European Cancer Inequalities Registry

ITALY

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

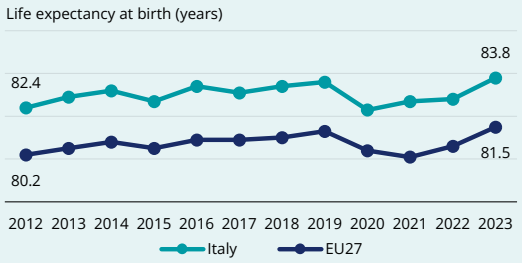
The data and information in the Country Cancer Profiles are based mainly on national official statistics provided to Eurostat and the OECD, which were validated to ensure the highest standards of data comparability. The sources and methods underlying these data are available in the Eurostat Database and the OECD Health Database.

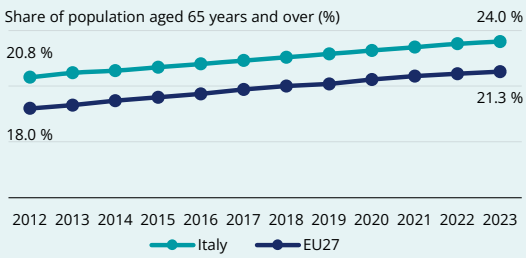
Additional data and information also come from the European Commission's Joint Research Centre (EC-JRC), the EU statistics on income and living conditions (EU-SILC) Survey, the World Health Organization (WHO), the International Agency for Research on Cancer (IARC), the International Atomic Energy Agency (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.

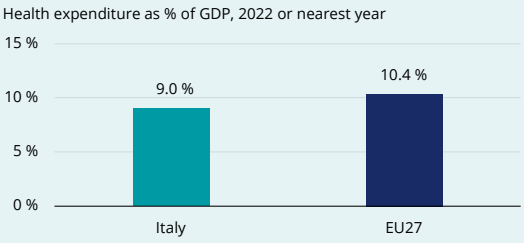
Purchasing power parity (PPP) is defined as the rate of currency conversion that equalises the purchasing power of different currencies by eliminating the differences in price levels between countries.

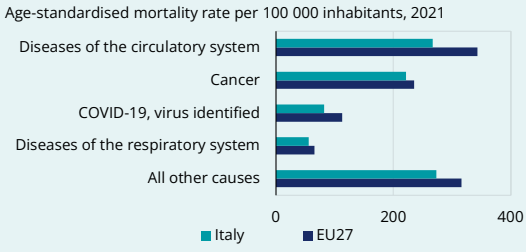
Contents

Key health system and demographic statistics



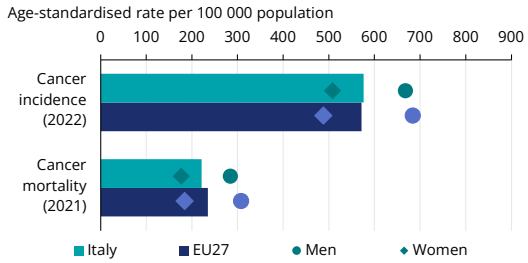






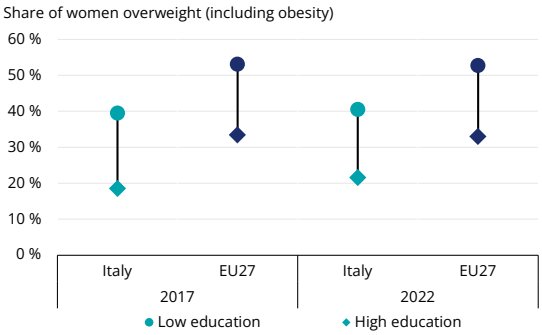
Source: Eurostat Database.

1. Highlights



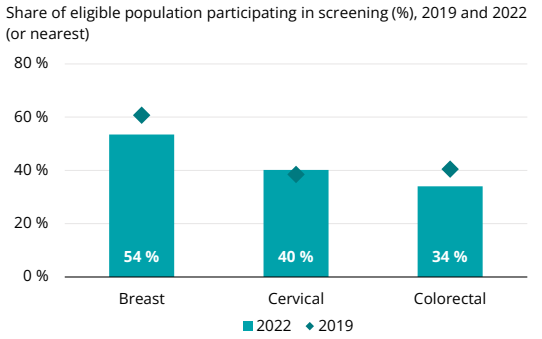
Cancer in Italy

In 2022, Italy's estimated cancer incidence rate was 2% below the EU average for men, but 4% above the EU average for women. Age-standardised cancer mortality was 6% lower than the EU average, decreasing by 15% between 2011 and 2021 and outpacing the EU average decline of 12%. Italy's five-year cancer prevalence rate in 2022 was approximately 6% higher than the EU average.



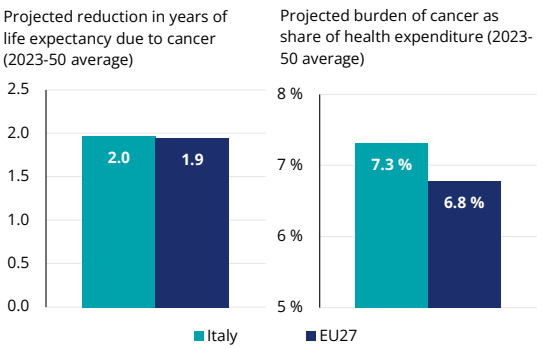
Risk factors and prevention policies

Italy performs better than most EU countries on cancer risk factors such as alcohol consumption, overweight and diet quality, but has higher-than-average air pollution exposure. While smoking rates decreased over the past decade, this trend reversed during the pandemic, particularly among young adults. Italy's adult overweight and obesity rates are among the lowest in the EU, but there is a pronounced socio-economic gradient: in 2022, 40% of Italian women with lower education levels were overweight, compared to 22% of women with higher education levels.



Early detection

Italy has established population-based screening programmes for breast, colorectal and cervical cancers, with plans to expand age ranges for breast and colorectal cancer screening. Breast and colorectal cancer screening rates remain below the 2019 pre-pandemic level and show marked regional disparities. Italy is assessing the viability of organised prostate and lung cancer screening programmes, and is transitioning to human papillomavirus DNA testing for cervical cancer screening, although implementation speeds vary by region.



Cancer care performance

Italy's National Health Service offers comprehensive cancer care free of charge, but regional disparities in access persist. Radiotherapy equipment is concentrated in the north, creating barriers to outpatient care in southern regions. From 2023 to 2050, cancer is expected to reduce Italian life expectancy by nearly 2 years, aligning with the EU average. However, rising cancer drug costs are projected to significantly increase Italy's cancer-related health expenditure above the EU average over the next 25 years. Despite progressive legislation and social security measures for cancer survivors, gaps remain in oncological rehabilitation services and coverage in several regions.

2. Cancer in Italy

Demographic ageing is driving rising cancer rates in Italy

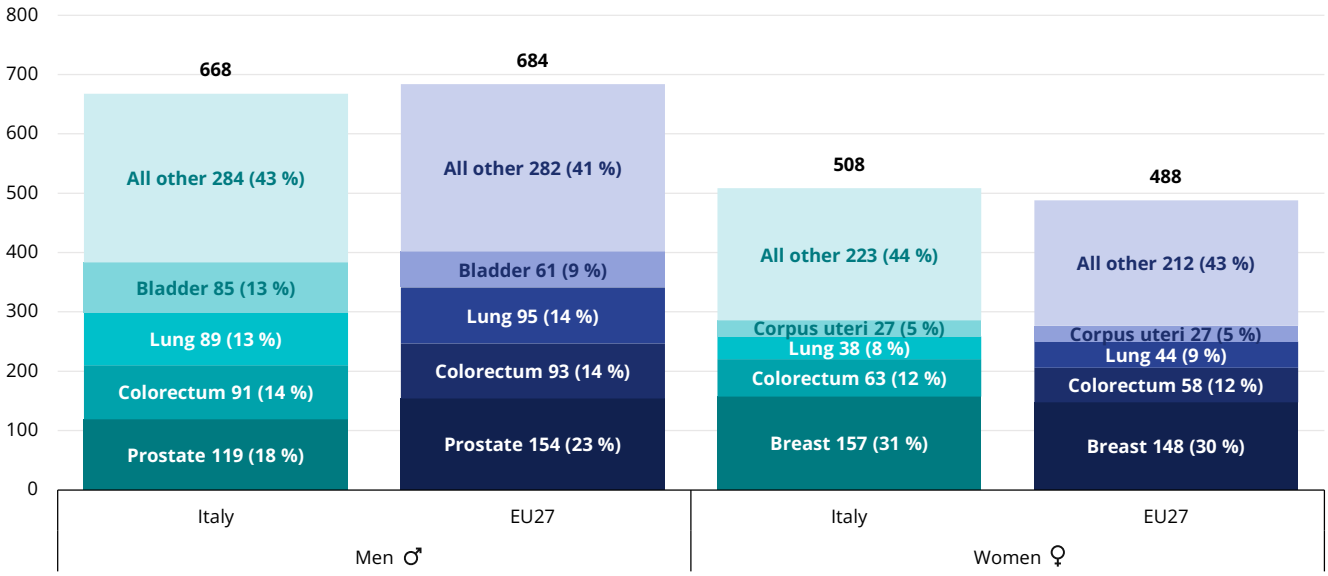
According to the European Cancer Information System (ECIS) of the Joint Research Centre based on pre-pandemic trends, an estimated 407 240 new cancer cases were expected in Italy in 2022 – 213 092 among men (52%) and 194 148 among women (48%). The age-standardised cancer incidence rate was 2% below the EU average among men, but 4% above for women.

Breast, colorectal, lung and prostate cancers accounted together for nearly half of cancer incidence in 2022. Prostate cancer was the leading cancer among men, accounting for 18% of incidence, followed by colorectal (14%) and lung (13%) cancers.[1] For women, breast cancer was most common at 31% of cases, followed by colorectal (12%), lung (8%) and uterine (5%) cancers (Figure 1).

Looking forward, ECIS estimates that cancer cases will increase by 18% between 2022 and 2040.

Figure 1. Italy's age-standardised cancer incidence rate was comparable to the EU average in 2022

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



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

Italy's cancer mortality rate declined 15% over the past decade and is lower than the EU average

Cancer is Italy's second leading cause of death, after circulatory diseases, accounting for over 23% of all fatalities in 2021. Despite having a cancer incidence rate in line with the EU average, Italy's age-standardised cancer mortality is comparatively low; at 222 deaths per 100 000 population, it is nearly 6% lower than the EU average of 235 deaths per 100 000. As in other EU countries, cancer mortality rates in Italy are higher among men, though the gender gap is narrower than the EU average.

From 2011 to 2021, Italy's cancer mortality rate fell by 15%, outpacing both the EU average decline of 12% and the 13% average decline among Italy's economic peers[2] (Figure 2). This reduction was primarily driven by a 20% decline in cancer

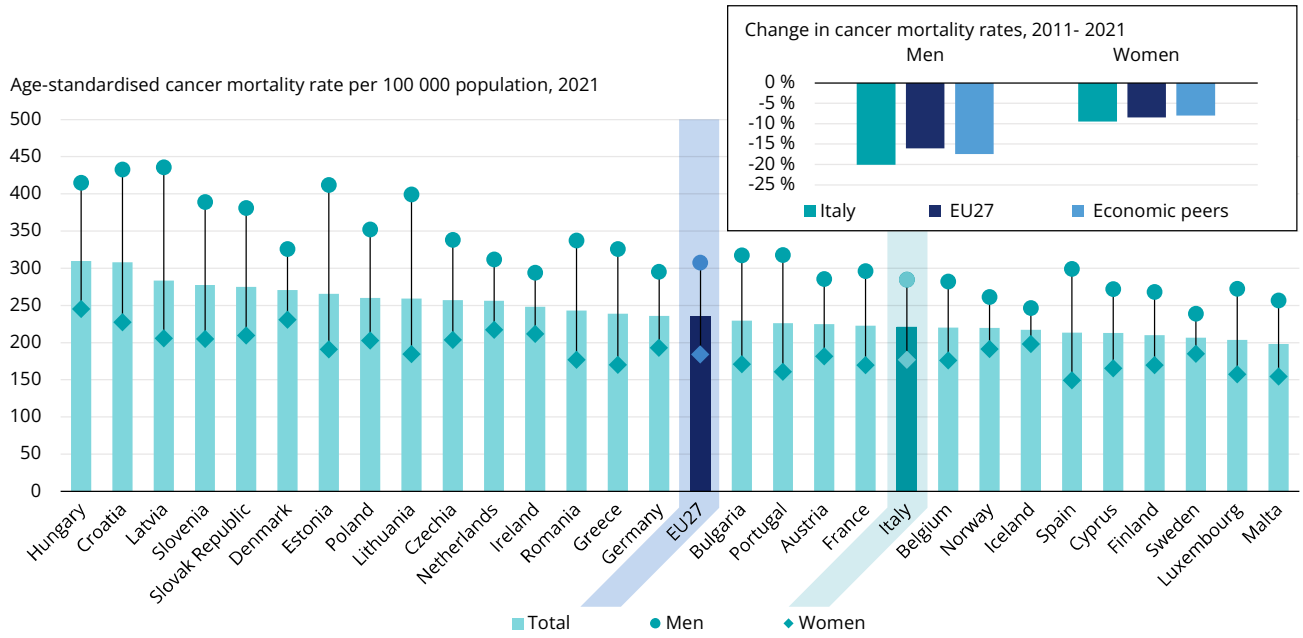
1 *Lung cancer also refers to trachea and bronchus cancers.*

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

mortality in men. This decrease reflects important advances in early detection and treatment of cancer, while also underscoring progress in reducing prevalence of behavioural risk factors.

The decline in smoking rates, particularly among men, has been a particularly significant factor in recent decades (see Section 4).

Figure 2. Italy's cancer mortality rate fell comparatively quickly during the past decade



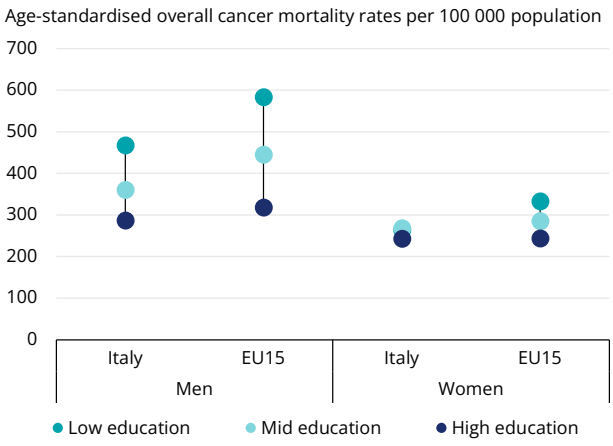
Notes: Economic peers are defined as tercile clusters based on 2022 GDP per capita in purchasing power standard terms. Economic peers for IT include CY, CZ, ES, FI, FR, LT, MT and SI.
Source: Eurostat Database.

Cancer mortality shows a steep socio-economic gradient among Italian men

As in other EU+2 countries[3], cancer mortality rates in Italy are higher among less educated individuals for almost all cancers. This disparity reflects the uneven distribution of risk factors among people with different levels of education, as well as differing abilities to access timely medical care and navigate National Health Service (NHS) offerings (see Section 3). The education-related cancer mortality gap in Italy is particularly stark among men: compared to university graduates, high school graduates were found to have a 26% higher cancer mortality rate, while those with primary school education or less faced a 75% higher rate. Lung cancer accounted for the largest proportion (over a third) of cancer deaths associated with lower education levels (Pizzato et al., 2023).

These findings align with the EU-CanIneq project, which seeks to develop comparable indicators of socio-economic disparities in cancer care across the EU. From 2015 to 2019, Italian men with the lowest educational attainment had, on average, a 63% higher cancer mortality rate than those with the highest education levels. For women, this gap was only 9% – about a quarter of the EU average gap and one of the smallest among EU countries with available data (Figure 3).

Figure 3. Socio-economic inequalities in cancer mortality in Italy are less pronounced than in most other EU countries for both men and women



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

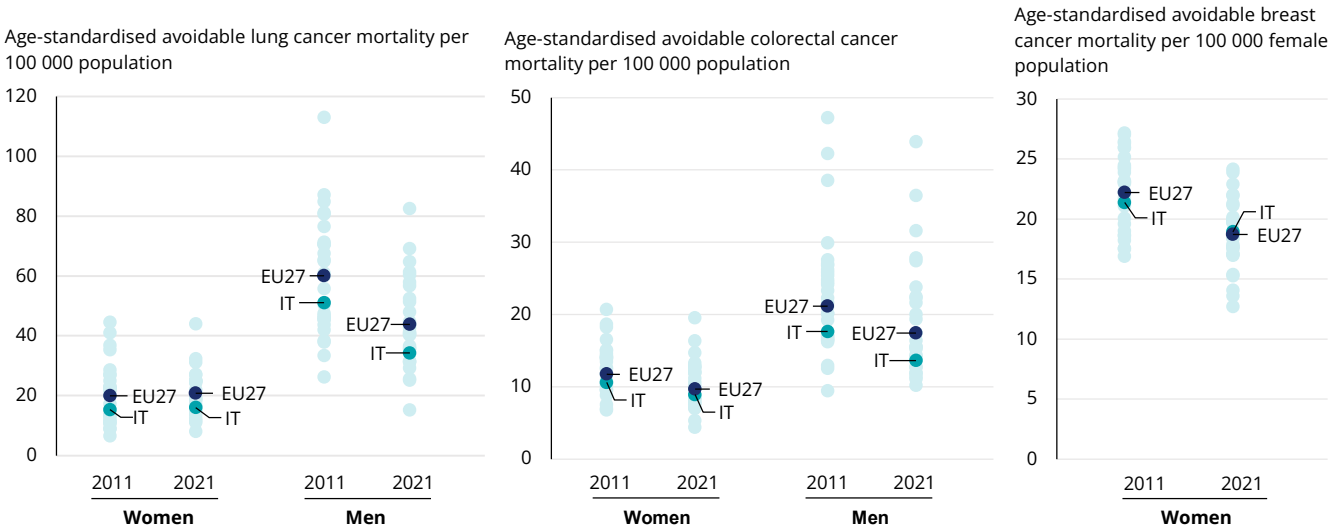
3 *EU+2 countries include 27 EU Member States (EU27), plus Iceland and Norway.*

Italy significantly reduced avoidable cancer mortality over the past decade, but substantial scope for further reductions remains

Thanks to improved prevention strategies and advances in treatment options, a significant proportion of cancer deaths among people aged under 75 are considered avoidable.[4] As in other EU countries, lung cancer is the leading cause of preventable cancer mortality in Italy, accounting for 19% of all preventable deaths among men and 22% among women in 2021. However, Italy's overall lung cancer mortality rate was nearly 22% lower than the EU average. In line with the general EU-wide trend, Italy saw a sustained reduction in lung cancer mortality from 2011 to 2021, reflecting the positive impact of tobacco control policies in recent decades. The rate among Italian men declined by almost a third, slightly outpacing the average decline across the EU (Figure 4). In contrast, the rate among women increased slightly both in Italy and across the EU, reflecting the legacy of an increase in smoking rates among more recent birth cohorts of women. Against this backdrop, lung cancer mortality remains highly concentrated among men. In 2021, men's rates both in Italy and across the EU were more than double those among women, reflecting the historically higher prevalence of smoking among men.

In 2021, Italy reported a treatable mortality rate from breast cancer of 19 per 100 000 women – marginally above the EU average. In contrast, the treatable mortality rate from colorectal cancer was over 16% lower than the EU average, marking a nearly 20% decline from 2011 to 2021. This reduction slightly exceeded the EU average and is primarily attributed to improved uptake of screening and early diagnosis initiatives (see Section 4). The decline in colorectal cancer morality in Italy was particularly significant among men, reaching a level nearly 22% lower than the EU average in 2021.

Figure 4. Italy's avoidable cancer-related mortality rate is comparatively low, especially for men



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

Italy's cancer prevalence is higher than in most other EU countries

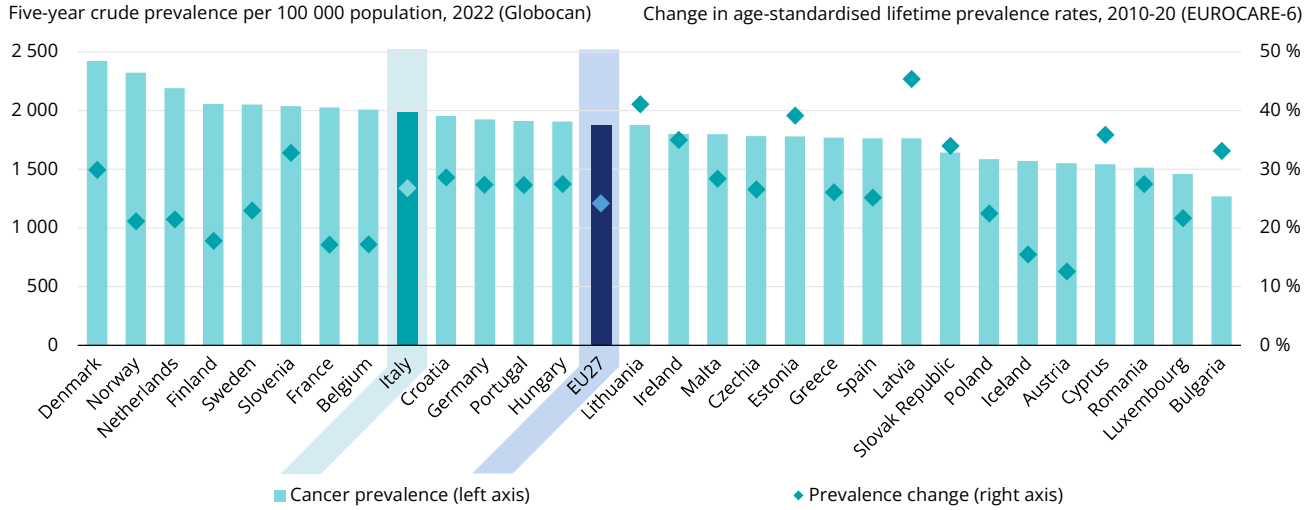
Recent estimates indicate that in 2020, Italy had approximately 3.5 million cancer survivors, comprising 6% of its population (De Angelis et al., 2020). Among these, about two-thirds had been diagnosed over five years ago and one-third over a decade ago. According to Globocan estimates, Italy's five-year standardised cancer prevalence[5] in 2022 was approximately 6% higher than the EU average (Figure 5). Along with its below-average cancer mortality rate, this underscores its relatively robust cancer survival outcomes, reflecting effective detection and treatment (see Sections 4 and 5), and a cancer case mix with comparatively favourable prognosis. From 2010 to 2020, Italy's age-standardised cancer prevalence increased by 27% – slightly greater than the

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

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

EU average increase of 24%. This upward trend emphasises the growing importance of addressing quality of life and survivorship (see Section 5.4), given the increasing number of people living longer with a history of cancer.

Figure 5. Italy's five-year age-standardised cancer prevalence rate is 6% higher than the EU average



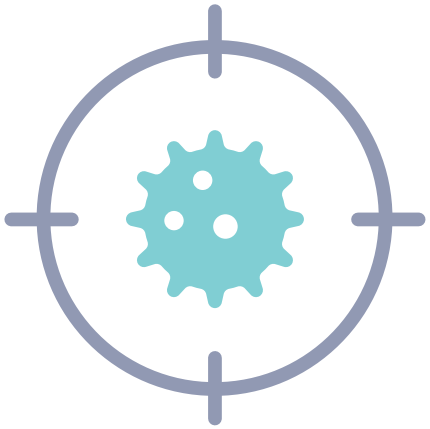
Sources: IARC Globocan Database 2024; EUROCARE-6 study (De Angelis et al., 2024).

Italy has an ambitious cancer plan, but implementation has faced delays in its initial year

In January 2023, Italy adopted the National Oncology Plan 2023-27 (NOP), an ambitious strategic framework developed by the Ministry of Health with input from all major stakeholders. The Plan aims to enhance the quality, efficiency and appropriateness of cancer care throughout the country, focusing on reducing regional disparities in accessibility and effectiveness of cancer care and prevention, thus mitigating the phenomenon of inter-regional patient migration (Ministry of Health, 2023a).

The NOP encompasses a wide range of objectives, including promoting healthy lifestyles, boosting participation in cancer screening programmes, expanding the age range for breast and colorectal cancer screening, implementing DNA-based human papillomavirus (HPV) testing in all regions, and identifying individuals at hereditary risk through dedicated diagnostic pathways (Box 1). Its core involves fully activating Regional Oncology Networks (RONs) and operationalising diagnostic-therapeutic-care pathways in all regions. Another key goal is the full implementation of the National Cancer Registry, which is contingent on the implementation of regional cancer registries in areas lacking accredited ones (see Section 5.2).

While the Italian Government allocated EUR 50 million to support the regional implementation of the NOP, progress was slow in the first year, with stakeholders citing the absence of a central co-ordinating body and inadequate funding as primary reasons (FAVO, 2024). In response, the Ministry of Health announced in May 2024 that it would soon form a NOP Steering Committee to tackle barriers and incentivise regions to hasten its implementation (Quotidiano Sanità, 2024).



Box 1. Italy's National Oncology Plan 2023-27 aligns with Europe's Beating Cancer Plan

The NOP aims to improve primary prevention through lifestyle changes, HPV and hepatitis B vaccination, and reducing environmental and occupational risks, while promoting intersectoral collaboration for comprehensive cancer prevention and care; expand the population-based breast, colorectal and cervical cancer screening programmes, identify high hereditary breast cancer risk early, and evaluate new models for managing prostate and lung cancers; implement RONs, co-ordinate with prevention departments to enhance diagnostic and therapeutic pathways with process indicators, improving cancer care at hospital and community levels; and enhance psychological support for cancer patients and support their reintegration into the labour market. It aligns with the key elements of Europe's Beating Cancer Plan (Table 1). Addressing cancer inequalities is covered in the plan – notably to reduce regional disparity. The plan prioritises paediatric cancer by establishing Italian paediatric oncology centres, supporting research for new therapies, and establishing a fund for psychological and health assistance to children with cancer.

Table 1. Italy's NOP 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
●	●	●	●	●	●	●

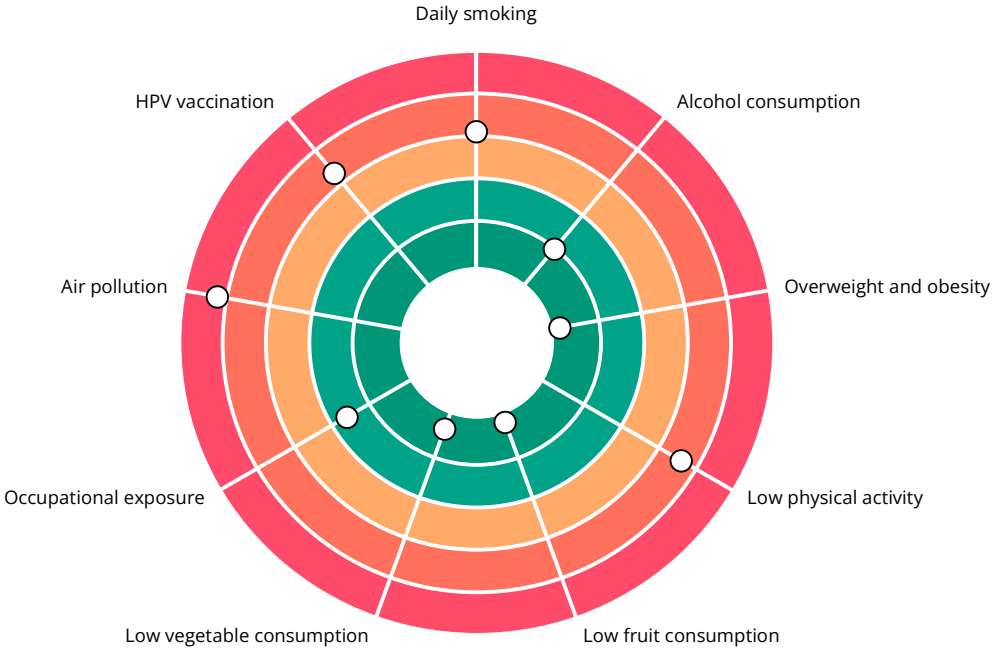
Notes: EBCP = Europe's Beating Cancer Plan. Blue indicates that the Italian NOP includes a specific section on the topic; orange indicates that the topic is covered in one of the NOP's sections without being the only focus; and pink indicates that this topic is not covered in the NOP.
Source: Adapted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

3. Risk factors and prevention policies

Italy performs well on most risk factors for cancer, but lags in exposure to air pollution and HPV vaccination

Italy outperforms most EU countries in key behavioural determinants of cancer risk, including alcohol consumption, overweight rates and diet quality (Figure 6). In 2019, estimated per capita alcohol consumption among Italian adults was a fifth lower than the EU average. According to self-reported data from the EU-SILC Survey, in 2022 Italy had the lowest adult obesity rate in the EU at just 7%[6] – more than 50% below the EU average, and the prevalence of overweight at 42% was nearly 20% lower than the EU average. These rates are in part attributable to the country's comparatively high daily fruit and vegetable consumption. In 2022, spending on prevention[7] represented 6% of current health expenditure, on par with the EU average. While Italy performs well in most lifestyle-related cancer risk factors, it faces challenges with environmental risks. In 2020, average exposure to air pollution, measured as particulate matter with a diameter less than 2.5 micrometres ($PM_{2.5}$) was estimated at 14 µg/m³ – a reduction of more than 17% since 2015, but still in the highest quartile among EU countries.

Figure 6. Rates of alcohol consumption, overweight and obesity, and unhealthy eating habits in Italy are among the lowest in the EU



Notes: The closer the dot is to the centre, the better the country performs compared to other EU countries. No country is in the white "target area" as there is room for progress in all countries in all areas.
Sources: OECD calculations based on 2022 EU-SILC Survey for overweight, obesity, physical activity, fruit and vegetable consumption (in adults); Eurofound Survey for occupational exposure; OECD Health Statistics for smoking, alcohol consumption (in adults) and air pollution; and WHO for HPV vaccination (15-year-old girls).

After a decade of gradual decline, smoking rates reversed during the pandemic

While the risk of developing cancer is influenced by a complex interplay of genetic, environmental and infection-related factors, between 30% and 50% of cancer cases can be attributed to lifestyle-related risk factors. Among these, smoking remains the single largest cause of preventable cancer,

6 *According to family survey data collected by ISTAT, in 2022 the adult obesity rate in Italy stood at 11%.*

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.*

responsible for over 80% of lung cancer cases and posing a major risk for many other cancers.

In 2023, 19% of Italy's population aged over 14 were regular smokers – a proportion slightly higher than the EU average. According to the National Institute of Statistics (ISTAT), Italy saw a decline in smoking rates from 23% in 2009 to a record low of 19% in 2019, due partly to effective tobacco control policies, including stricter regulations on sales to minors, increased excise duties and other measures aligned with the 2014 EU Tobacco Products Directive. However, this trend reversed between 2020 and 2022, with the smoking rate rising to 20% before slightly decreasing in 2023. Notably, the smoking rate among those aged 20-24 continued to rise, reaching over 25% in 2023. Rates tend to be slightly lower in northern Italy and, as in other EU countries, most regular smokers are men. According to ISTAT, 22% of those with lower education levels are regular smokers compared to 16% of those with higher education levels – a sizeable disparity that remained stable over the past decade. Use of alterative smoking products has also grown in recent years, especially among young people. In 2021, 4% of Italy's population aged over 14 used heated tobacco products and/or electronic cigarettes, with most users also being regular cigarette smokers. Those aged 18-34 are the largest user base of alternative smoking products, with about 8% reporting being users in 2021.

Overweight and obesity rates are relatively low, but exhibit a steep economic and regional gradient

According to 2022-23 data from the PASSI surveillance system, Italy has one of the lowest adult overweight and obesity rates in the EU, with 52% of men and 34% of women classified as overweight or obese (National Institute of Health, 2024). However, the prevalence of overweight and obesity displays a significant socio-economic gradient: 22% of Italians with lower education levels were obese in 2022-23, compared to only 6% of those with higher education levels. Furthermore, over 18% of people who reported experiencing severe economic difficulties were classified as obese, compared to less than 9% of those reporting no economic difficulties. Regional variations are also substantial, with overweight and obesity rates ranging from 38% in Tuscany and Sardinia to over 50% in Molise and Basilicata.

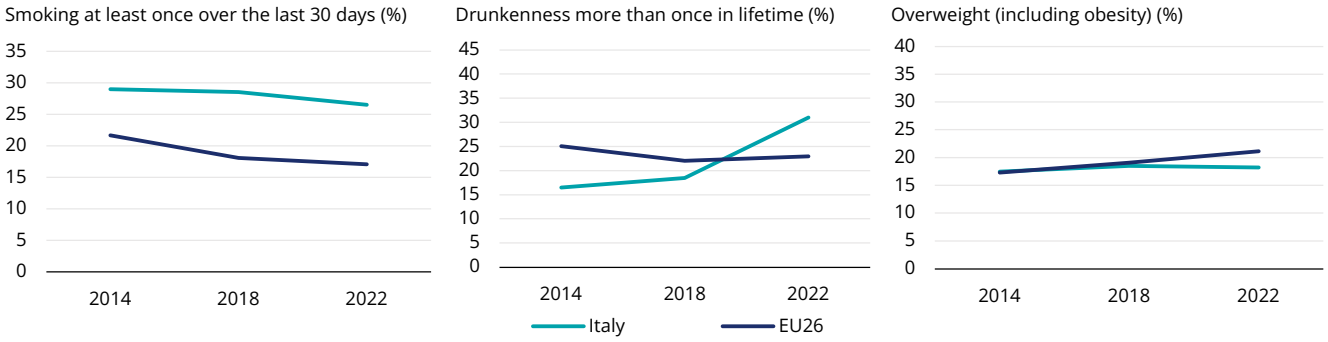
However, Italy shows relatively high daily fruit and vegetable consumption compare to the EU average. In 2022, 16% of Italians adults consumed fruit (compared to 39% in the EU) and 24% consumed vegetables (compared to 40% in the EU) less than once daily. In 2022, 25% of Italians aged over 15 engaged in physical activity at least three times per week – below the EU average (31%).

Italy's National Prevention Plan 2020-25 encompasses various measures to address overweight and obesity, primarily through educational campaigns promoting healthy dietary habits and physical activity – especially among school-aged children – and collaboration with the food industry to promote reformulation of certain food products. Additionally, an ambitious draft bill proposes recognising obesity as a chronic condition, including targeted therapies in the health benefits package, establishing an Observatory for the Study of Obesity within the Ministry of Health and creating regional networks for obesity care.

The high prevalence of behavioural risk factors among Italian teenagers is cause for alarm

Prevalence of behavioural risk factors for cancer among Italian teenagers is particularly concerning. In 2022, almost 27% of 15-year-olds reported smoking in the past month, a proportion that had declined by 7% since 2018, following the average EU trend, but remained 10 percentage points higher than the EU average. Another worrying trend is the rise in the share of 15-year-olds who reported being drunk at least twice in their life – from 19% in 2018 to 31% in 2022 – foreshadowing a possible increase in binge drinking among Italian adults (Figure 7). On a positive note, in 2022, 18% of 15-year-olds in Italy were overweight or obese – a figure 3 percentage points lower than the EU average. However, only 5% reported engaging in at least one hour of moderate physical activity daily in 2022 – a decline from 8% in 2014 and a much lower share than the EU average of 15%. In addition, among 15-year-olds in Italy, 35% consumed fruit consumption daily (compared to 30% in the EU on average) and 32% consumed vegetables daily (compared to 34% in the EU).

Figure 7. Smoking and repeated drunkenness are significantly more common among teenagers in Italy than the EU average



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

A catch-up vaccination programme is expected to bring human papillomavirus vaccination coverage back up to pre-pandemic levels

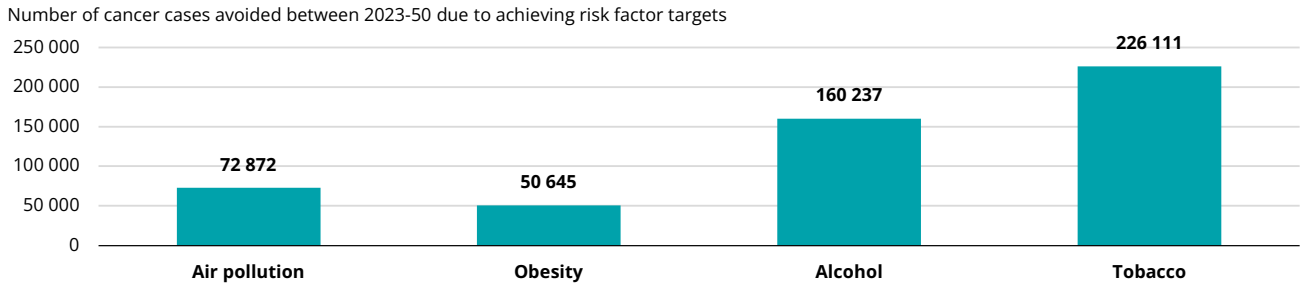
While Italy performs well on most lifestyle risk factors for cancer, following the pandemic it is grappling with significant challenges in restoring vaccination coverage rates for HPV, which is responsible for over 90% of cervical cancer cases. The pandemic led to a sharp decline in full vaccination coverage among the target age group in 2020, with rates for 15-year-old girls and boys plummeting by nearly 50% compared to 2019. Although coverage rebounded slightly, as of 2023 64% of 15-year-old girls received HPV vaccination – on par with the EU average. Similarly, 53% of 15-year-old boys had received HPV vaccination in 2023.

In response, Italy's National Vaccination Prevention Plan 2023-25 prioritises full recovery of HPV vaccination coverage through establishment of a free catch-up scheme for women aged up to 26, to be administered with their first cervical screening test (Ministry of Health, 2023b). Additionally, Italy's NOP aims to achieve at least a 90% coverage rate among all 15-year-olds by 2030, aligning with Europe's Beating Cancer Plan goal of eliminating cervical cancer through HPV vaccination.

Stricter tobacco control measures offer the greatest promise for reducing the expected burden of cancer in Italy over the next two decades

Although people's risk of developing cancer is determined by a complex combination of factors, intensified efforts to decrease the prevalence of lifestyle-related risk factors have the potential to reduce cancer incidence in Italy between 2023-50 (Figure 8). Reductions in smoking and alcohol consumption hold the greatest potential to reduce Italy's cancer burden. According to OECD Strategic Public Health Planning (SPHeP) modelling work, achieving tobacco reduction targets could prevent 226 111 new cancer cases from 2023 to 2050, and meeting alcohol targets could prevent 160 237 new cancer cases over the same period. An additional 50 645 and 72 872 cases could be prevented if obesity and air pollution targets were met respectively.

Figure 8. Tobacco control measures hold the greatest potential to reduce Italy's future cancer burden



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 $PM_{2.5}$ level capped at 10 µg/m³ by 2030 and at 5 µg/m³ by 2050. On obesity, the target is a reduction to the 2010 obesity level by 2025.
Source: OECD (2024), Tackling the Impact of Cancer on Health, the Economy and Society, https://doi.org/10.1787/85e7c3ba-en.

4. Early detection

Italy conducts population-based screening for breast, colorectal and cervical cancer and is exploring options to develop additional programmes

Responsibility for organising cancer screening programmes in Italy lies with the regions, which implement them through local health authorities. While most regions invite women aged 50-69 for mammograms every two years, there is some variation: about one-third have extended screening invitations to include women aged 45-74 or 50-74, aligning with both the updated Council recommendation of 2022 and Italy's NOP. All regions invite residents aged 50-69 to take a faecal immunochemical test (FIT) every two years for colorectal cancer screening. Some regions – predominantly in the north, but also in Lazio and Campania – extend the invitation to those aged up to 74. Cervical screening programmes throughout Italy invite women aged 25-64 for a pap smear every three years; for women aged 30-64, a transition towards HPV-DNA testing every five years is underway. As of 2021, regions representing approximately 60% of the target population had implemented this change, with most adopters in northern regions.

Like several other EU countries, Italy is investigating the feasibility of implementing organised screening programmes for prostate and lung cancer via a series of projects designed to generate more conclusive evidence on their cost – benefit profiles. The Ministry of Health launched a two-year multi-regional prostate cancer screening project in April 2024, co-ordinated by Tuscany's Oncology Research Institute. This aims to evaluate the efficacy of screening protocols making more targeted use of prostate-specific antigen (PSA) testing – which on its own exposes patients to excessive risks of overdiagnosis. To address this, the project will integrate PSA testing with other diagnostic procedures and advanced imaging techniques to more reliably detect clinically significant cases. Italy's primary pilot lung cancer screening project, launched in 2021, is expected to deliver its final results by 2025, providing valuable insights into the feasibility of an organised lung cancer screening programme (Box 2).

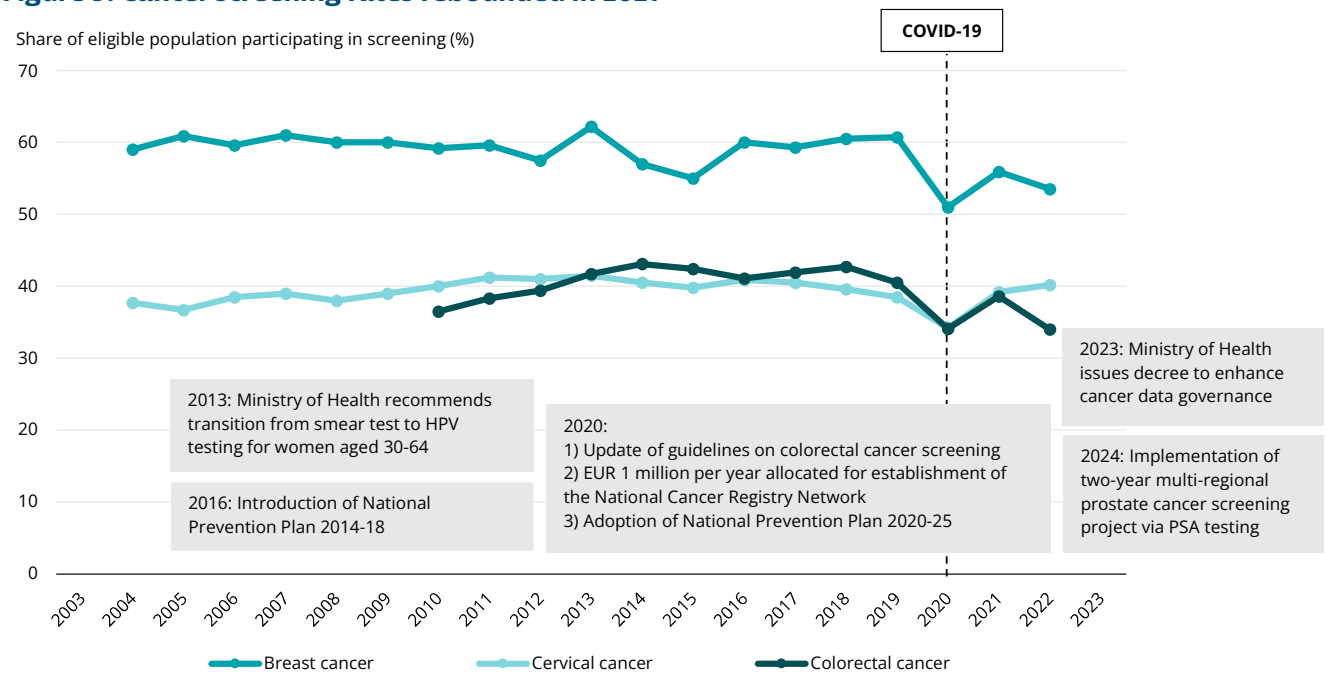
Box 2. Italy's Lung Screening Network Project is nearing completion

The Ministry of Health initiated a pilot programme for lung cancer screening in 2021, led by the National Cancer Institute of Milan and operating through the Lung Screening Network, encompassing 18 diagnostic centres nationwide. Since its inception, the programme has engaged over 8 000 high-risk individuals, defined as smokers and ex-smokers aged 55-75 who have smoked at least 20 cigarettes daily for the past 30 years or more. In addition to screening, the programme offers participants personalised smoking cessation therapies. Preliminary data from the pilot project indicate a detection rate of about 1%, with nearly 60% of detected lung cancers at stage I or II. The results of the pilot project, which will conclude after screening 10 000 participants, will help Italian health authorities to determine the optimal characteristics for a potential nationwide lung cancer screening programme.

Breast cancer screening backlogs have been significantly reduced, but a deep north – south divide in participation rates remains

Among Italy's three free population-based cancer screening programmes, breast cancer screening has historically had the highest participation, consistently achieving rates around 60% in the decade before the COVID-19 pandemic. Like most other EU countries, Italy halted all cancer screening at the start of the pandemic. It resumed only gradually, resulting in an overall delay of about 4.5 months in 2020. The number of women undergoing mammography declined from over 60% in 2019 to 51% in 2020 (National Screening Observatory, 2023). In 2021, screening activity rebounded strongly, with invitation numbers returning to pre-pandemic levels and the number of mammograms performed slightly surpassing the 2020 levels, pushing the screening rate back to 56% in 2021 (Figure 9).

Figure 9. Cancer screening rates rebounded in 2021



Notes: Participation rates for the three cancer screening programmes are based on mammography screening among women aged 50-69 within the past two years, cervical cancer screening among women aged 25-64 within the past three years and colorectal cancer screening among the population aged 50-69 within the past two years.
Source: Programme data from the National Screening Observatory.

Amid a return to pre-pandemic activity levels in 2021, the number of breast cancer cases diagnosed through screening and follow-up appointments increased by 19% compared to 2019, indicating a partial clearing of the 2020 diagnostic backlog. Preliminary data from 2022 show a slight decline in breast cancer screening volumes compared to 2021 – at 54% (Figure 9), with most reductions occurring in northern regions. This reflects both challenges in maintaining the intensity of recovery in several regions and a general shift in the focus of invitations, as the share of invitations sent to women who had never attended organised screening in 2022 (about 10% of the target cohort) was significantly larger than in 2021 (National Institute of Health, 2024). In parallel to population-based mammography, genetic risk assessment is emerging as a complementary prevention strategy for high-risk individuals with a family history of cancer (Box 3).

Box 3. Italy's National Prevention Plan aims to roll out nationwide genetic testing by 2026

Scientific literature strongly supports the association between inherited abnormal breast cancer (BRCA) gene mutations and significantly higher risks of breast and ovarian cancers (Li et al., 2022). Genetic risk assessment in healthy women with a family history of breast cancer can therefore substantially reduce mortality through more frequent screening starting at a younger age and preventive surgery. However, access to these diagnostic pathways in Italy remains limited, and only about 50% of regions had adopted them as of 2024 (FAVO, 2024). Recognising this gap, Italy's National Prevention Plan aims to have all regions implement patient pathways allowing access to BRCA genetic testing for at-risk populations by the end of 2025 (Ministry of Health, 2023a).

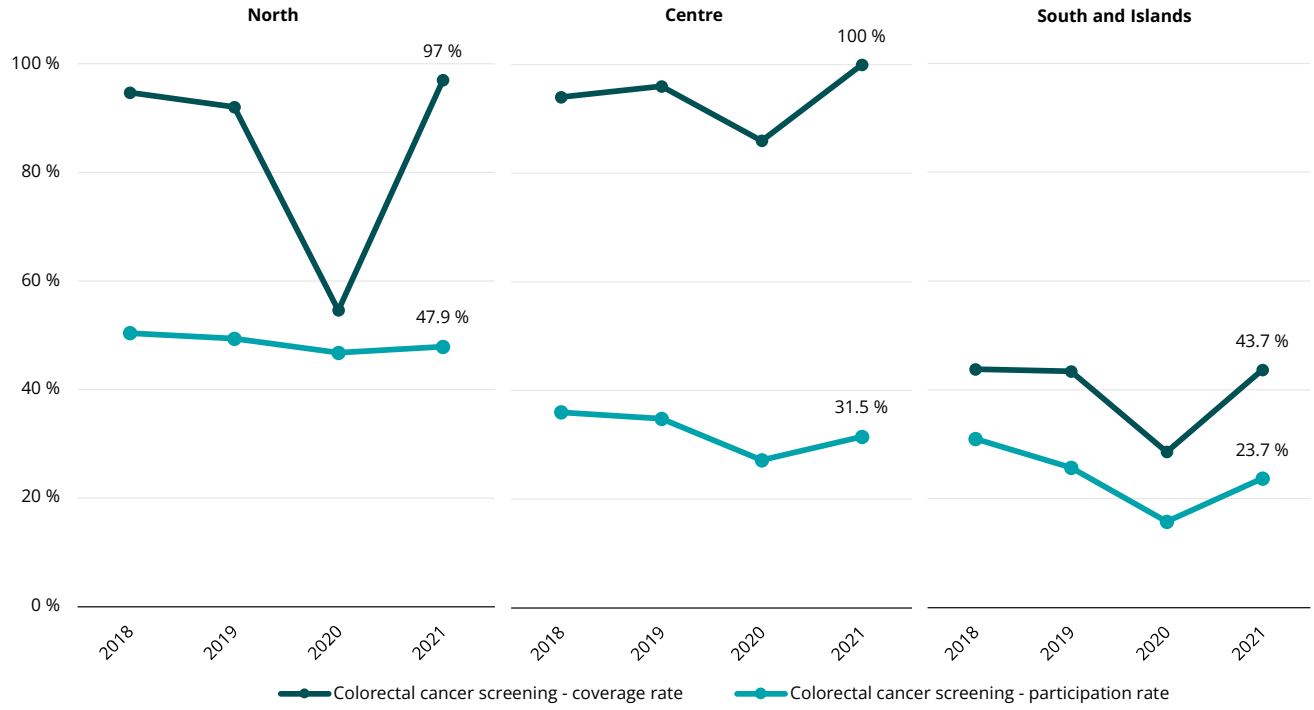
Breast cancer screening participation rates in Italy show significant inter-regional variation, characterised by a north – south divide that has narrowed only gradually over the past decade. Survey data from 2021-22 reveal that nearly all northern regions perform better than the national average. Among southern regions, Calabria stands out with a particularly low participation rate: fewer than 12% of women in the target group participated in organised screening, indicating serious shortcomings in both coverage and participation rates. These disparities are partly mitigated by higher rates of opportunistic screening in southern regions, reported by over 30% of women in the target group living in Campania, Calabria and Marche. Uptake of population-based cancer screening also varies considerably by income: the average participation rate was 54% among women with no economic difficulties compared to 43% among those reporting substantial economic difficulties (National Institute of Health, 2024; FAVO, 2024).

Despite a strong rebound in 2021, Italy's colorectal cancer screening participation remains low, especially in southern regions

Colorectal cancer screening participation in Italy lags significantly behind breast cancer screening. Even before the pandemic, colorectal screening rates were below the EU average, with only about 40% of the target population participating. This reflects both inadequate rollout of population-based screening programmes in several regions and generally unsatisfactory participation levels, even in regions with relatively high coverage. In 2020, the suspension of screening activities due to the pandemic led to an estimated national diagnostic backlog of about 5.5 months, with delays reaching nearly a year in Valle D'Aosta, Piedmont, Lombardy, Basilicata and Campania (Mantellini et al., 2021). As a result, Italy's colorectal cancer screening rate dropped by 6.4 percentage points to 34% in 2020, as invitations sent fell by nearly 30% and the number of FIT kits returned declined by 43%.

In 2021, Italy made extensive efforts to address this backlog. The number of invitations sent exceeded pre-pandemic levels by over 8%; the number of FITs completed, follow-up diagnostic colonoscopies and carcinomas/advanced adenomas detected approached pre-pandemic figures. This strong recovery saw Italy's average screening participation rate rebound to 39% in 2021, slightly declining to 34% in 2022. However, this figure masks significant regional disparities: southern regions had lower coverage and participation rates than central and northern regions (Figure 10). As with breast cancer screening, preliminary data for 2022 show a slight decline in volumes compared to 2021, primarily concentrated in northern regions. Survey data from 2021-22 indicate that while the vast majority of colorectal cancer screening in Italy occurs within the population-based programme, participation shows a noticeable socio-economic gradient, with rates of over 40% among individuals with higher education levels compared to only 27% among those with lower education levels (National Institute of Health, 2024).

Figure 10. Colorectal cancer screening programmes in most southern regions struggle with adequate coverage and participation



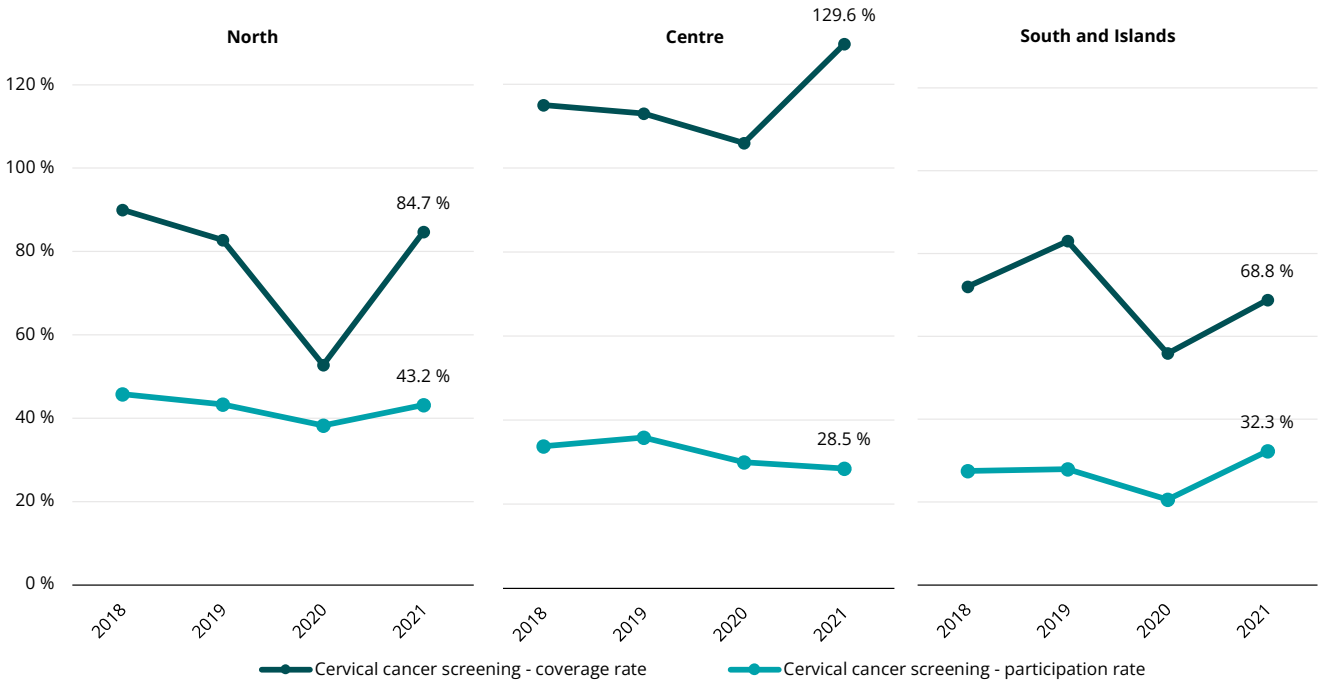
Notes: The screening coverage rate refers to the proportion of eligible individuals in the target population who received an invitation. The participation rate refers to the proportion of individuals who completed the screening test among those who received an invitation.
Source: National Screening Observatory (2023).

Access to population-based cervical cancer screening is uneven across the country

In 2019, Italy's population-based cervical cancer screening rate stood at 39%. The suspension of screening activities during the pandemic reduced this rate to 34% in 2020, with a 32% decrease in the number of invitations sent and a 42% decrease in the number of screening tests performed compared to 2019, resulting in a diagnostic backlog estimated at about 3 500 high-grade cervical lesions

(Mantellini et al., 2021). By 2021, the number of invitations had recovered to 89% and the number of tests performed to 86% of their 2019 levels. Effective coverage of cervical cancer screening invitations varies considerably across the country: central regions averaged well above 100% of invitations sent to the target population, while the average coverage rates were 85% in northern and 69% in southern areas in 2021 (Figure 11).

Figure 11. Coverage rates for cervical cancer screening vary significantly across the country



Notes: The screening coverage rate refers to the proportion of eligible individuals in the target population who received an invitation. The participation rate refers to the proportion of individuals who completed the screening test among those who received an invitation.
Source: National Screening Observatory (2023).

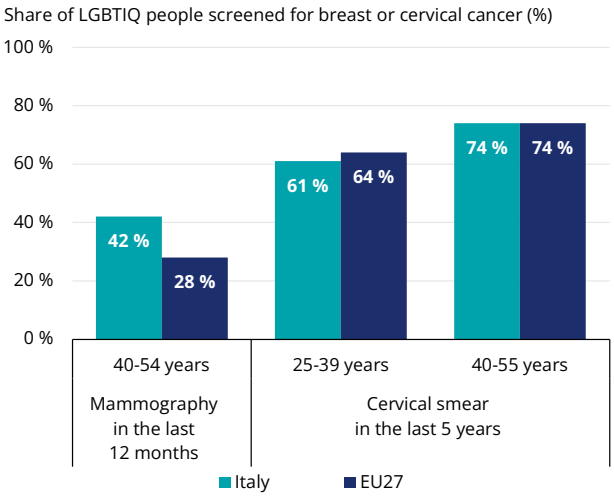
The sharp decline in cervical cancer screening activity in 2020 and its modest recovery in 2021 should be viewed in light of Italy's ongoing transition from triennial pap smears to quinquennial HPV-DNA testing as the primary screening test for a large share of the target population. This shift has led to an increase in HPV-DNA testing's share of total cervical cancer screening invitations from 38% to 58% between 2018 and 2022 as more Italian regions adopted the new approach. However, the transition is progressing at varying speeds across the country, with a notable north – south divide (National Screening Observatory, 2023). Due to this technological change, the overall number of invitations and tests is expected to decline notably over time. In contrast to breast and colorectal cancer screening data, preliminary cervical cancer screening figures for 2022 indicate an increase in uptake relative to 2021, particularly in northern and southern areas, which is at least partly attributable to the continued expansion of HPV-DNA testing adoption.

Among all screening programmes in Italy, cervical cancer has the highest relative prevalence of opportunistic screening. According to survey data from 2021-22, 46% of women aged 25-64 had had either a pap test or an HPV-DNA test as part of a population-based programme, while 31% had been tested outside organised programmes. As with breast cancer screening, regions with more effective organised cervical cancer screening – typically in northern and central Italy – have lower levels of opportunistic screening, whereas southern regions show greater reliance on it. However, in most regions opportunistic screening fails to compensate fully for lower provision of organised screening, resulting in significant inter-regional disparities. In Molise, Calabria and Campania, fewer than two-thirds of women aged 25-64 reported undergoing cervical cancer screening within the recommended timeframe, whether through organised programmes or opportunistically. In contrast, this figure exceeded 85% in Umbria, Friuli-Venezia Giulia and the Autonomous Province of Bolzano (National Institute of Health, 2024).

Among LGBTIQ people, breast cancer screening participation is higher compared to the EU

According to the EU LGBTIQ Survey III, participation in breast cancer screening among LGBTIQ persons is higher in Italy than in other EU countries. In 2023, 42% of LGBTIQ cisgender females, trans women and intersex people aged 40-54 years reported having had a mammogram in the previous 12 months, much higher than the EU average of 28% (Figure 12). However, for cervical cancer screening, 61% of the relevant LGBTIQ population aged 25-39 in Italy reported having had a smear test in the previous 5 years (lower than the 64% in the EU), while 74% of those aged 40-55 in Italy reported a smear test (similar to the EU average).

Figure 12. LGBTIQ persons in Italy participate more in breast cancer screening than their counterparts in the EU



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

5. Cancer care performance

5.1 Accessibility

Italy's National Health Service provides the majority of oncology services free of charge

In addition to preventive services, the Italian NHS includes cancer diagnostic and treatment services in the national health benefits package, making them virtually free at the point of use. However, cancer patients still incur non-negligible out-of-pocket expenses when accessing publicly funded services, mainly due to expenses for diagnostic tests (often to expedite access) and transportation (Lillini et al., 2023). While patients are exempt from paying for most cancer-related goods and services, oncological rehabilitation interventions are not yet part of the benefits package. As a result, only some regions cover these services, forcing many patients to either pay out of pocket or forego rehabilitation altogether.

Cancer care, like general health services, is provided by regions through a mix of public and accredited private healthcare providers, with significant regional variations. The organisational models for cancer care delivery also vary between regions: about half use a "hub-and-spoke" model (a central specialised hub facility connected to local ambulatory spokes), while the remainder have implemented an integrated comprehensive cancer care network model. The vast majority of cancer treatments are delivered through RONs, with less than 10% of all cancer surgeries performed within the private healthcare sector in 2022.

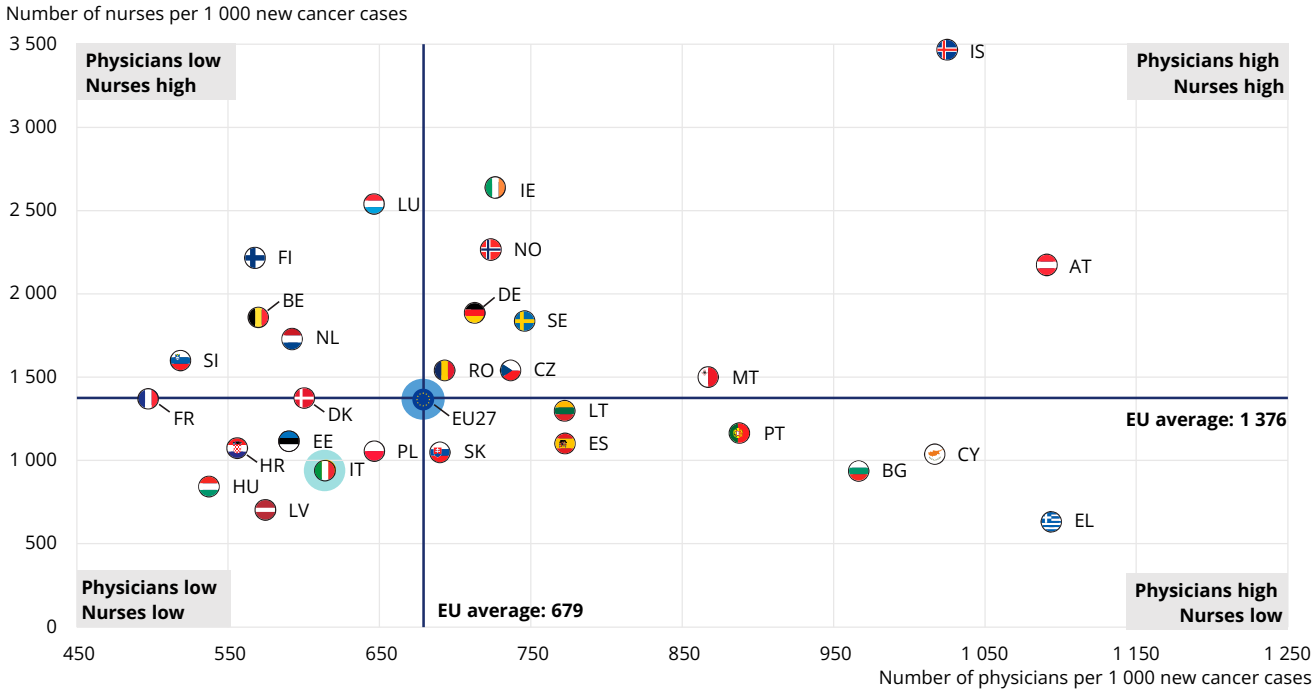
The number of oncologists in Italy is growing, but low enrolment in radiation oncology programmes raises concerns about future supply

The availability of health workers is a key determinant of access to cancer care. In 2021, relative to cancer incidence, Italy's density of doctors was 9% below the EU average, while its density of nurses was 31% below (Figure 13). Oncologists comprised approximately 1% of all practising physicians, with a density of 5 per 100 000 population (Ministry of Health, 2023c). From 2018 to 2021, the number of oncologists grew by 8% annually, outpacing the 1% average annual increase in its total physician workforce. Radiation

oncologists increased by 7% per year, reaching a density of 2 per 100 000.

Addressing concerns about future doctor supply for the NHS, Italy has substantially expanded its medical training pipeline since 2018. This expansion includes increased medical school admissions and residency training places across most specialties, including medical and radiation oncology. In 2021 and 2022, the dropout/non-allocation rate for medical oncology scholarships was 13% – lower than the 18% average of across all specialties. However, radiation oncology residency positions had a remarkably high dropout/non-allocation rate: 68% of the 328 places (222) remained unfilled or were abandoned a year later (ANAAO-ASSOMED, 2023).

Figure 13. Italy has a relatively low supply of doctors and nurses relative to its cancer burden



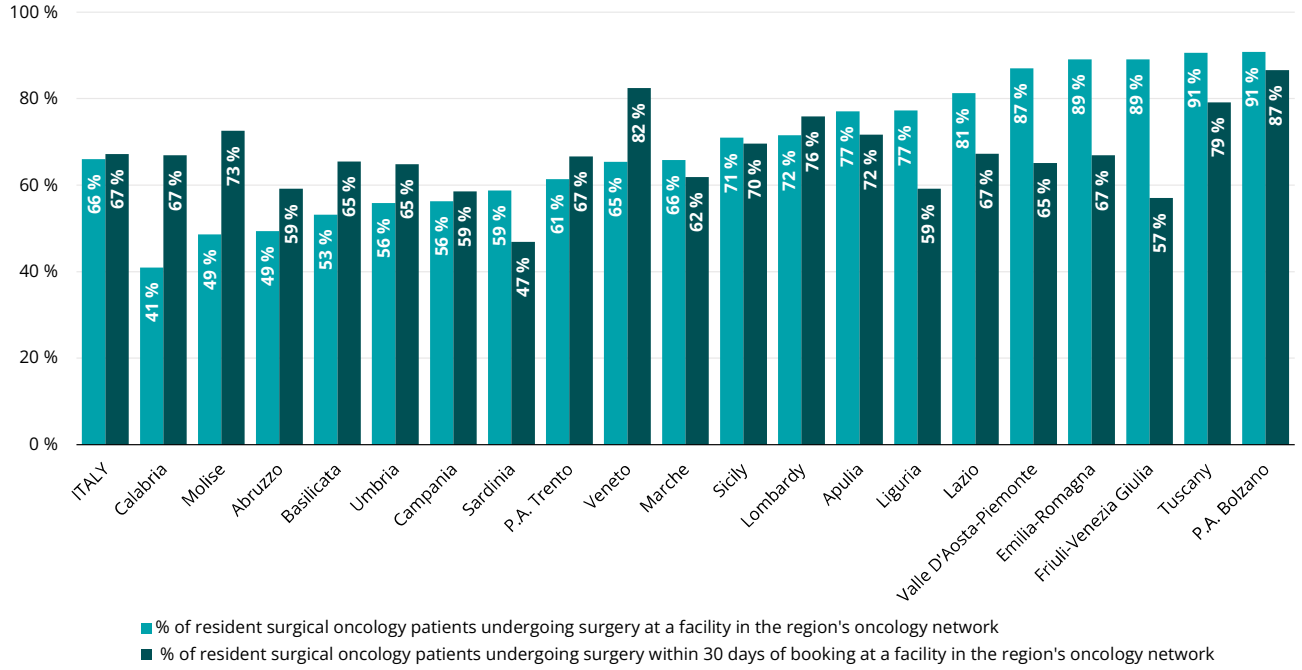
Notes: The data on nurses include all categories of nurses (not only those meeting the EU Directive on the Recognition of Professional Qualifications). Data refer to practising nurses except in Portugal and the Slovak Republic, where they refer to professionally active nurses. In Greece, the number of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

The capacity of regions to provide timely surgical oncology services varies, following a north – south gradient

The delivery of cancer care in Italy is organised into Regional Oncological Networks (RONs) – organisational units that aim to improve the quality and efficiency of cancer care services at the regional level by implementing standardised guidelines and ensuring consistent co-ordination between hospitals, clinics, research institutions and multidisciplinary teams of health professionals. Many factors contribute to significant disparities in cancer care performance across regions, including variations in availability of healthcare infrastructure, human resources and governance quality among RONs, which in turn result in geographic inequalities in cancer care accessibility.

Patient migration in cancer care occurs when individuals seek treatment outside their home region, due to either necessity or personal preference. While some migration is justified – especially from less populated areas to high-volume units in neighbouring regions – high rates indicate local service shortfalls. In 2022, more than two-thirds of cancer surgery patients received treatment within the RON of their region of residence, while the remaining patients travelled outside their local area. While nearly 90% of cancer patients were treated within their local RON in the northern and central regions of Tuscany, Friuli-Venezia Giulia, Emilia-Romagna and Piedmont, fewer than 50% were treated within their local RON in the southern regions of Abruzzo, Calabria and Molise (Figure 14).

Figure 14. Regional oncology networks in southern regions tend to cater for a smaller proportion of local cancer patients' surgery needs



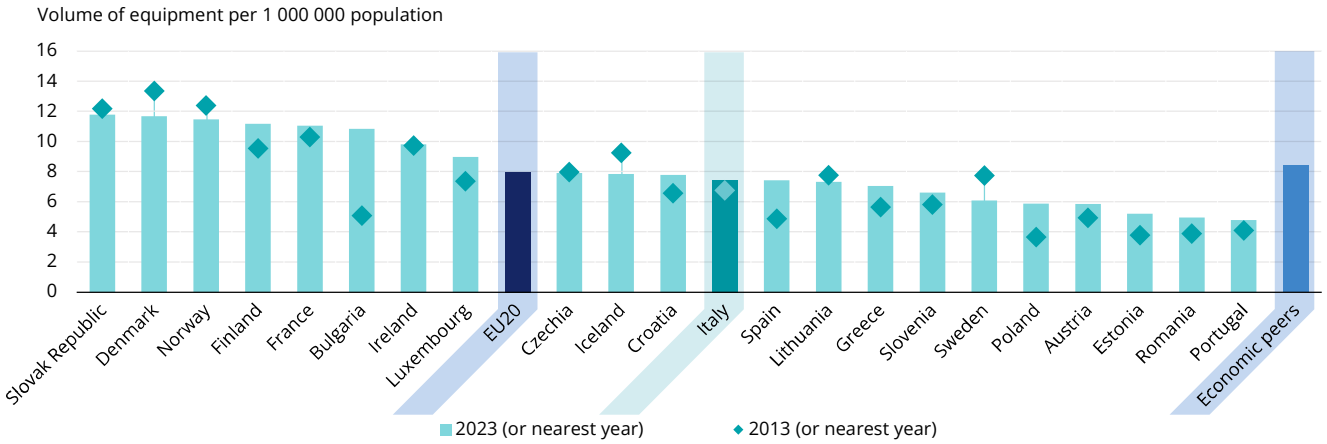
Note: Surgical oncology patients undergoing surgery refers to patients with breast, colorectal, lung, prostate, uterine and ovarian cancer.
Sources: AGENAS (2023).

Waiting times also affect cancer surgery accessibility. In 2022, about two-thirds of Italian cancer patients received surgery within 30 days of booking. High-capacity regions attracting patients from elsewhere – such as Veneto, Tuscany and Lombardy – maintained below-average waiting times, with over 75% of resident patients accessing surgery within 30 days.

Partly due to lower density of care infrastructure, cancer patients living in the south face geographical barriers to accessing outpatient cancer care

More than half of all cancer patients receive at least one course of radiotherapy as part of their treatment regime, so availability of oncological radiotherapy centres close to patients is a key determinant of access to cancer care. In 2022, Italy had 7 radiotherapy units per 1 000 000 population – a density slightly below the average among its economic peers and the EU – spread over 194 radiotherapy centres across the country. This had increased by about 9% since 2013 (Figure 15). In 2022, over 85% of Italy's radiotherapy equipment comprised linear accelerators and tomotherapy devices, approximately 13% consisted of brachytherapy devices, and the remainder included highly specialised equipment such as particle therapy equipment for the treatment of complex cancer sites.

Figure 15. The density of radiotherapy equipment in Italy is slightly lower than 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 IT are CZ, ES, FI, FR, LT and SI. The EU average is unweighted.
Source: OECD Health Statistics 2024.

Radiotherapy equipment is predominantly concentrated in the more densely populated regions of the north, a factor that contributes to the greater distance-related difficulties faced by patients living in southern regions and in the islands when attempting to access radiotherapy and chemotherapy services. While residents in virtually all territories within regions in the centre and north are able to access outpatient cancer care within 60 minutes or 100 kilometres from their place of residence, a large proportion of patients residing in low-density areas of southern Italy face an increased travel burden, which risks hindering the timeliness and quality of cancer treatment (Figure 16).

Italy's National Oncology Plan aims to strengthen the technology infrastructure of its National Rare Cancers Network

Rare cancers, occurring in fewer than 6 cases per 100 000 people annually, pose unique challenges due to their low frequency and varied presentation. To address knowledge gaps in rare cancer care, Italy established a National Rare Cancers Network (RNTR) in 2017. The RNTR aims to ensure that professional expertise and competencies are available nationwide, reducing care fragmentation and the need for patients to seek treatment outside their region or internationally. After years of experimental activity, the RNTR became fully operational in September 2023, with regions having specific centres collaborating with Italian centres of excellence participating in the European Reference Networks (State-Regions Conference, 2023). However, several regions still lack precise guidelines for resources allocation to support the expansion of professional activities within the RNTR, as contributions have largely been voluntary.

To fulfil its mission, the RNTR relies heavily on teleconsultations. As part of its NOP, Italy plans to develop a dedicated telemedicine platform to strengthen the RNTR's technical capacity, enhance collaboration among Italian experts in rare adult solid tumours, onco-haematology and paediatric cancers, and foster closer links with European counterparts (Ministry of Health, 2023a).

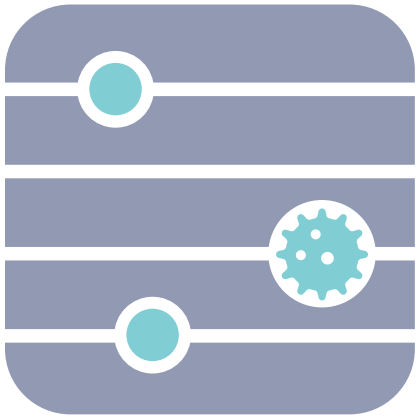
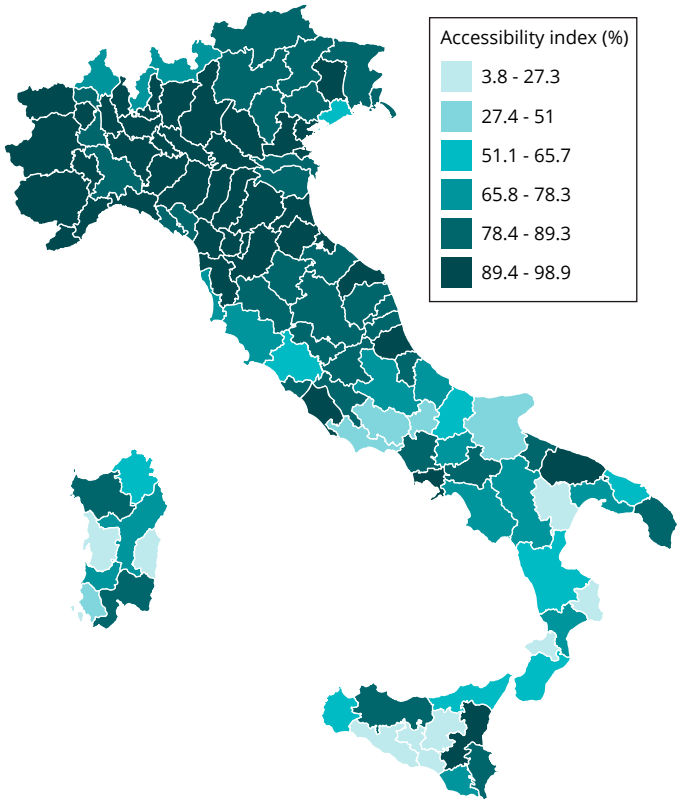


Figure 16. Distance-related barriers to accessing chemotherapy and radiotherapy services are a significant challenge in Calabria, Sardinia, Sicily and Basilicata



Note: The map indicates the percentage of residents in each province who can access chemotherapy and radiotherapy services within 60 minutes or 100 km from their place of residence.
Source: Adapted from AGENAS (2023).

5.2 Quality

Italy's low potential years of life lost to cancer reflects effective prevention and treatment strategies

Potential years of life (PYLL) lost due to cancer offers a valuable complementary measure of cancer's societal impact, as it assigns a greater weight to deaths among younger individuals. Examining the change in PYLL over time across various cancer sites can point to improvements in cancer care systems via reductions in premature mortality. In 2020 (latest year available), Italy's PYLL rate due to cancer was 1 157 per 100 000 population – 15% lower than the EU average. This suggests relatively Italy's early intervention strategies and treatments are relatively effective in reducing premature cancer mortality. Lung cancer was the main contributor to cancer-related PYLL in Italy (Figure 17).

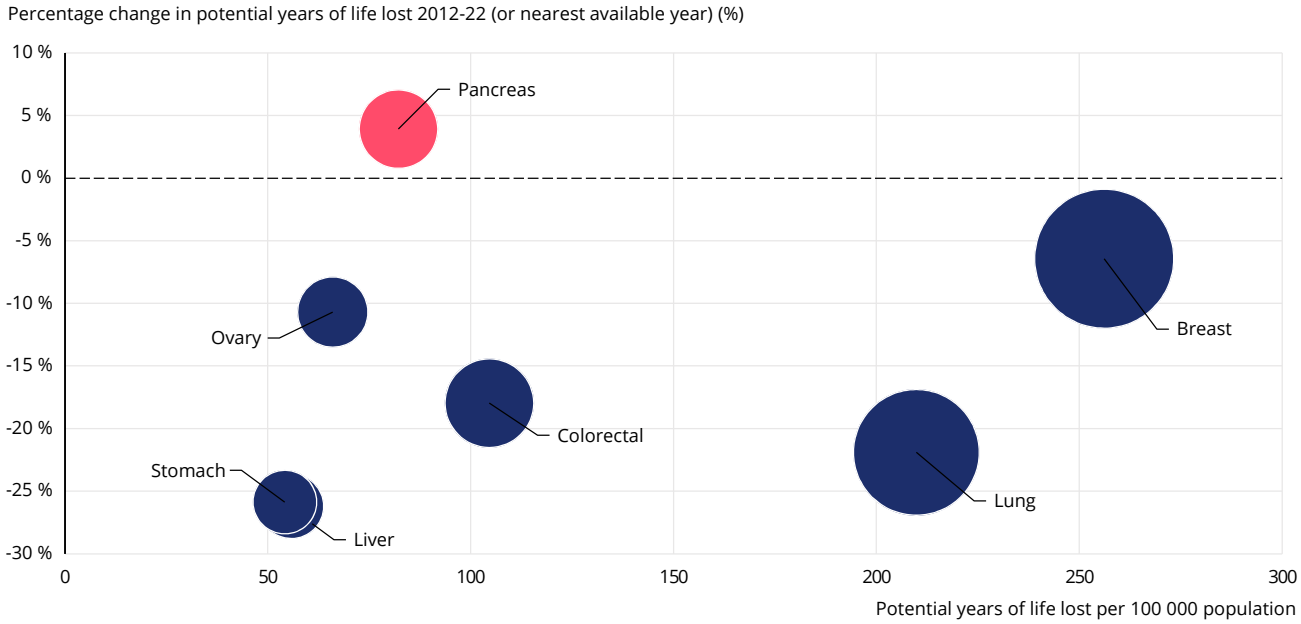
From 2012 to 2020, Italy's PYLL rate from cancer declined by nearly 17%, lower than the EU average decline of 19%. This decline was primarily due to a 6% reduction in PYLL from breast cancer, indicating the positive impact of improved screening uptake, and a 22% decline in PYLL from lung cancer, reflecting advances in therapeutic approaches and a decline in incidence among younger age groups (see Section 3). Notably, the PYLL rate for pancreatic cancer increased by 4%. This reflects the fact that pancreatic cancer is the only high-incidence cancer site that has not recorded a decline in mortality over the last decade, as well as a slight increase in incidence of pancreatic cancer among Italians aged 50-69.

The operationalisation of the National Cancer Registry is a key goal of the National Oncology Plan 2023-27

Historically, cancer epidemiological data in Italy have been collected by local registries, with national-level data aggregated on a voluntary basis by the Association of Italian Cancer Registries (AIRTum). As of 2019, accredited registries covered approximately 70% of the Italian population. The National Cancer Registry (NCR) was established in 2019, with a view to transitioning from the existing patchwork of local registries to a co-ordinated national system fed by regional registries. However, implementation of the NCR has faced significant delays. Alongside COVID-19-related disruption, key obstacles to operationalisation of the NCR have been the lack of resources for implementation (although EUR 1 million has been allocated since 2020 for this purpose), unclear oversight and privacy concerns hindering data sharing by regional registries.

In 2023, the Ministry of Health issued a decree clarifying technical specifications for handling personal data and establishing a technical-scientific committee to support the NCR's governance. When fully operative, each region will appoint a reference centre to relay data to the Ministry of Health. As a crucial step towards improving cancer surveillance, research and healthcare planning in Italy, full operationalisation of the NCR is listed as a priority objective of Italy's NOP.

Figure 17. Italy's potential years of life lost due to cancer declined by nearly 17% between 2012 and 2020, primarily driven by reductions in breast and lung cancer rates



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.

A dedicated national observatory monitors the outcomes and quality of organisational processes in cancer care across regions

The most important national-level indicators of cancer care quality in Italy are collected through the National Outcomes Evaluation Programme (PNE). In 2019, the National Agency for Regional Health Services (AGENAS) established an observatory for monitoring and evaluation of RONs, through which it conducts regular in-depth, region-specific analyses and additional data collection to benchmark the performance of RONs in meeting oncological patients' needs, the quality of their governance processes and their capacity to implement cancer-specific diagnostic-therapeutic care pathways (PDTAs) effectively (Box 4).

Box 4. Clinical approaches are being standardised through cancer-specific care pathways

In the context of cancer care in Italy, PDTAs serve as governance tools to standardise clinical approaches to oncological patient care within each RON. These documents are developed at the regional level, and define the methods, timing and sequence of procedures for managing patients with specific cancers, encompassing initial screening, diagnostic procedures, treatment options and follow-up protocols.

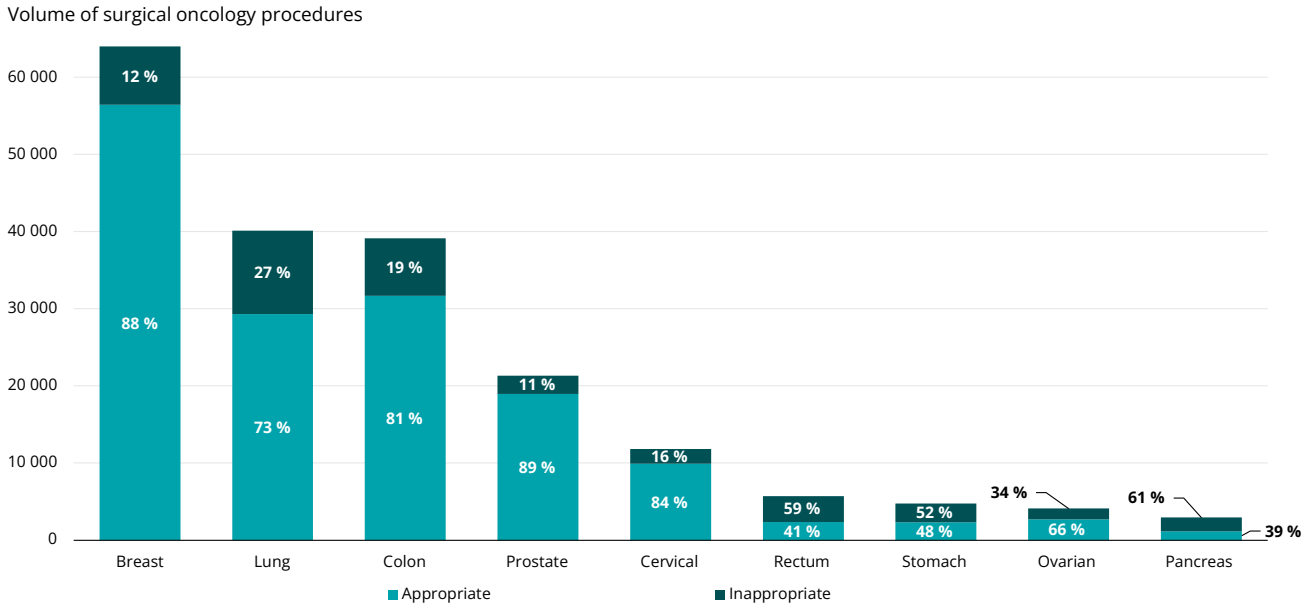
PDTAs aim to ensure timely and accurate diagnosis, promote consistent high-quality care across regions and improve cost – effectiveness of cancer care. Especially in oncology, PDTA development involves collaboration among multidisciplinary teams, including patient representatives and primary care physicians.

Italian regions have made significant strides in developing and implementing PDTAs for various cancer types in recent years, allowing them to incorporate new scientific evidence and technological advancements in clinical practice. While PDTAs have demonstrated effectiveness in improving cancer care co-ordination and outcomes, challenges persist in their uniform implementation across regions (FAVO, 2024). Ongoing efforts outlined in Italy's NOP focus on updating PDTAs and enhancing their integration into clinical practice in RONs lagging in their implementation (Ministry of Health, 2023a).

A key component of cancer care assessment involves analysing PNE data on the concentration of surgical oncology procedures within operational units in each RON. Since 2015, the PNE has set minimum annual volume thresholds for specific surgical procedures, including cancer surgery, to ensure high-quality care standards. The latest data from 2022 indicate that about 20% of the most common cancer surgeries were performed in units below these volume thresholds. For breast cancer specifically, 12% of surgeries took place in units performing fewer than 135 operations annually (Figure 18). This national average, however, conceals significant regional variation: in Emilia-Romagna, Marche, Tuscany and Umbria, less than 5% of breast cancer surgeries occurred in

low-volume units, while the figure exceeded 25% in Friuli-Venezia Giulia, Molise and the Autonomous Province of Bolzano. Even in high-capacity regions with centres of excellence such as Lombardy, a non-negligible share of breast cancer surgeries (13%) took place in low-volume operational units.

Figure 18. In 2022, approximately 20% of surgical oncology procedures were performed in hospitals with patient volumes below the optimal threshold



Note: The "inappropriate" category refers to the proportion of surgical oncology procedures performed in facilities that failed to meet the cancer-specific minimum annual volume of patients for breast (150), lung (85), colon (50), prostate (30), cervical (20), rectum (25), stomach (20), ovarian (20) and pancreatic (30) cancers.
Source: Analysis based on data from AGENAS (2023).

There are local initiatives to measure patient-reported indicators in cancer care

The draft of the National Cancer Plan 2022-27 acknowledges the significance of quality indicators and aims to advance the implementation of patient-reported outcome measures (PROMs) and patient-reported experience measures (PREMs). There are also ongoing local initiatives to collect PROMs and PREMs in the area of cancer. A regional initiative from Tuscany collects PROMs data from people who undergo breast intervention (breast conserving therapy, mastectomy, or reconstruction). The PROMs areas cover satisfaction with breast, physical well-being and satisfaction with information. The results are used for performance improvement.

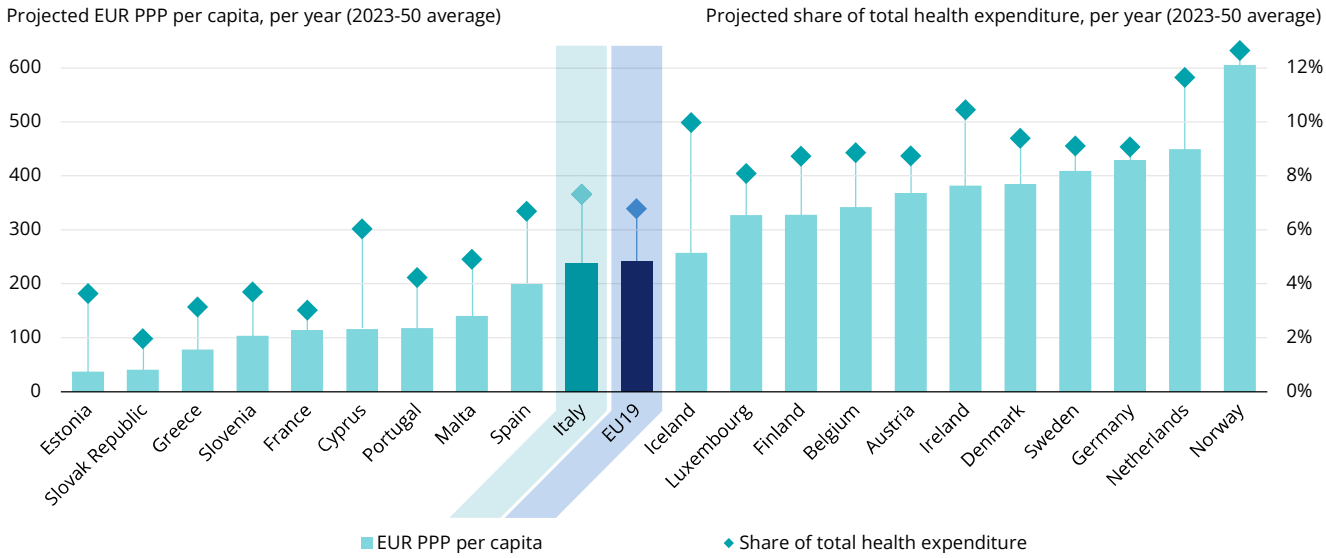
5.3 Costs and value for money

The burden of cancer on health expenditure in Italy is expected to be close to the EU average over the next two decades

Like other EU countries, Italy has experienced a steady increase in the cost of cancer care over the past decade – a trend driven by an ageing population, improved cancer survival rates and the use of more advanced, but also significantly more expensive, therapies. The Italian Medical Oncology Association estimated that the total cost of cancer nationally, including indirect costs such as disability benefits, reached EUR 20 billion in 2022 (Albini, 2023). This is equivalent to EUR 338 per capita and 12% of the country's total health expenditure.

According to OECD SPHeP modelling work, between 2023 and 2050, total health expenditure is estimated to be 7% higher in Italy due to the burden of cancer. This equates to an average of EUR (PPP) 237 per person per year (Figure 19). This figure is similar to the EU19 average (EUR PPP 242). Overall, the per capita health expenditure on cancer care is expected to grow by 63% in Italy between 2023 and 2050, compared to 59% in the EU27.

Figure 19. Italy's burden of cancer on health expenditure over the next 25 years is expected to be similar to the EU's



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.

It is also estimated that cancer will have a major impact on the workforce in Italy. Between 2023 and 2050 on average, cancer is expected to lead to a loss of 146 full-time equivalent workers (FTEs) per 100 000 people due to the need to reduce employment because of cancer, as well as 35 FTEs per 100 000 due to absenteeism and 41 FTEs per 100 000 due to presenteeism.[8]

The costs of cancer care at the patient level are not distributed evenly across the disease pathway, but tend to follow a U-shaped pattern over time, with higher costs concentrated in the first months after diagnosis and in the last years of life, when patients receive palliative care. In Italy, the EPICOST Study found that cancer stage at diagnosis is a major determinant of total costs of care: the average total cost of care for stage III and IV cancer patients is 44% higher than for patients diagnosed at stages I and II. It also confirmed and helped to quantify the large cost savings that could be achieved in Italy by maximising provision of and participation in organised cancer screening programmes, particularly among residents of the southern regions where uptake is relatively low (see Section 4).

Along with higher consumption, the escalating costs of cancer drugs are a major driver of total cancer costs

In the past decade, advances in targeted therapies, extended treatment durations and increased demand due to rising cancer prevalence have significantly increased the impact of oncological drugs on cancer care costs in Italy. This trend is expected to continue as the gradual implementation of genetic tumour profiling facilitates development of highly effective yet costlier personalised treatments.

Italy's public expenditure on oncology drugs reached EUR 4.4 billion in 2022, accounting for 19% of public pharmaceutical spending and 29% of spending on pharmaceuticals by hospitals. While total per capita pharmaceutical spending increased by 4% annually in 2014-22, expenditure on cancer drugs grew by nearly 10% per year – more than doubling over this period. This growth resulted from a 23% increase in oncology drug consumption and a nearly 70% rise in the average cost per defined daily dose (DDD) of cancer drugs (Medicines Utilisation Monitoring Centre, 2023).

5.4 Well-being and quality of life

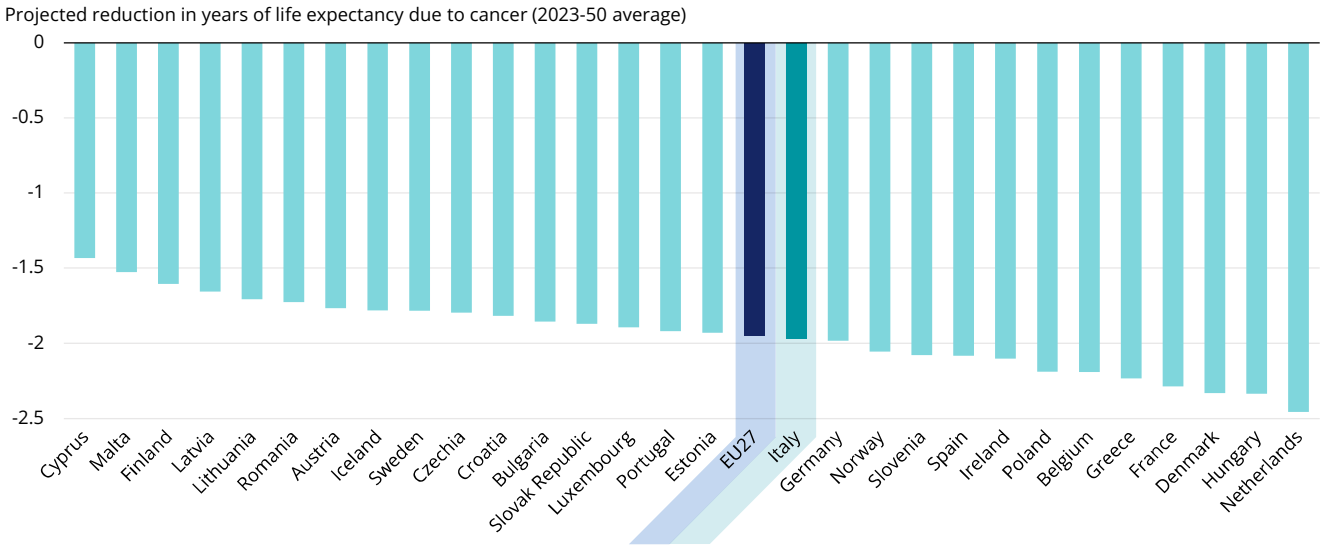
Cancer's impact on Italy's life expectancy and mental health disorders is close to the EU average

Italy's cancer burden is set to increase due to the country's ageing population and improving survival rates, leading to a growing number of cancer patients and survivors (see Section 2). According to OECD SPHeP modelling, from 2023 to 2050 cancer in Italy will reduce life expectancy by nearly 2 years – a figure aligning closely with the projected EU average (Figure 20).

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

Cancer also 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, Italy is projected to see an additional age-standardised rate of depression caused by cancer of 16 cases per 100 000 people per year from 2023 to 2050 – nearly identical to the EU average of 17 per 100 000.

Figure 20. The impact of cancer on life expectancy over the next 25 years is expected to be on par with the EU average



Note: The EU average is unweighted.
Source: OECD (2024), Tackling the Impact of Cancer on Health, the Economy and Society, https://doi.org/10.1787/85e7c3ba-en.

Coverage gaps remain in oncological rehabilitation

A major objective of health systems is to provide services that address the profound and often weakening physical, psychological and socio-economic impacts of cancer on both patients and their carers. With several types of cancer increasingly becoming chronic conditions, Italy has developed various health and welfare instruments aimed at improving the quality of life of cancer patients and survivors. To protect cancer patients from financial hardship, they are legally exempt from 100% of the cost of medical goods and services related to their illness (see Section 5.1). However, although oncological rehabilitation services such as physiotherapy and occupational therapy fall into this category, they are not yet formally included in the state benefits package. This exclusion results in gaps in financial coverage for oncological rehabilitation in various regions, which contribute to some level of financial toxicity[9] of cancer care.

Italy's NOP emphasises the need for RONs to update their oncological clinical-diagnostic care pathways to include rehabilitation services systematically, and proposes broadening the scope of Italy's PNE to monitor the appropriateness of oncological rehabilitation care services (Ministry of Health, 2023a). However, the plan falls short of including oncological rehabilitation services in the state benefits package.

Specific legislation protects cancer survivors from the risks of discrimination and unequal treatment

One of the most notable legislative advancements in Italy aimed at improving the quality of life for cancer survivors is the enactment of the "Right to be Forgotten" Law, approved in 2023. This allows cancer survivors who have been cancer-free for a specified period to omit their medical history from mortgage and insurance applications, as well as employment contracts. The period is typically 10 years, reduced to 5 years for those diagnosed before the age of 21. The legislation also ensures that adults who have recovered from cancer can no longer be denied eligibility to adopt a child based on their medical history.

This progressive legislation places Italy among a select group of EU countries with specific anti-discriminatory laws to protect cancer survivors, joining France, Belgium, Luxembourg,

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

the Netherlands, Portugal, Romania and Spain. Its implementation is expected to enhance survivors' financial stability and employment prospects, contributing to improved quality of life by alleviating some of the long-term socio-economic impacts of cancer.

Social security benefits and employment measures provide cancer patients and their carers with protection against the risks of financial stress

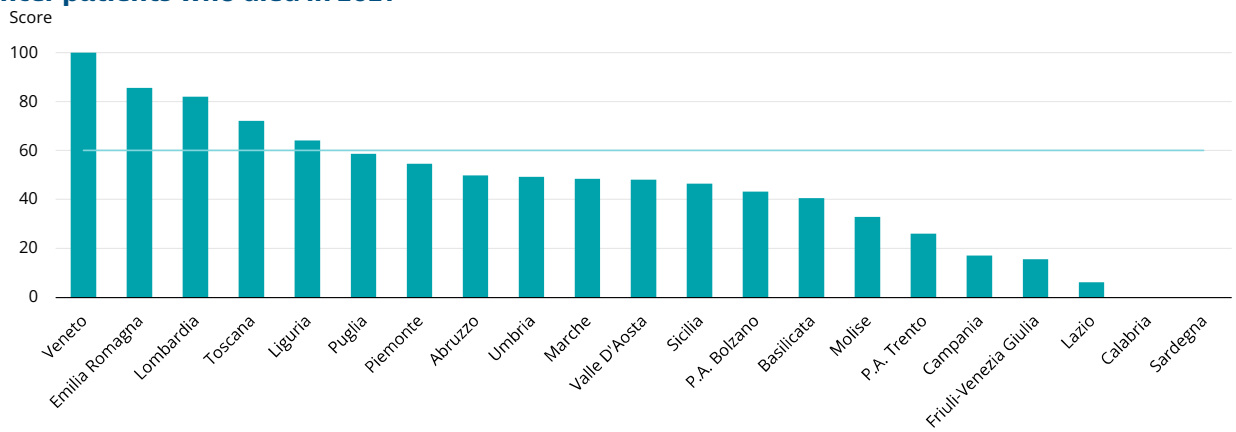
To mitigate financial hardship risks for cancer patients, Italy's National Social Security Institute offers various cash benefits to cancer patients and their families. Eligibility varies based on income, age and level of invalidity determined by a medical committee. The benefits include an "inability pension" providing partial financial support to for patients retaining some work capacity, and a "severe disability" status that offers tax advantages and enhanced employment protection. This status allows patients and caregivers to take leave, adjust work hours and access other benefits. Patients deemed permanently and completely unable to work are eligible for a disability pension, while those requiring continuous assistance with daily activities can receive an "attendance allowance" to cover carer costs. Alongside cash benefits, Italian labour law includes several special provisions to support cancer patients' employment; for example, public administrations and private companies with over 15 employees must hire a certain number of individuals with moderate to severe medically recognised disabilities.

Access to palliative care remains insufficient in the majority of regions

In Italy, palliative care services are included in the state benefits package, and are thus provided free of charge. The right to palliative care and pain management services for all patients was established by law in 2010, mandating the organisation of these services across the country through regional networks for palliative care (RNPCs). Palliative care services are provided in hospitals, hospices and community-based home care settings. A recent review by AGENAS (2022) highlighted implementation gaps across Italy: as of 2021, all regions except Marche and Abruzzo had activated their RNPCs, but only 60% of regions had also activated paediatric-specific palliative care networks. In hospital settings, only two-thirds of local health authorities had at least one dedicated multidisciplinary palliative care team. Home-based palliative care was better established: nearly all local health authorities had at least one multidisciplinary team.

The Ministry of Health's yearly analysis of regional compliance with the state benefits package found that less than a quarter of regions provided adequate levels of palliative care to oncological patients, with all compliant regions located in the north and central parts of the country (Figure 21). In response, Italy's NOP calls for implementation of three-year programmes by regions to ensure uniform provision of palliative care services nationwide by 31 December 2025. The NOP specifies several strategic objectives, including strengthening home-based palliative care services, improving care co-ordination between RONs and palliative care services to ensure early activation, and exploring the use of telemedicine tools to improve accessibility of home-based services (Ministry of Health, 2023a).

Figure 21. Only five regions managed to provide palliative care services to at least 35% of their cancer patients who died in 2021



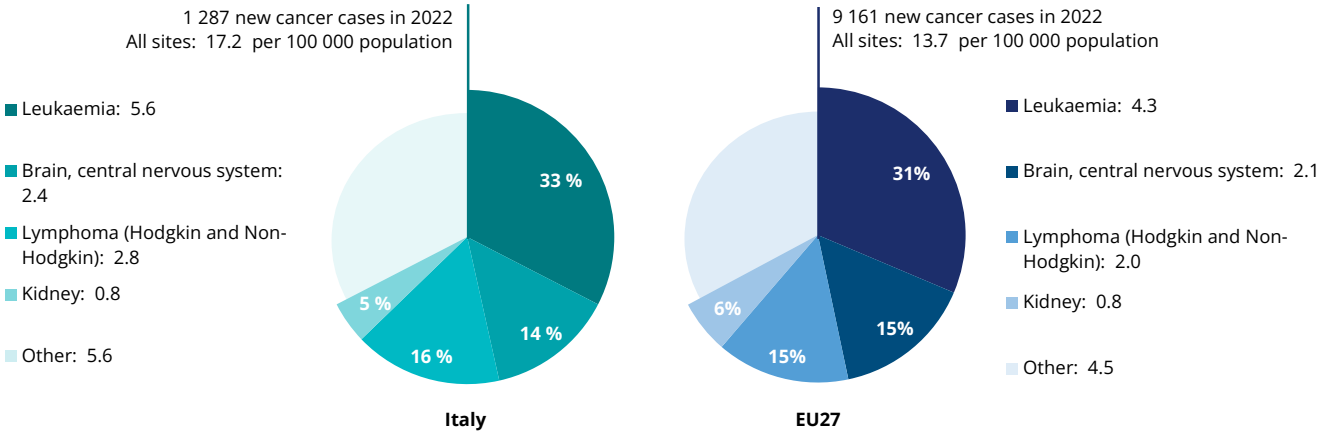
Note: The line indicates the threshold for satisfactory performance, representing 35% of all cancer-related deaths that received assistance from the RNPC.
Source: Ministry of Health (2023d).

6. Spotlight on paediatric cancer

Incidence estimates from ECIS indicate that 1 287 children aged 0 – 14 were diagnosed with cancer in Italy in 2022. The standardised incidence rate for this age group was estimated at 17 per 100 000 children, 25% higher than the EU average of 14 per 100 000 (Figure 22). In Italy, as in the EU overall, cancer incidence rates are higher among boys than girls. The most common cancer types in Italy were leukaemia – with 5.6 cases per 100 000 children (33%), lymphomas – with 2.8 cases (16%), brain and central nervous system (CNS) cancers – with 2.4 cases (14%) and kidney cancer, with 0.8 cases per 100 000 children (5%). Despite higher incidence rates, Italy's childhood cancer mortality rate aligns with the EU average, with a 3-year average mortality rate of 2.1 per 100 000 children, according to Eurostat.

Figure 22. Cancer incidence rates among children in Italy are a quarter 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.

Paediatric cancer care in Italy is provided in 47 institutions, with seven centres of excellence located in Genoa, Milan, Monza, Padua, Rome and Turin, which are part of the Innovative Therapies for Children with Cancer Consortium. This strong infrastructure is complemented by Italy's leadership in drug availability: Italy maintained 97% availability of 68 essential paediatric cancer medications, significantly outperforming the EU average of 76% (Vassal et al., 2021).

Italy's participation in translational research and clinical trials for paediatric cancer care is significant: Italian cancer care centres participated in over 41% of the 436 clinical trials involving paediatric and adolescent cancer patients in Europe in 2010-22. Compared to the EU average, clinical research trials for paediatric cancer care in Italy are more reliant on industry sponsorship (72% compared to a 45% EU average) and more frequently part of international multicentre studies (84% compared to a 58% EU average) (SIOPE, 2024).

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Country abbreviations

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

European Cancer Inequalities Registry

Country Cancer Profile 2025

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

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

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

Each Country Cancer Profile provides a short synthesis of:

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

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