









#### **Cancer in Greece**

In 2022, 63 176 new cancer diagnoses were estimated in Greece, with an age-standardised incidence rate of 529 new cases per 100 000 population, which is lower than the EU average. Between 2011 and 2021, Greece experienced a slower decline in cancer mortality rates than most other EU countries. The age-standardised mortality rate was 239 per 100 000 - slightly above the EU average. The cancer mortality rate in Greece among men is higher than the EU average, but the rate among women is lower than the EU average.

### Risk factors and prevention policies

Greece fares relatively poorly compared to other EU countries with regards to daily smoking, overweight and obesity, fruit consumption and air pollution. Despite a reduction in smoking rates, Greece still has one of the highest smoking prevalence in the EU, with nearly a quarter of the population smoking daily. More than half the Greek population is overweight or obese, with significantly higher rates among lower socio-economic groups. Prevalence of overweight and obesity among women with low level of education in Greece is also among the highest in the EU.

#### **Early detection**

Greece has gradually implemented screening programmes, including a population-based breast cancer screening programme for women aged 45-74. Screening programmes for cervical and colorectal cancer have also been designed and announced. However, no comprehensive data are available on the effectiveness of these programmes. Previous survey data indicate relatively high participation rates in breast and cervical cancer screening programmes, but there are significant socio-economic disparities in participation rates.

### Cancer care performance

Access to cancer care in Greece is impaired by several factors, including shortages of health personnels, high out-of-pocket expenses, long waiting times for radiation therapy in public hospitals, and uneven distribution of cancer care facilities. To enhance the quality of care, more comprehensive policies focusing on care concentration and quality assurance are needed. Greece lacks comprehensive policies and social protection mechanisms to support cancer patients and survivors. Overall, the burden of cancer is estimated to be high, with a major impact on life expectancy compared to the EU, but a lower burden on health expenditure.

# 2. Cancer in Greece

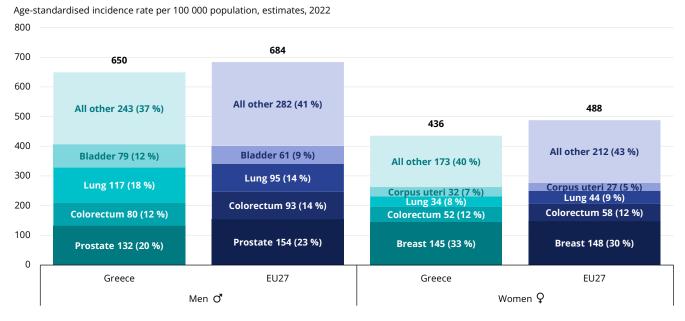
### Cancer incidence in Greece is lower than in most other EU countries

According to the European Cancer Information System (ECIS) of the Joint Research Centre based on incidence trends from pre-pandemic years, 63 176 new cancer cases were expected in Greece in 2022. Only three EU countries have lower age-standardised cancer incidence rates than Greece, where the rate (529 per 100 000 population) is lower than the EU average (571 per 100 000). The age-standardised cancer incidence rate among men is 650 per 100 000 (compared to an EU average of 684 per 100 000); among women it is 436 per 100 000 (compared to an EU average of 488

per 100 000). A more comprehensive and robust overview of cancer incidence requires data from a population-based national cancer registry, which is still not available in Greece.

The most frequent cancer type among men is prostate (20%), followed by lung<sup>1</sup> (18%), colorectal (12%) and bladder (12%) cancers (Figure 1). The leading type of cancer among women is breast (33%), followed by colorectal (12%), lung (8%) and corpus uteri (7%) cancers. Looking forward, ECIS estimates that cancer cases will increase by 11% between 2022 and 2040, compared to an increase of 18% across the EU.

Figure 1. Cancer incidence is higher among men than women, in both Greece and across the EU



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.

Among men, cancer incidence in 2022 were also due to kidney (3.5%), pancreas (3.5%), stomach (3.3%) and liver (3.1%) cancers, as well as haematological malignancies such as leukaemia (3.1%) and non-Hodgkin lymphoma (2.9%). Of the cancer incidence among women, 3.9% were attributed to pancreas cancer, followed by ovary

(3.5%), bladder (3.1%), leukaemia (3.1%), thyroid (2.7%) and stomach (2.5%) cancers.

### Cancer is a leading cause of death in Greece

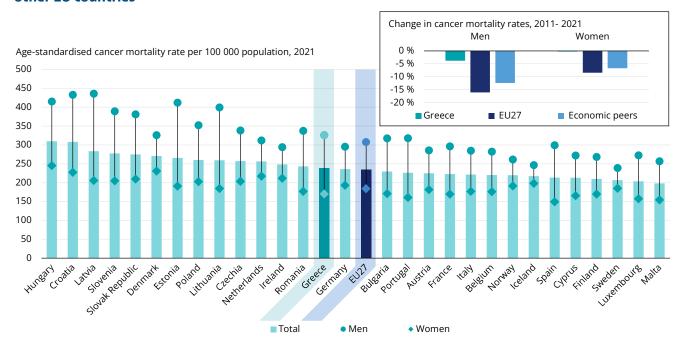
In 2021, cancer was responsible for more than 30 000 annual deaths in Greece, corresponding to more than 20% of total deaths. The age-standardised mortality rate is 239 per

Lung cancer also refers to trachea and bronchus cancers.

100 000 population, which is slightly above the EU average (235 per 100 000). The cancer mortality rate in Greece among men (326 per 100 000) is higher than the EU average (308 per 100 000), but the rate among women (170 per 100 000) is lower than the EU average (184 per 100 000) (Figure 2). According to the Hellenic Statistical Authority (2024), almost a quarter of total cancer deaths in Greece were attributed to lung cancer, followed by colorectal (9%), breast (7%), pancreas (7%) and prostate (6%) cancers.

Over 2011-21, the decrease in cancer mortality rates was much lower in Greece than its EU counterparts, possibly due to the detrimental effects of the financial crisis on social determinants of health and the increased barriers to accessing healthcare (Kyriopoulos, Nikoloski & Mossialos, 2021). In particular, the mortality rate among men dropped by 16.1% across the EU and by 12.4% among the country's economic peers<sup>2</sup>, but only by 3.8% in Greece. Among females, the mortality rate decreased by only 0.3% during 2011-21, compared to 8.5% across the EU and 6.7% among Greece's economic peers.

Figure 2. The cancer mortality rate is near the EU average, but it is decreasing slowly compared to other EU countries



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

Evidence on differences in cancer death rates across population groups is limited, as there is no systematic reporting of mortality rates by region or socio-demographic group. Earlier evidence showed up to 3.5-fold variations in male cancer mortality rates across broad occupational groups (e.g. elementary occupations and white-collar workers), potentially attributed to differences in individual lifestyle and socio-economic factors (Alexopoulos et al., 2011). However, given the lack of routinely published data, monitoring regional and socio-economic inequalities in Greek cancer mortality is challenging.

### Deaths from cancer can be avoided through public health interventions that minimise exposure to cancer risk factors and provide more timely oncological treatment

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.3 In 2021, the preventable mortality rate from lung cancer in Greece was almost four times higher among men (61 per 100 000 population) than women (16 per 100 000). While avoidable mortality

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

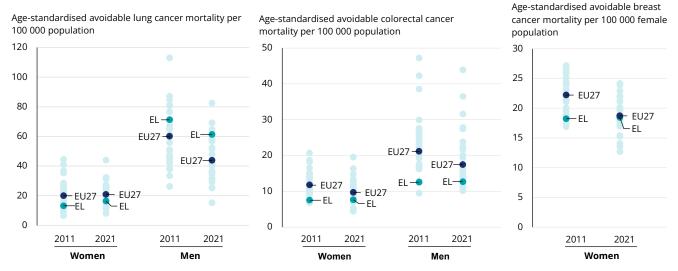
Avoidable mortality includes both preventable deaths that can be avoided through effective public health and prevention interventions, and treatable deaths that can be avoided through timely and effective healthcare interventions.

from lung cancer among men has fallen over time (from 71 per 100 000 in 2011 to 61.3 per 100 000 in 2021), the rates are still a third higher than the EU average (44 per 100 000), calling for more stringent and effective tobacco control policies.

Treatable mortality from breast and colorectal cancers remained relatively constant over the past decade in Greece, while rates fell across the EU. For example, treatable mortality from breast cancer was 18.2 per 100 000 population in 2011

compared to 18.5 per 100 000 in 2021. By contrast, in the EU, it fell slightly from 22.2 per 100 000 to 18.7 per 100 000 over the same period (Figure 3). Similar trends are observed for treatable mortality from colorectal cancer. There is scope to reduce avoidable mortality from breast and colorectal cancer in Greece by implementing more timely and effective healthcare interventions, including through effective screening and early diagnosis initiatives, and provision of optimal oncological

Figure 3. Avoidable mortality from breast and colorectal cancer has remained stable over time

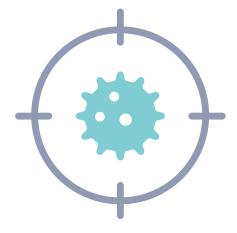


Note: Avoidable mortality figures relate to deaths of people aged under 75. Source: Eurostat Database. Data refer to 2021.

### Approximately half a million people are living with cancer in Greece

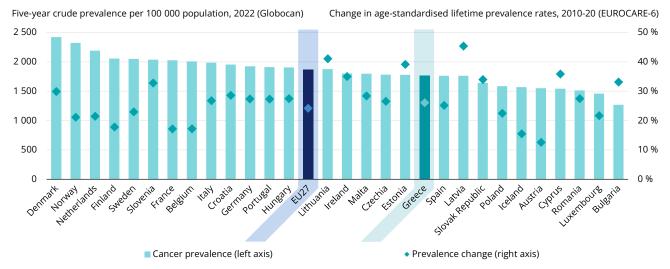
In 2022, Greece had five-year prevalence<sup>4</sup> of 1 769 cancer cases per 100 000 population, which is 6% lower than the 1 876 cases per 100 000 across the EU. The rate was 12% higher among men than among women. Between 2010 and 2020, lifelong

cancer prevalence increased by 26% in the country, compared to 24% across the EU (Figure 4). This 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.



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.

Figure 4. Five-year cancer prevalence in Greece is lower than the EU average



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

### A lack of epidemiological data limits capacity for evidence-based cancer policy making

Over the last two decades, two main cancer strategies were launched, with limited actual implementation and no formal process for monitoring and evaluating. In 2021, a five-year National Action Plan for Public Health was published, which includes some provisions and measures for introduction of screening programmes and development of palliative care services for cancer.

Although the need for a cancer-specific national plan has been actively promoted by a wide range of stakeholders, Greece still lacks an overarching evidence-based strategy covering the whole spectrum of cancer policy - including prevention, early detection, diagnosis, treatment, rehabilitation, palliative care, quality of care, patient experience, inequalities in access, social protection mechanisms, workforce planning, cancer survivor needs and clinical research. Most policy initiatives are fragmented, and their

effectiveness is not rigorously evaluated. This is partly due to the absence of epidemiological data on cancer incidence and outcomes, such as patient registries (Athanasakis et al., 2022). A national cancer registry was officially established by legislation in February 2024 and is currently developed.

The Greek Government has recently introduced or announced population-based screening actions for specific cancer sites (see Section 4). However, there are concerns regarding their funding and duration, as they are currently financed by the Recovery and Resilience Fund until the end of 2025, with no clear plan for the subsequent steps. In parallel, discussion is ongoing about development of a cross-sectoral overarching national plan for cancer, which would cover cancer policy through evidence-based interventions. To ensure successful implementation, it is essential to develop a well-structured plan and conduct rigorous process and impact evaluations.

# 3. Risk factors and prevention policies

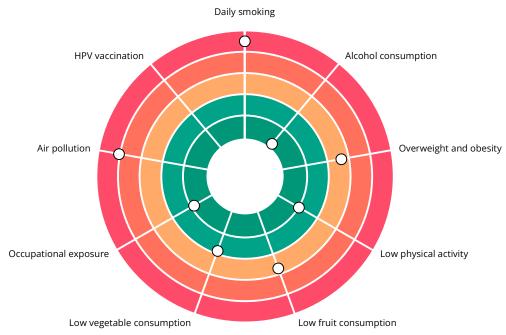
### More than 40% of cancer deaths are attributed to modifiable risk factors

According to the Institute for Health Metrics and Evaluation, more than one-third of female cancer deaths and nearly half of male cancer deaths were attributable to metabolic, behavioural and environmental factors in 2021. Smoking is the leading risk factor for cancer mortality, accounting for 26% of cancer deaths in the country. This is followed by metabolic risks (8.4%), dietary risks (5.9%), occupational risks (3.7%), air pollution (2.6%) and high alcohol consumption (2.6%).

Overall, Greece fares relatively well compared to other EU countries for alcohol consumption and exposition to occupation risk factors, but the country fares relatively poorly with regards to daily smoking, overweight and obesity, fruit consumption and air pollution (Figure 5).

In 2021, spending on prevention<sup>5</sup> represented 4% of current health expenditure – an increase of 2.2 percentage points from 2020 due to COVID-19-related spending, but lower than the EU average of 6%.

Figure 5. Greece performs poorly in tobacco smoking, air pollution, and overweight and obesity compared to EU countries



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. Data not available for HPV vaccination. 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).

### Smoking rates in Greece remain among the highest in the EU

Despite a decline in smoking prevalence over recent decades, Greece continues to have one of the highest smoking rates within the EU (see Figure 5).

In 2019, a quarter of the population smoked daily, with higher frequency observed among men (31%) than women (19%), but limited variation evident across different socio-economic groups. According to data from the European Health Interview Survey (EHIS), 20% of those with lower education levels

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.

are daily smokers compared to 22% of those with higher education levels.

In recent decades, the effectiveness of smoking cessation programmes was limited due to limited enforcement of anti-smoking regulations. However, implementation of the smoking ban in public indoor spaces, effectively enforced in 2019, has led to significant progress. Based on the Tobacco Control Scale scores in 2021, Greece is ranked 14th among 37 European countries, demonstrating considerable improvement compared to the 2016 ranking, when Greece was 31st out of 35 countries. The improvement can be attributed in part to stricter field inspections in indoor public spaces, bars and restaurants, as well as imposition of fines. Nevertheless, violations persist – particularly in bars and nightclubs. In 2021, Eurobarometer data indicated that 22% of respondents witnessed smoking on their last visit to a drinking establishment such as a bar. While smoking cessation services are available, their role requires enhanced support, with additional funding and human resources. Several key strategies – including targeted education campaigns, plain packaging, taxation and improvements in access to smoking cessation support – are not yet in place.

### Obesity and poor diet are major risk factors in Greece

In 2022, over half of the Greek population was classified as overweight or obese (55%), with higher prevalence rates among men (63%). Greece's overweight and obesity rates surpass those of neighbouring countries with a similar diet, such as Cyprus, Italy and Spain. This disparity can be attributed in part to poor dietary habits (Figure 5). In particular, 45% of the Greek population consume fruit less than once daily. Conversely, only 16% of the population in Italy, 33% in Spain and 32% in Cyprus consume fruit less than daily. This trend aligns with findings indicating low to moderate adherence to the Mediterranean diet among Greeks, despite its recognised health benefits. On physical activity however, 58% of Greeks aged over 15 engaged in physical activity at least three times per week - above the EU average (31%)

Obesity and dietary habits are influenced by socio-economic status and health literacy. In 2022, approximately 65% of Greeks with lower education levels were overweight or obese, compared to 49% of those with higher education levels. In particular, prevalence of overweight and obesity among women with lower education levels (61%) is higher than among those with higher education levels (37%). The EU average rates are lower among women with lower (53%) and higher (33%) education (Figure 6). The socio-economic disparities in obesity and healthy diet habits are exacerbated by the protracted economic crisis and the current cost-of-living crisis, both of which have probably altered household consumption patterns regarding healthy food choices (Kosti et al., 2021).

Despite numerous attempts, Greece has not implemented a comprehensive nutrition policy in recent decades. Nevertheless, several steps have been taken, with outcomes yet to be determined. In 2021, the National Action Plan for Public Health included strategies for reducing obesity among adults and children, concentrating on health education and awareness campaigns. In 2023, the Ministry of Health, in collaboration with the United Nations Children's Fund (UNICEF), launched a National Action Plan for Childhood Obesity, operational at local, regional and national levels. Furthermore, a National Committee for Nutrition was established in early 2024, with the objective of devising policies and strategies to combat obesity among children and adults.

In alignment with most other EU countries, regulation of food types provided in schools has been introduced. This strategy is crucial for reducing childhood obesity and fostering healthier dietary habits throughout the life-course. Nevertheless, targeted mass media campaigns, a combination of subsidies for healthy food subsidies and taxes on unhealthy food, enhanced regulation of marketing and advertising, the introduction of simple and intuitive food labelling, and initiatives and incentives to engage schools and workplaces in physical activity are not yet in place in Greece.

Figure 6. Prevalence of overweight and obesity is higher among women with lower education levels

% of women aged 18 years and over with overweight (including obesity), 2022 70 60 50 40 30 20 10 Sovak Republic Denmark Wetherlands Luxembours Bulgaria Austria EU27 Latina Hungary Romania Poland Clechia Portugal Greece Slovenia Croatia Germany HOLMON reland Belgium Spain France

High education

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

Total women

## Prevalence of overweight and obesity among adolescents is increasing, and is among the highest across the EU

Since 2014, prevalence of overweight or obesity among 15-year-olds in Greece has increased, from 24% in 2014 to 28% in 2022. This is the second highest share in EU+2 countries<sup>6</sup>, after Malta (31%) (Figure 7).

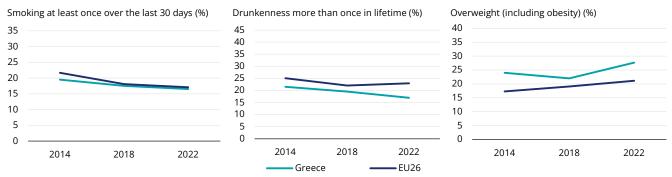
Additionally, the proportion of 15-year-olds engaging in 60 minutes of physical activity daily was consistently lower in Greece (12%) than the EU average (15%) in 2022. Greek adolescents also exhibited relatively unhealthy dietary habits: only 21% consumed fruit daily and 28% consumed vegetables daily, compared to EU averages of 30% (fruit) and 34% (vegetables). The combination of

poor diet, lack of physical exercise and high levels of overweight and obesity may have substantial long-term health implications. The recently announced National Action Plan for Childhood Obesity aims to addressing this public health issue, although it has not yet been fully implemented.

Low education

Prevalence of smoking among Greek adolescents in both 2014 (19.5%) and 2018 (17.5%) was lower than the EU averages of 21.6% in 2014 and 18.1% in 2018. In 2022, 16.5% of adolescents had smoked at least once over the last 30 days – slightly lower the EU average of 16.8%. Use of electronic cigarettes is a significant challenge that requires close monitoring and public health action. In 2022, 19.5% of adolescents aged 15 used electronic cigarettes at least once over the last month, close to the EU average of 21%.

Figure 7. Prevalence of overweight and obesity among adolescents is one of the highest among **EU+2** countries



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.

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

### Alcohol consumption is lower in Greece than in other EU countries

Alcohol consumption in Greece is relatively low compared to other EU countries, decreasing from 8.3 litres to 6.3 litres per capita between 2010 and 2019. The proportion of adults who reported heavy episodic drinking at least once a month in Greece was 6% in 2019 – consistently lower than that in most other EU countries. According to EHIS, approximately 6% of Greeks reported daily alcohol consumption in 2019, with another 25% consuming alcohol weekly. National strategies to address harmful alcohol consumption remain very limited, and there is a lack of comprehensive policies on pricing, availability restrictions, marketing regulations, and consumer information and awareness. In 2021, the National Action Plan for Public Health recommended some strategies for combating excessive alcohol consumption, mainly focusing on health awareness and education campaigns.

### Exposure to air pollution in Greece leads to higher mortality than in the EU

Exposure to air pollution measured as particulate matter with a diameter less than 2.5 micrometres  $(PM_{2.5})$  was 14.2 µg/m<sup>3</sup> in 2020 – a drop of 29% since 2010, but still 21% higher than the EU average. In 2021, 93 premature deaths per 100 000 population were due to exposure to PM<sub>2.5</sub>, compared to 57 per 100 000 on average across EU countries. Greece has made limited progress in this area. Despite the introduction of several legal frameworks, the country has not yet complied with the WHO Air Quality Guidelines, and annual mean PM<sub>2.5</sub> exposure levels are three times higher than the WHO threshold (WHO, 2023).

While addressing air pollution requires systematic cross-border collaboration, various policies can be

implemented effectively at the national and local levels. In Greece, efforts to promote public and active transit as alternatives to car usage have been minimal. Enhancing the availability, quality and affordability of public transportation networks represents a key policy for combating air pollution.

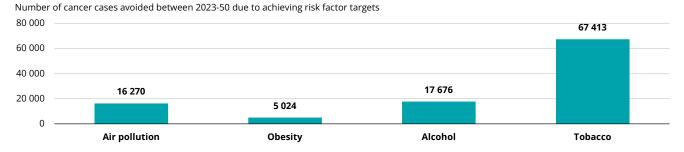
### More action is needed to increase vaccination uptake against human papillomavirus

In 2022, the National Vaccination Committee revised the criteria for HPV vaccination, recommending that both boys and girls aged 9-18 should be eligible. While the vaccine is currently fully covered by health insurance for all ages, reimbursement will gradually be restricted to those aged 9-14. Recent evidence based on prescriptions shows that vaccine coverage is 55% among girls aged 11-18 and only 44% among those aged 11-14, which is significantly below the WHO target of 90% of girls fully vaccinated by the age of 15. Several factors contribute to these low coverage rates, including a lack of effective awareness campaigns, insufficient knowledge and health literacy, perceived barriers to access, cultural elements, and limited information provision from health providers.

### Many new cancer cases would be prevented between 2023 and 2050 if target reductions in cancer risk factors were achieved

According to OECD Strategic Public Health Planning (SPHeP) modelling work, achieving tobacco targets could result in Greece preventing 67 413 new cancer cases between 2023-50 (Figure 8). Meeting the alcohol target could reduce the cancer burden by 17 676 cases over the same period; an additional 16 270 cases could be avoided if air pollution targets were met, and 5 024 if obesity targets were met.

Figure 8. Over 67 000 cancer cases could be prevented between 2023 and 2050 by meeting tobacco control targets



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 binge drinking between 2010 and 2030. For air pollution, it is an annual average PM<sub>2.5</sub> level capped at 10  $\mu$ g/m³ by 2030 and at 5  $\mu$ g/m³ by 2050. On obesity, the target is a reduction to the 2010 obesity level by 2025.

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

# 4. Early detection

## Greece has gradually developed cancer screening initiatives and programmes, but several challenges loom ahead

Despite the new Council recommendation on cancer screening of 2022, screening activities remain fragmented in Greece, and most tests take place in the private sector on an opportunistic basis.

A population-based breast cancer screening was introduced in 2022, under which screening services for eligible individuals are free of charge, and additional tests and services are fully covered by social health insurance if further investigation is needed. Following amendments in age group eligibility and frequency, the breast cancer screening programme currently covers mammography every year for women aged 45-74, as well as ultrasound and clinical examination if needed. Eligible women receive an invitation by text message. According to the Ministry of Health, 300 000 women have participated in the programme, and 20 000 women with symptoms have been detected early since 2022 (Ministry of Health, 2024). No additional information and evidence is published on the actual impact and results of the programme, individual characteristics of participants, stage of diagnosis or trends in screening rates before and after the introduction of the programme.

In May 2024, a screening programme for cervical cancer was announced, targeting 2.5 million women aged 21-65. This aims to cover a pap (smear) test every three years for women aged 21-29, a molecular HPV-DNA test every five years for women aged 30-65, and doctor visits if further investigation is required. Screening will also be extended to colorectal cancer, making

2.8 million men and women aged 50-65 eligible for testing and diagnostic colonoscopy.

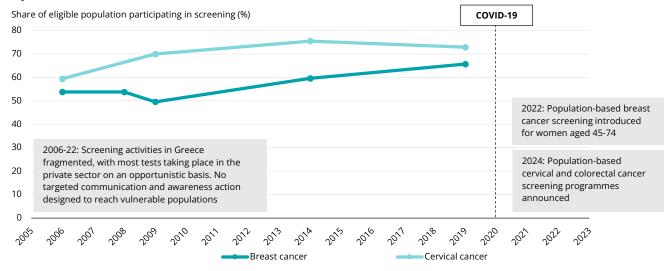
At the same time, while population-based programmes for cervical and colon cancer were officially announced in 2024, no evidence is yet available on their rollout. Although the gradual expansion of population-based cancer screening programme is an important step in Greece to improve early detection, it is crucial to ensure continuation and long-term sustainability. For now, these programmes are funded through the EU's Recovery and Resilience Fund, which ends in December 2025. Sustainability will depend on continuation of current investments in resources, workforce education, public awareness, political support and robust evaluation structures.

### Breast and cervical cancer screening rates increased over time, but inequalities persist

According to EHIS data, approximately 66% of women aged 50-69 in 2019 reported having a mammogram within the past two years in Greece. This uptake is similar to the EU average in 2019 (66% based on survey data). In addition, progress has been observed over the last two decades: the proportion of Greek women reporting undergoing a mammogram increased from 54% in 2006 to 60% in 2014 (Figure 9).

In Greece, uptake of breast cancer screening varied significantly across socio-economic groups, with income, education and country of birth influencing the likelihood of undergoing a mammogram. Based on 2019 EHIS data, only half of women with lower education levels (53%) reported having a mammogram within the past two years in Greece, compared to 64% across the EU. Conversely, the rate was 80% among eligible women with higher education levels, compared to an EU average of 71%.

Figure 9. Screening rates in Greece have increased over time, but there is room for further improvement



Notes: Participation rates in the two cancer screening programmes are based on mammography screening among women aged 50-69 within the past two years and cervical cancer screening among women aged 20-69 within the past two years. Data for Greece are drawn from the EHIS.

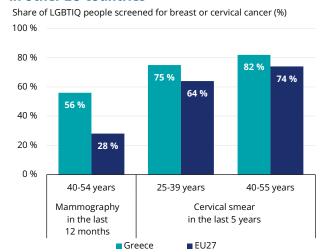
Source: OECD Health Statistics 2024.

In 2019, almost 73% of women aged 20-69 in Greece reported having undergone a cervical smear test within the past two years (higher than the EU average of 71% based on survey data in 2019). This self-reported participation rate had fallen since 2014 (when it was 76%), but it had considerably increased since 2006 (when it was 59%). According to research findings, women with higher education levels are 1.85 times more likely to undergo a regular smear test than those with lower education levels (Riza et al., 2017).

### LGBTIQ people in Greece participate more in breast and cervical cancer screening than their counterparts in the EU

According to the EU LGBTIQ Survey III, participation in breast and cervical cancer screening among LGBTIQ persons is higher in Greece than in other EU countries (Figure 10). In 2023, 56% of LGBTIQ cisgender females, trans women and intersex people aged 40-54 years reported having had a mammogram in the previous 12 months, double the EU average of 28%. Participation in cervical cancer screening among relevant LGBTIQ population is also higher in Greece than in other EU countries. In 2023, 75% of the relevant LGBTIQ population aged 25-39 in Greece reported having had a smear test in the previous 5 years (higher than the 64% in the EU), and 82% of those aged 40-55 in Greece reported a smear test (higher than the 74% in the EU).

### Figure 10. Participation in cancer screening among LGBTIQ people is higher in Greece than in other EU countries



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).

### Uptake of screening for colorectal cancer is low in Greece compared to other EU countries

In Greece, 28% of individuals aged 50-74 reported having undergone colorectal cancer screening in the past two years in 2019. The relatively low cancer screening rates are particularly concerning given the incidence and mortality associated with colorectal cancer in Greece (see Section 2). Several factors contribute to the low screening rates, including the absence of a population-based programme at the time of data collection.

In Greece, colorectal cancer screening is typically conducted by specialist doctors in the private sector, either following a referral or when patients seek the service independently. Accessing screening and cancer care in the public sector is challenging due to long waiting times.

## No targeted communication and awareness action is designed to reach vulnerable population groups

Several approaches have been used to raise awareness of cancer screening programmes, including media campaigns and websites that are easy to read and understand, with relevant information in simple language. Current awareness campaigns, however, follow a "one size fits all" approach. In Greece, individuals from different socio-economic and cultural backgrounds have varying levels of knowledge and exposure to public health awareness strategies, and respond differently to existing policies to raise awareness. However, there are currently no comprehensive communication and awareness campaigns designed to reach disabled, migrant, vulnerable or minority populations, and to promote inclusion and equal opportunity of participation in the screening programme.

### The success of screening programmes are dependent on recent reforms to increase the role of primary healthcare

Screening activities are mainly conducted in private outpatient settings by specialist doctors due to long waiting lists in public facilities. The introduction of family doctors as the central component of primary healthcare system in 2022 aimed to strengthen the connection between primary care delivery and screening activities. Primary healthcare doctors are expected to recognise and interpret potential symptoms, motivate the eligible population to participate in the screening programme, and directly refer symptomatic individuals to specialist care if needed. However, the success of these mechanisms remains uncertain, as no evidence is available about actual patient utilisation and the overall effectiveness of the family doctor system. Additionally, the current payment system does not incentivise physicians to increase screening rates among their patients, and targeted continuous medical education and training for effective communication of the benefits of screening are lacking (Athanasakis et al., 2022).

The experience of COVID-19 was instrumental in designing screening activities in Greece. Drawing from the approach used for COVID-19 vaccination,

plans have been made to provide one-site screening services via mobile medical units. This strategy aims to enhance accessibility for populations residing in remote and underserved communities, thereby mitigating inequalities in access to screening services.

### Data-driven action is needed for performance evaluation, quality assurance and monitoring of inequalities

Despite the use of digital tools for identifying and inviting the eligible population for breast cancer screening, there is a significant gap in systematically produced information on programme outcomes, participant characteristics and relevant cancer diagnoses. Processes for collecting, managing and using screening data for quality assurance, programme evaluation and performance improvement are not available. Adoption of data-driven approaches is crucial for designing strategies to engage vulnerable populations and for monitoring inequalities in access to cancer screening, paying particular attention to socio-economic status, geographical region and migration status, among other factors. It is important to note that these issues are not unique to cancer screening programmes. They stem from a broader lack of a monitoring and evaluation culture within public health policies in Greece (Athanasakis et al., 2022).

# 5. Cancer care performance

## 5.1 Accessibility

### Greece has important shortages of health personnel and unequal geographical distribution of oncologists

The cancer workforce policy in Greece is fragmented, resulting in major challenges and issues in cancer care delivery. There are substantial shortages of both inpatient oncology and community-based nursing staff, with Greece recording the lowest number of nurses per 1 000 new cancer cases among EU+2 countries. In particular, there are 641 nurses per 1 000 new cancer cases in Greece, compared to an EU average of 1 376 per 1 000. Greece also has no nurse-led care or advanced cancer nursing roles.

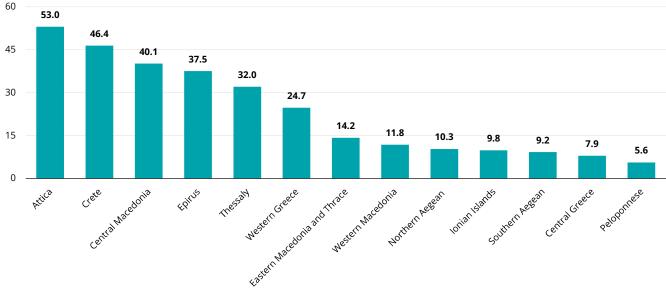
A parallel issue is observed in availability of family doctors, with Greece also ranking among the lowest within the EU. The lack of a strong primary

care sector compels patients to seek hospital and specialist care predominantly. As such, the increased demand exerts pressure on the health system, leading to longer waiting times, and potentially compromising the quality of care.

The public sector continues to face significant staff shortages across various oncology-related specialties – including pathologists, haematologists, surgical and radiation oncologists, and nurses. Furthermore, there is a lack of focus on holistic cancer care, which encompasses additional disciplines such as psychiatry, psychology, social work, physiotherapy and dietetics. The shortages create substantial barriers to accessing surgical and radiation oncology services within public sector. Access issues are further exacerbated by the geographical distribution of clinical oncologists, as the density of clinical oncologists ranges from 53 per 1 000 000 population in Attica to 5.6 in Peloponnese (Figure 11).

Figure 11. The density of clinical oncologists in Greece in 2022 varies across region





Source: Hellenic Statistical Authority (2024).

Despite the critical importance of human resources availability for ensuring access to cancer care, no comprehensive plan is currently in place to address shortages and develop the future health workforce. Medical oncology is underrepresented in the curricula of medical schools, and surgical oncology is not yet recognised as an independent

specialty. Opportunities for clinical reskilling and postgraduate upskilling are predominantly limited to the efforts of independent medical societies. Additionally, the doctor payment system within the public sector lacks financial incentives for performance improvement (Athanasakis et al., 2022). This hampers efforts to tackle significant

health workforce policy challenges in Greece including the massive outflow of young doctors and nurses to other European countries (such as Germany) – while also investing in continuous medical education and needs-based specialisation opportunities.

## High out-of-pocket payments and limited social protection pose major financial risks for cancer patients

Chronic health system deficiencies, long waiting lists and public dissatisfaction with the health system in Greece have contributed significantly to high and persistent out-of-pocket payments. Greece's health financing model, coupled with potential income loss due to illness, exacerbates inequalities in access to cancer care, and poses significant financial challenges or even financial catastrophe – especially among poorer households in Greece (Kyriopoulos, Nikoloski & Mossialos, 2021). Earlier evidence demonstrates that half of households with a breast cancer patient spent more than 20% of their income on healthcare in 2011-14 (Skroumpelos et al., 2016). Furthermore, increased financial barriers lead to delays in seeking care, with subsequent implications for late detection and diagnosis, especially among socio-economically disadvantaged groups (see Section 4). Earlier evidence indicates that 30% of cancer patients reported difficulties in accessing care, with over 40% attributing the issue to a lack of affordability (Souliotis, Agapidaki & Papageorgiou, 2015).

## Centralised cancer care infrastructure exacerbates inequalities in access to cancer care

Cancer care infrastructure is highly concentrated in large urban areas in Greece, where most specialised oncology units are located. In particular, almost two out of three hospital and clinics providing oncology care are located in Athens and Thessaloniki. Patients living in rural and remote areas face significant geographical barriers to access services for diagnosis, treatment and follow-up. Consequently, nearly a quarter of cancer patients perceive long distances and transportation difficulties as barriers to accessing care (Souliotis, Agapidaki & Papageorgiou, 2015). Substantial cross-regional patient mobility among cancer patients has been documented – primarily

towards Athens. Apart from potential effects on timeliness and continuity of cancer care, this situation has considerable implications for patients and their caregivers, including forgone income, transfer and accommodation costs, and effects on social life, emotional distress and well-being. Due to centralisation of cancer care, access to care greatly depends on ability to pay, as poorer patients are less likely to cope with the additional expenses associated with receiving care outside their region of residence.

### Waiting times to access diagnostics and therapeutic services are long

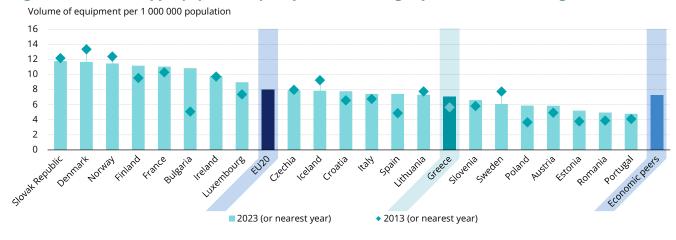
The shortage of human resources results in significant delays in cancer pathology laboratory tests, which are critical for accurate diagnosis. Another significant issue is the absence of a formal framework for access to biomarker testing, which is often essential for mapping therapeutic pathways. Consequently, access to biomarker detection has been provided to patients on an ad hoc basis through grants from patient associations, scientific societies and other donors.

Waiting times for radiation and surgery in public hospitals are also long, and no targets have yet been introduced to improve access to cancer care. Previous evidence showed that over 50% of patients reporting barriers to accessing cancer care identified long waiting times as the major issue (Souliotis, Agapidaki & Papageorgiou, 2015). Consequently, patients often turn to the private sector due to concerns about the implications of waiting lists on their health.

## Radiotherapy capacity has increased in Greece over the last decade, but remains lower than the EU average

In Greece, the volume of radiation therapy equipment increased from 6 per 1 000 000 population in 2012 to 7 per 1 000 000 in 2022, but it remains below the EU average of 8 per 1 000 000 and 3% lower than the average among its economic peers (Figure 12). The equipment is kept in hospital settings, with the majority concentrated in the two largest cities (Athens and Thessaloniki). This distribution results in significant geographical inequalities in access.

Figure 12. Radiotherapy equipment capacity in Greece is slightly below the EU average



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 EL are BG, EE, HR, PL, PT, RO and SK. The EU average is unweighted.

Source: OECD Health Statistics 2024.

# Access to new oncology medicines has

During the period of economic adjustment in Greece, the time to market entry for cancer medications increased and surpassed the EU average (Athanasakis et al., 2022). The proportion of indications of a sample of cancer medicines (for breast and lung cancer) with high clinical benefit that are publicly reimbursed is 54% in Greece – slightly lower than the EU average (59%) but identical to the average among the country's economic peers (Figure 13). The total time from the European Medicines Agency marketing authorisation and reimbursement decision is more than 550 days, lower than its economic peers such as Portugal (748 days), Poland (627 days) or Hungary (814 days). This total time period is shaped by factors and processes that are in control of both the applying pharmaceutical company and the national authorities.

Availability of biosimilars significantly reduces treatment costs by offering more affordable alternatives to original medicines. In Greece, 74% of biosimilars for cancer medicines are publicly reimbursed, surpassing the 65% average across the EU and the 67% coverage rate among the country's economic peers.

In Greece, there are alternative pathways that help to facilitate access to new cancer medicines. These include using the electronic medicine pre-authorisation system, which provides ad hoc coverage for cancer medications not yet included in the list of reimbursed products. Additional measures are currently being implemented or discussed, including plans to restructure the health technology assessment process (see Section 5.3) and to introduce an innovation fund aimed at accelerating access to products with potential benefits for patients. If designed carefully, these measures have the potential to improve access to cancer medications, while ensuring efficiency in resource allocation and financial sustainability.

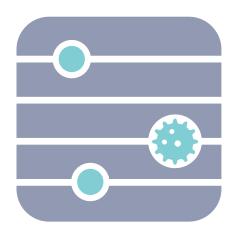
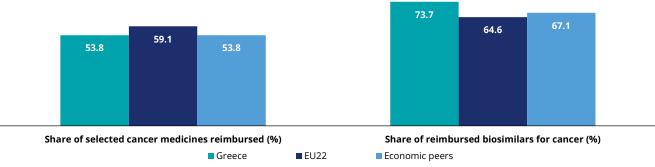


Figure 13. Access to biosimilars for cancer in Greece is slightly above the EU average



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 are based on 2022 GDP per capita in purchasing power standard terms. Economic peers for EL are BG, EE, HR, HU, LV, PL, PT. The EU average is unweighted. Source: Hofmarcher, Berchet and Dedet (2024), "Access to oncology medicines in EU and OECD countries", OECD Health Working Papers, No. 170, OECD Publishing, Paris, https://doi.org/10.1787/c263c014-en.

## **5.2 Quality**

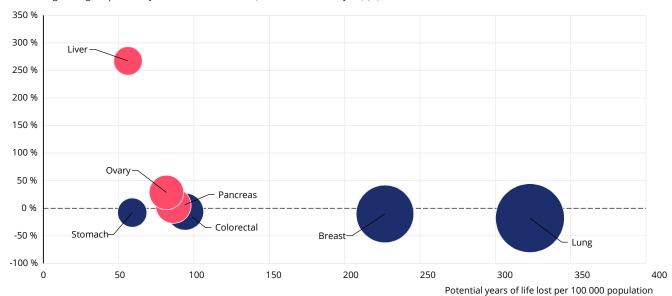
### Premature mortality has decreased slowly in **Greece compared to EU countries**

Potential years of life lost (PYLL) is an interesting 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 Greece, the rate of potential years of life lost from

all cancer sites was 1 361 per 100 000 population in 2020 (Figure 14), which is similar to the EU average (1 355 per 100 000). From 2012 to 2020, the number of potential years of life lost decreased by 9% in Greece, compared to an average decrease of 19% across the EU. These differences reflect Greece's difficulty in improving timeliness and quality of cancer care. Despite being a significant contributor to premature mortality, potential years of life lost from lung cancer decreased by 18% from 2012 to 2020. Conversely, the rates increased for liver, pancreas and ovary cancer over the same period.

Figure 14. Premature mortality in Greece has increased for liver, pancreatic and ovarian cancers

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



Notes: The rate of PYLL from breast cancer, cervical and ovarian 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.

### Care concentration and co-ordination initiatives are needed to improve care quality

Despite the recognised benefits of care concentration for clinical outcomes, cancer care in Greece remains fragmented. Establishment of cancer care networks has been recommended since the early 2010s, with the potential to enhance co-ordination across care settings and facilitate dissemination of knowledge and clinical practice guidelines among organisations and health professionals. Although evidence demonstrates that such initiatives tend to improve clinical outcomes and potentially reduce costs, no significant progress has been made. It is encouraging, however, that Greece is making significant efforts to develop clinical guidelines and therapeutic protocols in cancer care, which are recommended to ensure more uniform and comprehensive use in clinical practice.

# Quality assurance mechanisms are limited, with potential implications for cancer outcomes and

Greece lacks a well-structured system for monitoring cancer incidence and survival rates. Clinical measures of patient outcomes and patient-reported outcome and experience instruments are also not systematically collected, and evidence is only generated by independent researchers and health professionals on ad hoc basis. Many institutes are working towards improving data availability for clinical and patient-reported measures. However, centrally led plan is in place to oversee and integrate the cumulative experience of these efforts. The lack of homogeneous data on various outcomes hinders evaluation of clinical practice, and limits opportunities for feedback and benchmarking with respect to provider performance. It further compromises the country's ability to produce evidence for both clinical practice and policy making.

Quality assurance mechanisms in cancer care are currently underdeveloped in Greece. Cancer care providers such as laboratories and diagnostic centres are not consistently accredited or certified. For instance, Greece performs considerably worse than most European countries in terms of external quality assessment participation and accreditation of laboratories for biomarker testing (Normanno et al., 2022). Furthermore, providers can be reimbursed by the national insurer, even if they are not formally accredited or certified for the quality of care they provide. Overall, the absence of clear a framework for quality assurance poses a significant issue, as it potentially compromises quality of care and patient outcomes.

### A national cancer registry has been announced, but major data issues still exist

Several major policy measures aiming to improve the quality of cancer care have not yet been fully adopted. Greece is among the few EU countries that have not yet implemented a national cancer registry, although such an initiative has been discussed systematically in the country since the early 2000s. Although the introduction of a national registry was announced in early 2024, with the involvement of scientific societies and patient organisations, it has not been put into practice as of July 2024. Such a registry helps to enhance continuity and quality of care substantially, while also generating useful clinical and epidemiological data to support evidence-based policy planning. However, the approach in which it will be structured and the associated support (e.g. availability of administrative staff and physician education, in particular) are crucial to its successful implementation. Apart from data from cancer registries, the recently established National Agency for Quality Assurance in Health is expected to produce high-quality and accessible data for cancer care systematically.

### Greece lacks an institution to promote excellence and quality in cancer care

Despite previous efforts, plans for establishment of a national cancer institute have been abolished. A well-structured and well-resourced institute would represent a significant advance, driving research and policy initiatives aimed at improving prevention, detection, diagnosis, treatment and survivorship. It would also ensure collection, protection, storage and accessibility of clinical and genomic data, while providing training opportunities and support for the cancer workforce throughout the various stages of their careers.

Greece also lacks comprehensive cancer centres across the country. However, according to recent announcements, Agios Savvas Hospital will become the first comprehensive cancer centre in Greece, with other hospitals in Athens and Thessaloniki expected to follow. These are instrumental in promoting excellence in clinical practice and disseminating new knowledge and best practices in cancer care. Finally, although multidisciplinary tumour boards have been established in Greece for over a decade, their role is constrained due to staff shortages, significant administrative burden and bureaucratic obstacles. The Hellenic Society of Medical Oncology has proposed that the boards should be actively supported.

## 5.3 Costs and value for money

## Greece is projected to have a lower cancer burden on health expenditure than the EU average

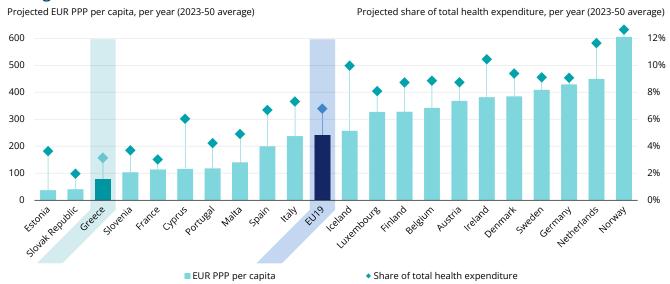
According to OECD SPHeP modelling work, between 2023 and 2050, total health expenditure is estimated to be 3% higher in Greece due to the burden of cancer. This equates to an average of EUR (PPP) 78 per person per year (Figure 15). This figure is much lower than the EU19 average (EUR 242).

Overall, the per capita health expenditure on cancer care is expected to grow by 68% in Greece between 2023 and 2050, compared to 59% in the EU27.

In terms of other costs to the economy, it is estimated that cancer will have a major impact on the workforce in Greece. Between 2023 and 2050 on average, cancer is expected to lead to a loss of 126 full-time equivalent workers (FTEs) per 100 000 people due to the need to reduce employment because of cancer, as well as 26 FTEs per 100 000 due to absenteeism and 29 per 100 000 due to presenteeism.7

According to recent projections, the estimated economic cost of cancer in 2020-50 is USD 29 billion (international dollars), corresponding to a cost of 0.37% of GDP or nearly USD 3 000 per capita (Chen et al., 2023).

Figure 15. The burden of cancer on health expenditure in Greece is expected to be lower than the EU average



Note: The EU average is unweighted.

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

### Cost-containment measures have been implemented, mainly for pharmaceuticals

The main measures to control costs for cancer medications are price negotiations, rebates and clawbacks. To date, few demand-side measures have been introduced, such as effective monitoring of prescribing behaviour and gradual adoption of clinical protocols and prescribing guidelines (Athanasakis et al., 2022). Due to a lack of appropriate infrastructure and data, implementation of risk-sharing payment arrangements and other managed entry agreements is difficult in Greece. Established in 2018, health technology assessment (HTA) is conducted for pharmaceuticals but not for other health technologies. HTA mainly concentrates on clinical aspects and, to a lesser extent, on economic evaluation and broader societal value of cancer medications. This is partly due to understaffing and various administrative and bureaucratic barriers, which restrict the opportunity for rigorous assessment of the cost - effectiveness of new technologies. To address these deficiencies, a promising initiative to restructure the HTA process and introduce value-based approaches was recently announced, and is being designed.

For other types of care, efforts to enhance value for money in cancer care are minimal. Providers - including laboratories, diagnostic centres and private hospitals – can be contracted with and

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

reimbursed by the single insurer without strict preconditions or requirements. In the absence of monitoring mechanisms, reimbursement is not linked to quality, effectiveness and performance, or evidence-based delivery of care. Despite several attempts, public hospital reimbursement is not linked to case-mix adjusted activity. Instead, hospitals are reimbursed with a hybrid system that includes diagnosis-related groups (DRGs) and retrospective payments via the public budget without specific criteria. Evidence indicates significant differences between the DRGs and actual costs of hospitalisations for cancer care, as current DRGs do not accurately reflect the use of resources in cancer care (Panagiotopoulos et al., 2020). An updated DRG system is being piloted and gradually rolled out to public hospitals, aiming eventually to replace the current system, which lacks incentives to promote efficiency in resource allocation and cost-containment

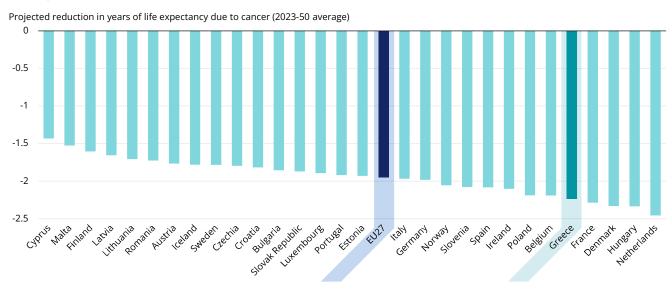
## 5.4 Well-being and quality of life

### Cancer is projected to have a large impact on life expectancy and mental health disorders in Greece

According to OECD SPHeP modelling work, between 2023 and 2050 cancer is projected to decrease the life expectancy of the Greek population by 2.2 years compared to a scenario without cancer. This figure exceeds the EU average reduction of 1.9 years (Figure 16).

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 through its associated symptoms and treatment side effects, and impact on daily life, social roles and work. According to the OECD's SPHeP model, Greece is anticipated to have much higher depression rates because of cancer, at an additional age-standardised rate of 22 cases per 100 000 population per year. This is higher the EU average of 17 cases per 100 000.

Figure 16. Greece is projected to experience the fifth largest decline in life expectancy due to cancer among EU+2 countries



Note: The EU average is unweighted.

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

### Cancer affects the social interactions, mental health status and well-being of patients in Greece

The quality of life of cancer patients in Greece is significantly lower than that of the general population. Patients report that cancer incidence has significantly changed their family life, as well as their opportunities to participate in the labour market and in social activities (Yfantopoulos et al., 2024). For example, more than 60% of cancer patients in Greece reported significant challenges in performing social activities and engaging with their social network, as well as changes in their family life. There are also significant sociodemographic differences in quality of life among cancer patients, with females and those with higher education and income levels generally reporting higher scores across various domains of quality of life. A recent study also found that Greece has the highest prevalence of low quality

of life among older cancer survivors across EU countries (Li & Myrskyla, 2023).

Cancer patients are also at substantial risk of experiencing distress for various reasons. Approximately 80% of cancer patients receiving chemotherapy reported anxiety, fear and fatigue; more than 50% were nervous and sad; and around 30% reported depressive symptoms (Papadopoulou et al., 2022). Financial difficulties and the presence of physical symptoms exacerbate the likelihood of reporting poor well-being. Overall, a range of factors tend to decrease quality of life among cancer patients in Greece, including limitations in activities of daily living; restrictions in pursuing hobbies and social activities; increased levels of pain and nausea; sleep disturbances; weakness; dyspnoea; lack of appetite; and feelings of fatigue, tension and irritability.

Quality of life of caregivers in Greece is also affected. Informal caregiving in Greece is a widespread phenomenon in hospitals because of various factors including understaffing. Family members often stay by the patient's bedside for long hours, and even assume different roles including nursing duties. This situation largely explains the high levels of emotional distress, feelings of hopelessness and depressive symptoms reported among cancer caregivers.

Potential inability to work due to cancer and caregiving responsibilities imposes an additional financial burden, especially for socio-economically disadvantaged households. This issue is critical, considering that patient support or even basic nursing duties are often provided informally by family members in Greece. It is essential to analyse this evidence considering the broader socio-economic context, as Greece has experienced a decade-long economic crisis followed by a cost-of-living crisis, which have significantly reduced disposable income and purchasing power, further exacerbating access to care challenges.

### Greece lacks a set of policy actions to improve quality of life among patients living with cancer

No official reports analysing the quality of life of cancer patients and survivors are available in Greece. Although such data would provide valuable input for evidence-based policy, the only available evidence is generated by individual efforts of researchers and health professionals.

There is also a lack of comprehensive strategies to support the quality of life of cancer patients and survivors. A notable exception is the cancer survivorship clinic established at Attiko Hospital,

which became the first of its kind in 2023. While programmes for treatment exposure, pain control, stress management, and potential late and long-term effects are integral parts of modern delivery of cancer care, no health education actions have been initiated at the national level in Greece. Additionally, there is a lack of co-ordination and communication between specialists and primary healthcare providers, hindering care continuity and co-ordination and patient experience. The absence of electronic health records and the limited availability of trained primary care professionals to manage cancer care limit opportunities to establish integrated and people-centred cancer care.

Beyond care delivery, Greece also needs to establish more comprehensive social protection mechanisms to improve the quality of life of cancer patients and survivors. Some social support measures are in place, as cancer patients are eligible for disability benefits such as tax reliefs, reduced working hours and enrolment in tertiary education. However, there is a lack of targeted psychosocial and other interventions aimed at actively supporting social integration and re-integration into daily life and the workplace. The recent announcement of the right to be forgotten for cancer patients marks a significant advance in protecting the rights and enhancing the quality of life of cancer survivors. Overall, several actions to improve quality of life of cancer patients and survivors (e.g. psychosocial interventions) are organised by patient organisations and NGOs, but a nationally led, systematic and structured set of actions is yet to be introduced.

### Palliative care services are fragmented and limited, despite ongoing plans to develop them

Despite previous efforts, Greece's palliative care system remains fragmented and limited. Provision of services, including end-of-life care, is predominantly voluntary. It occurs in a few public hospitals or is provided by nurses or untrained caregivers who are compensated by the patient's family, non-governmental organisations (NGOs), philanthropic organisations or private providers. This issue is particularly important in the context of cancer care, as it is estimated that cancer patients account for 37% of the total palliative care needs in Greece (Ministry of Health, 2019). However, the current capacity of the palliative care system is inadequate, covering fewer than 1% of patients who would potentially benefit from such care. This inadequacy has profound implications for households, as family members either assume the role of informal caregiver or pay out of pocket for other caregivers.

In 2022, the Hellenic Parliament enacted legislation to establish a comprehensive palliative care system. The law includes provisions for creation of a national committee for palliative care, formulation of a national action plan, establishment of a national registry for palliative care patients, and reimbursement and training of palliative care providers. While there are plans for home- and community-based palliative care programmes, these have yet to be implemented. Progress has been minimal in other critical areas, such as development of psychological support mechanisms for end-of-life care and provision of financial incentives for care providers.

### Hospital at home is gradually being introduced, improving the quality of life of cancer patients

In 2021, a promising initiative was introduced in Agios Savvas Oncological Hospital, offering cancer care treatments in patients' homes. Early qualitative evidence shows that this initiative may have substantially improved the quality of life of patients and caregivers by facilitating access to care and allowing them to perform everyday tasks, avoiding long waiting times. The plan is to expand the programme to two additional oncological hospitals in Athens and Thessaloniki, funded by the EU's Recovery and Resilience Fund.

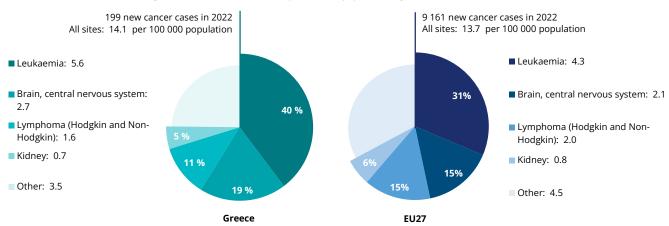
# 6. Spotlight on paediatric cancer

According to ECIS, it is estimated that in Greece 199 children and adolescents up to age 15 were diagnosed with cancer in 2022. In 2022, Greece had an incidence rate of 14.1 per 100 000 children aged 0-14, higher than the EU27 average of 13.7. In Greece, incidence rates among boys are higher than among girls, similar to the trend across the EU. The most common cancer types are leukaemia with 5.6 cases per 100 000 children (40%), brain and central nervous system cancers with 2.7 cases per 100 000 (19%), lymphoma with 1.6 cases per 100 000 (11%), and kidney cancer, with 0.7 cases per 100 000 (5%) (Figure 17).

While cancer incidence rates among ages 0-14 are higher in Greece as compared to the EU, Eurostat shows that mortality rates are similar, with a 3-year average mortality rate of 2.1 per 100 000 children.

Figure 17. Cancer incidence rates among children in Greece 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.

Regarding organisation of care, eight hospitals in Greece treat childhood cancer: five in Athens, two in Thessaloniki and one in Crete. None of these hospitals are dedicated cancer centres, (SIOPE, 2024). Additionally, 10 out of 13 infrastructural aspects and treatment options - including chemotherapy, surgery, photon radiation therapy and stem cell transplants – are available in Greece. However, according to the European Society of Paediatric Oncology (SIOPE)'s Organisation of Care & Research for Children with Cancer in Europe (OCEAN) Project, proton radiation therapy,

brachytherapy and palliative care are not available for paediatric cancer patients in Greece.

Of the 436 clinical trials involving paediatric and adolescent cancer patients in Europe between 2010 and 2022, only 25 were conducted in Greece (5.7%). However, 80% of the 68 medicines identified as essential for treating cancer in patients aged 0 to 18 were available in Greece, compared to 76% in the EU on average (Vassal et al., 2021).

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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	ΙE	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	C.7	Greece	FL	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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