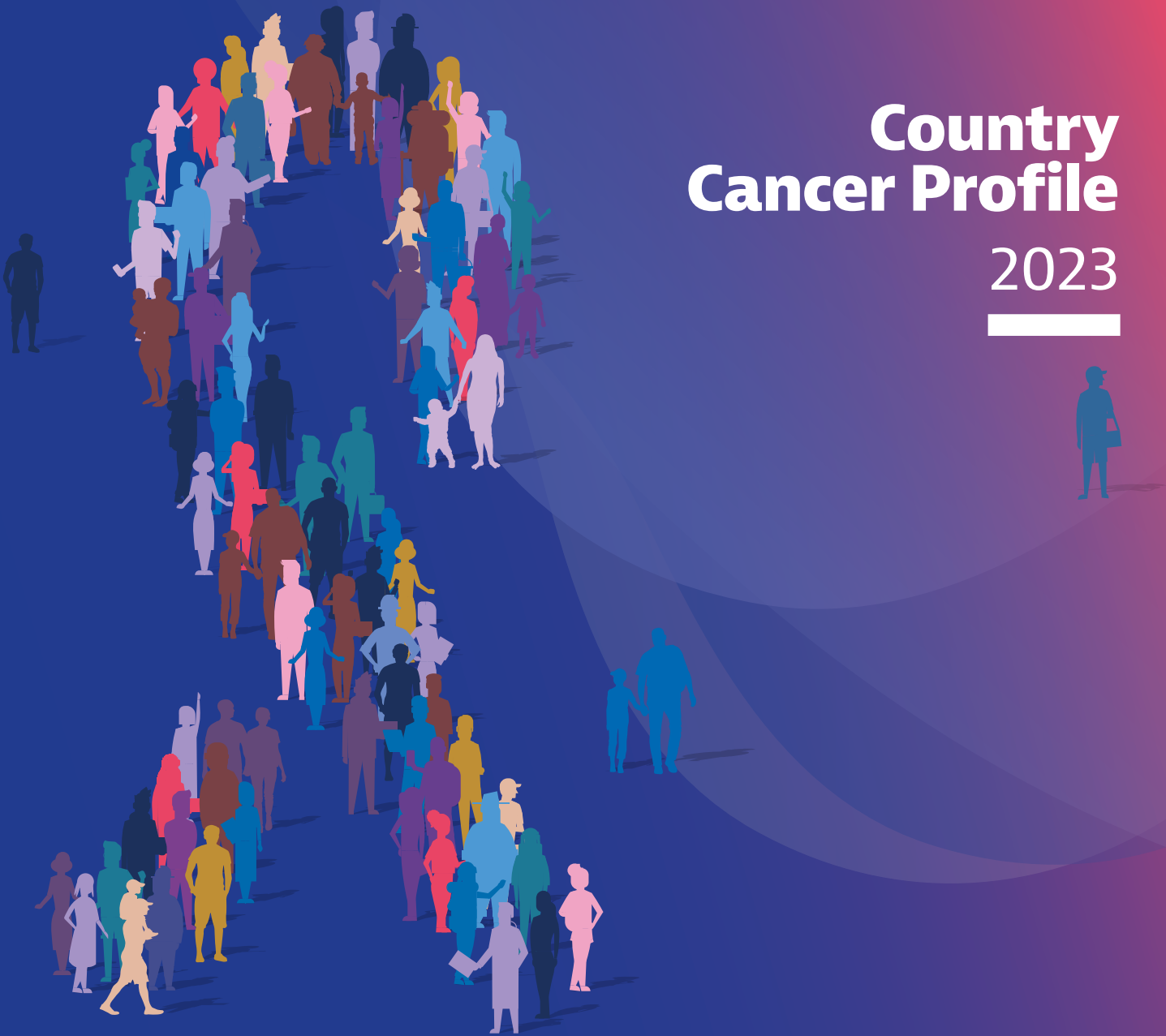




ITALY

Country Cancer Profile

2023



The Country Cancer Profile Series

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 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 inputs received from national experts and comments provided by the OECD Health Committee and the EU Expert Thematic 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 also come from the World Health Organization (WHO), the International Agency for Research on Cancer (IARC), the International Atomic Energy Agency (IAEA), the Institute for Health Metrics and Evaluation (IHME) 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.

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

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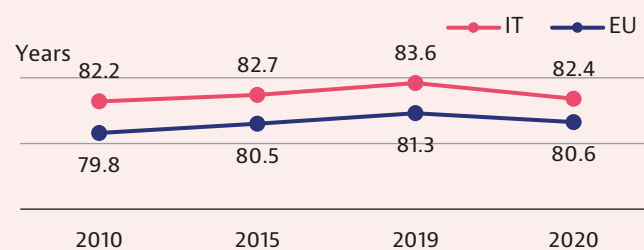
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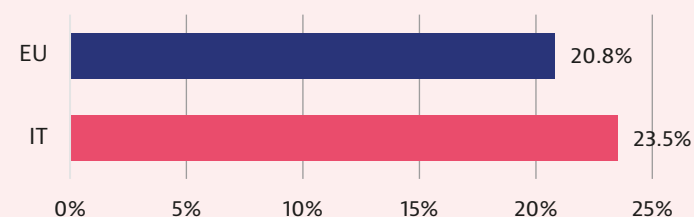
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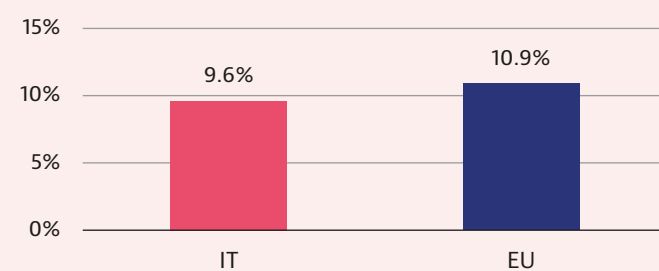
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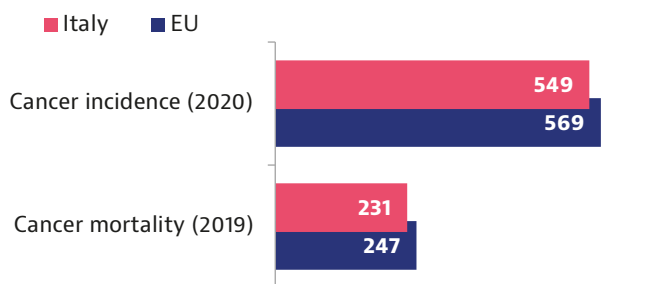


HEALTH EXPENDITURE AS A % OF GDP (2020)

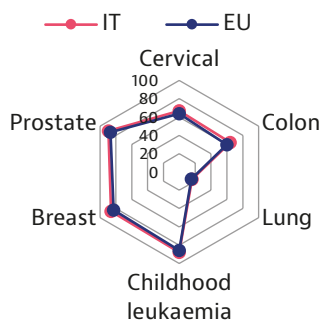
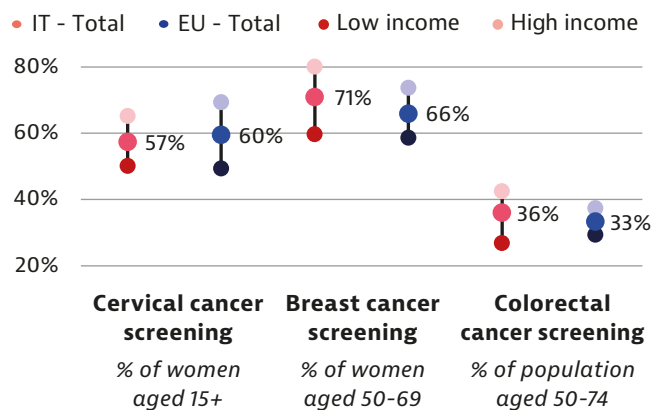
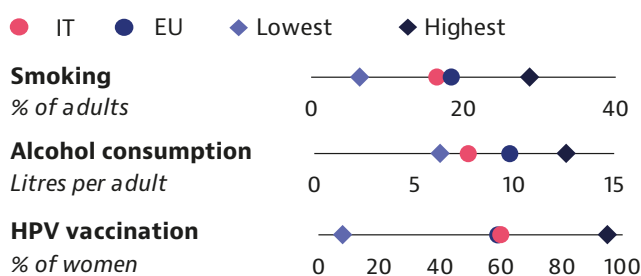


Source: Eurostat Database.

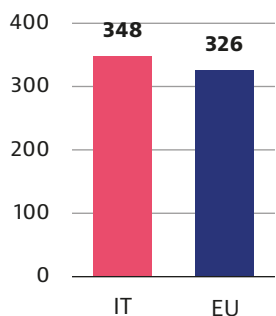
1. Highlights



Age-standardised rate per 100 000 population



Five-year net survival rate by cancer site, 2010-14



Total cost of cancer (EUR per capita PPP), 2018

Cancer in Italy

An estimated 6 % of the Italian population was living with cancer in 2020. Cancer incidence and mortality are lower than the EU average and mortality is decreasing over time. Men have higher incidence of cancer and lower likelihood of recovery than women, but the mortality rate for men is decreasing more quickly.

Risk factors and prevention policies

Italy performs well for some risk factors (such as smoking and alcohol consumption), but regional variation is significant. The national programme *Guadagnare salute: rendere facili le scelte salutari* has improved awareness of the importance of healthy behaviours, and further efforts are planned to tackle exposure to pollution.

Early detection

Screening programmes for breast, cervical and colorectal cancer are nationwide. Participation rates are close to the EU averages, but large inequalities exist among regions, as well as by income and education. Screening programmes for lung cancer are in development.

Cancer care performance

Italy is performing relatively well on quality indicators, with cancer survival rates slightly higher than the EU average. Italy has created a system of care networks to reduce inequalities in access across regions. Patient pathways are in place to ensure holistic and multidisciplinary care for everyone. Local cancer registries cover 70 % of the Italian population and a national cancer registry fed by regional registries is in development. Quality indicators on cancer care are not widespread yet. The pandemic has disrupted cancer prevention and care, but also highlighted the importance of Italy's investment in home care since 2020 to reduce inequalities in access.

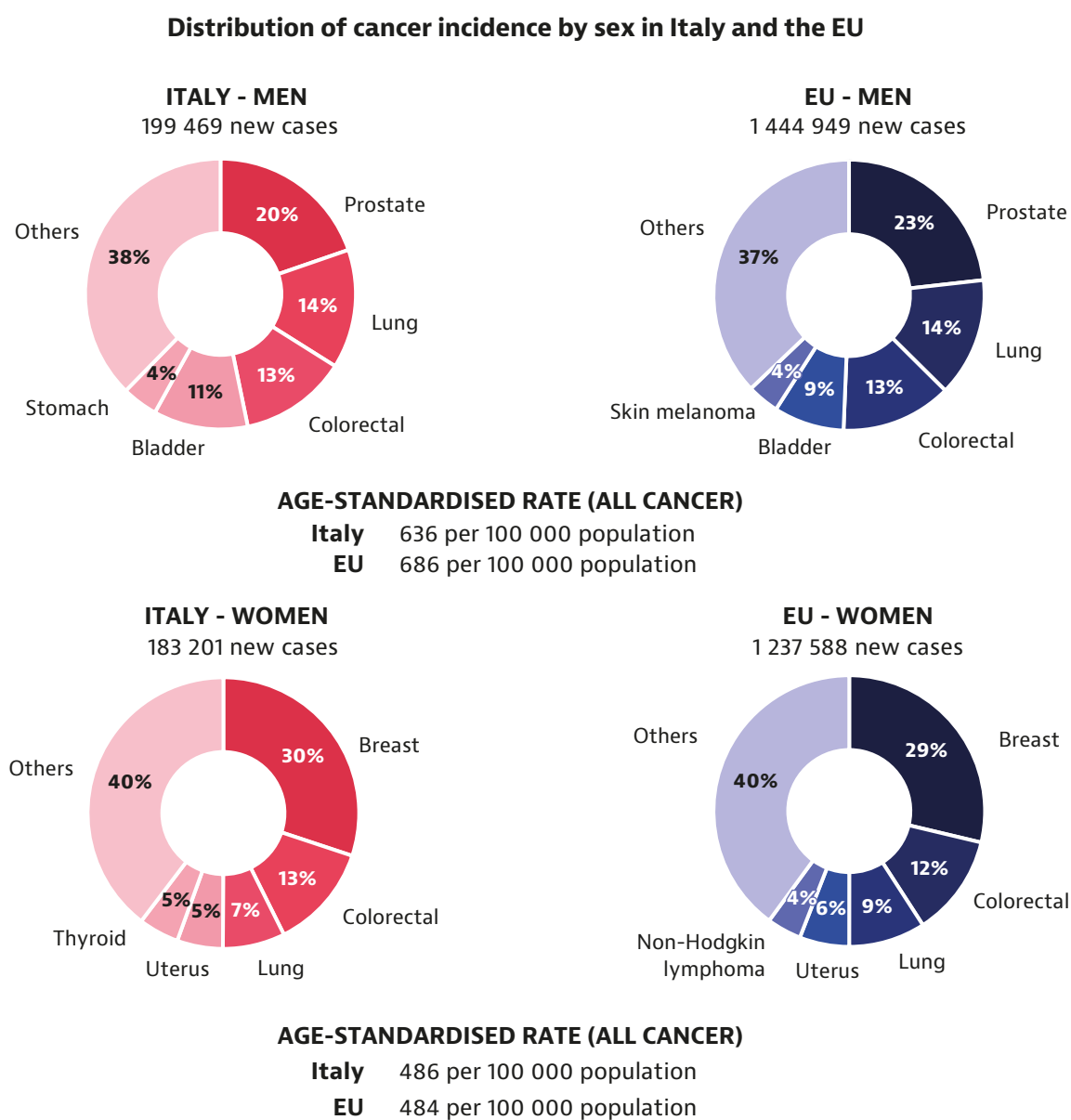
2. Cancer in Italy

Cancer incidence is similar to the EU average and is expected to increase

According to European Cancer Information System (ECIS) of the Joint Research Centre based on incidence trends from pre-pandemic years, around 380 000 new cases of cancer were expected in Italy in 2020. Age-standardised rates were expected to be similar to the EU average for women and

slightly lower than the EU average for men (Figure 1). The number of new cancers is expected to increase by 19.5 % in Italy, from 382 670 new cases in 2020 to 457 824 new cases in 2040. Cancer incidence among people aged 65 years and over is expected to increase by nearly 40 % by 2040, in line with the EU average, making them a policy priority. In line with the pattern across the EU, the most

Figure 1. Around 380 000 new cancer cases were expected in Italy in 2020



Note: Corpus uteri does not include cancer of the cervix. These estimates were created before the COVID-19 pandemic, based on incidence trends from previous years, and may differ from observed rates in more recent years.

Source: European Cancer Information System (ECIS). From <https://ecis.jrc.ec.europa.eu>, accessed on 09/05/2022. © European Union, 2022.

common cancer types among men were expected to be prostate, lung and colorectal, while breast cancer was expected to be the most common type among women, followed by colorectal and lung cancer.

Incidence of melanoma has increased sharply in the last decade, exceeding previous projections. This is due to increased exposure to natural and artificial ultraviolet radiation, but is also a result of increased awareness and early detection. The estimated incidence for 2020 was 15 % higher than for 2011, and it was twice as high in northern and central regions as in the south of the country. However, advancements in therapy have also led to increases in cancer survival rates.

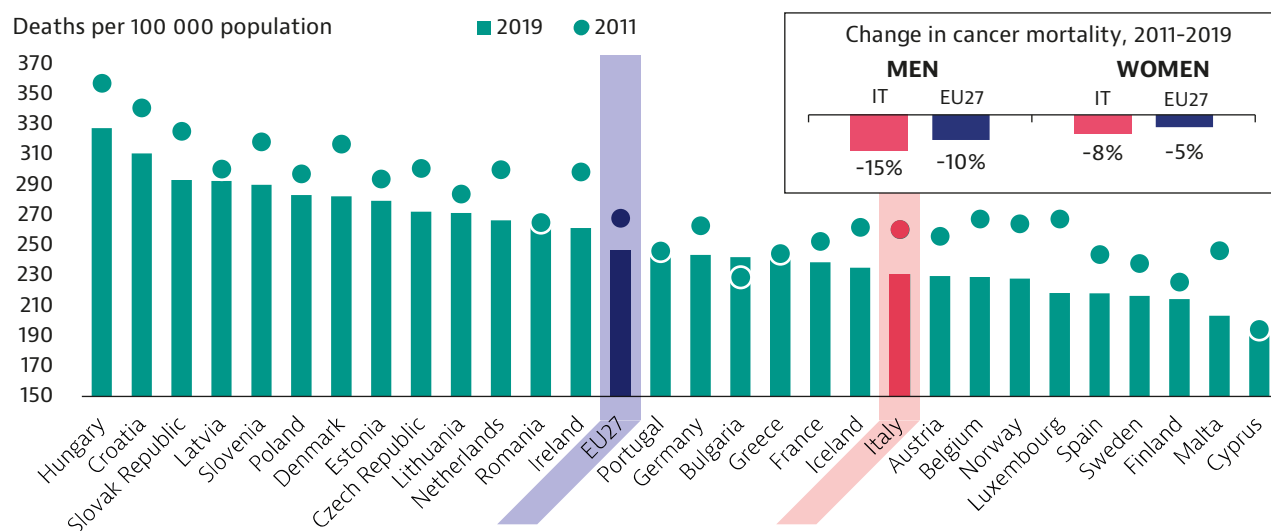
The Italian Association of Medical Oncology reported that 3.6 million people were living with a diagnosis of cancer in 2020, according to pre-pandemic estimates, corresponding to 6 % of the population. This is 36 % higher than the projections estimated in 2010, which also showed better likelihood of recovery among women than men. More than half (52 %) of women living with cancer are in the recovery phase or have already recovered, compared to 39 % of men. This gap mostly relates to the different case-mix of cancer incidence by sex. Men are more frequently diagnosed with tumours at lower prognosis (i.e. smoking related tumours). A survival advantage of women is also reported for several frequent tumours (e.g. colorectal, skin melanoma, non-Hodgkin lymphoma).

Cancer mortality fell in Italy in 2011-19, but the gap between men and women grew

Cancer mortality was lower in Italy than in many EU countries in 2019. It also decreased further in Italy than in the EU between 2011 and 2019, with a larger reduction for men than for women (Figure 2). The lower mortality rates in Italy – despite incidence rates comparable to the EU average – relate to early detection of disease and high quality of cancer care. Overall preventable¹ and treatable² cancer mortality are also lower in Italy than the EU averages, and have decreased in the last decade.

According to data from Eurostat, preventable mortality rates decreased from 56.8 per 100 000 population in 2011 to 48.5 per 100 000 population in 2018. The gender gap is large, with higher rates among men than women. Between 2011 and 2018, preventable mortality rates decreased from 88.8 to 71.8 per 100 000 population for men and from 28.1 to 27.4 per 100 000 population for women. Treatable mortality has also decreased, but at a slower pace – from 28 to 26 per 100 000 population between 2011 and 2018 – and with a smaller gender gap.

Figure 2. Cancer mortality has decreased more in the last decade in Italy than in the EU



Note: The EU average is weighted (calculated by Eurostat for 2011-2017 and by the OECD for 2018-2019). Source: Eurostat Database.

1 Preventable mortality refers to malignant neoplasm of lip, oral cavity, pharynx, oesophagus, stomach, liver, trachea, bronchus and lung, cervix and bladder.
 2 Treatable mortality refers to malignant neoplasm of colon and rectum, breast, cervix, uterus, testis and thyroid.

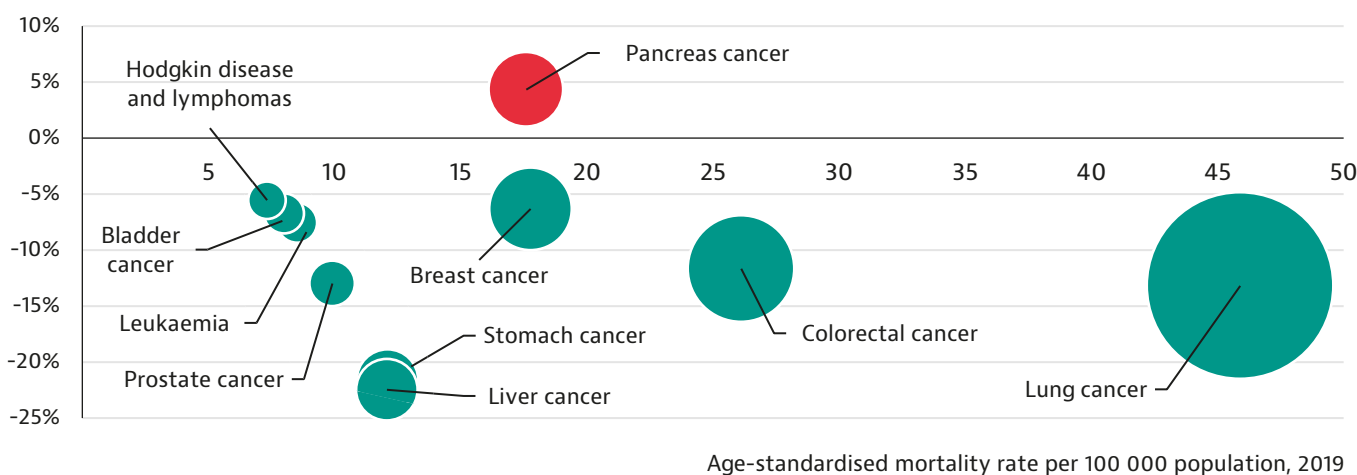
Lung, colorectal and breast cancer were the three leading causes of death by cancer in 2019 in Italy

The mortality rate has decreased for all main cancers except pancreas cancer, where the increase is mostly driven by higher mortality among women (Figure 3). Pancreas cancer also showed the lowest five-year survival rate (11 %) among main cancers in Italy in 2018. Liver and gastric (stomach) cancer registered the biggest decreases in mortality in the Italian population in the last decade, although incidence remains higher than the EU average, especially among men.

In 2020, gastric (stomach) cancer was expected to constitute 4 % of new cancer cases in men and 3 % in women, and it accounted for an overall mortality rate of 12 per 100 000 population in 2019, which is higher than the EU average (10 per 100 000 population). Skin melanoma was expected to constitute 3 % of new cancer cases in both men and women, and it accounted for an overall mortality rate of 3 per 100 000 population in 2019. For paediatric cancer, the expected age-standardised incidence rate in children under 15 years in 2020 was 16 per 100 000, which is higher than the EU average (15 per 100 000 population). In 2013, the estimated number of new rare cancer cases in Italy was 81 617.

Figure 3. Cancer mortality decreased for all main cancers except pancreas cancer in the last decade

Change in cancer mortality, 2011-2019 (or nearest year)



Note: Red bubbles signal an increase in the percentage change in cancer mortality during 2011-2019; green bubbles signal a decrease. The size of the bubbles is proportional to the mortality rates in 2019. The mortality of some of these cancer types is low; hence, the percentage change should be interpreted with caution. Bubble sizes for mortality rates are not comparable between countries. Source: Eurostat Database.

Mortality among men decreased for all cancers between 2015 and 2021, except for pancreatic cancer, which remained stable. Mortality among women increased for lung (5 %) and pancreatic cancer (3.9 %), while it remained stable for uterus and bladder cancer. The larger reduction in overall cancer mortality among men than women can be explained in part by the reduction in smoking habits among men. Increased lung cancer in women is probably due to increased smoking among women during the second half of the 20th century.

The burden of cancer in Italy is moving closer to the EU average

Cancer disability-adjusted life-years (DALYs) per 100 000 in Italy decreased by 7 % between 2000 and 2010, moving closer to the EU average, although the reduction slowed, and the trend reversed from

2014. Over the past two decades, the DALY rate has remained above the EU average.

During 2000 and 2017, potential years of life lost due to malignant neoplasms saw a relative decrease of 28 %, and it accounted for 1 165 years of life lost among 100 000 people aged up to 75 years in 2017. The relative decrease was larger among men (35 %) than women (20 %), with 1 281 and 1 059 years of life lost in 2017, respectively.

Multiple stakeholders contributed to the National Cancer Plan 2022-2027

Italy's draft National Cancer Plan 2022-2027 draws on the priorities laid down in the Europe's Beating Cancer Plan (European Commission, 2021). Relevant stakeholders participated in the Plan's development, including national and local government representatives, government

agencies, health care professionals, patient representatives, non-governmental organisations and representatives of civil society. The Plan sets strategic objectives for the coming years and establishes indicators to monitor progress towards these. The key themes are prevention, early diagnosis, holistic and multidisciplinary patient pathways, the future of oncology (new treatments and digitalisation) and workforce training. The plan is still undergoing the adoption process.

The National Prevention Plan 2020-2025 dedicates some sections to cancer, promoting actions to address the main risk factors and to prevent occupational cancers (Box 1) and one on the

national cancer registry, which is in development. It also encourages adoption of an “equity lens” in regional prevention plans that complement the National Prevention Plan, through health equity audit. Regions are expected to monitor health inequalities, set equality goals and design measures to reduce inequalities in the coming years.

The National Plan for Prevention through Vaccination 2017-2019 includes a section on human papillomavirus (HPV) vaccination and extends free of charge vaccination to boys aged 11-12 years starting with those born in 2006.

Box 1. Italy has developed monitoring systems for occupational cancers

Based on available national data (National Institute for Occupational Accident Insurance- INAIL), occupational cancers caused 95 % of occupational deaths between 2012 and 2016. Although occupational cancers are often under-recorded in Italy, with data available in few regions, the sense

of urgency around this topic is growing. Between 2007 and 2008, Italy established three monitoring systems for occupational cancers: a national mesothelioma registry, a sinus cancer registry and an occupational cancer monitoring system.

3. Risk factors and prevention policies

The *Guadagnare salute* campaign promotes healthy behaviours and tackles environmental risk factors

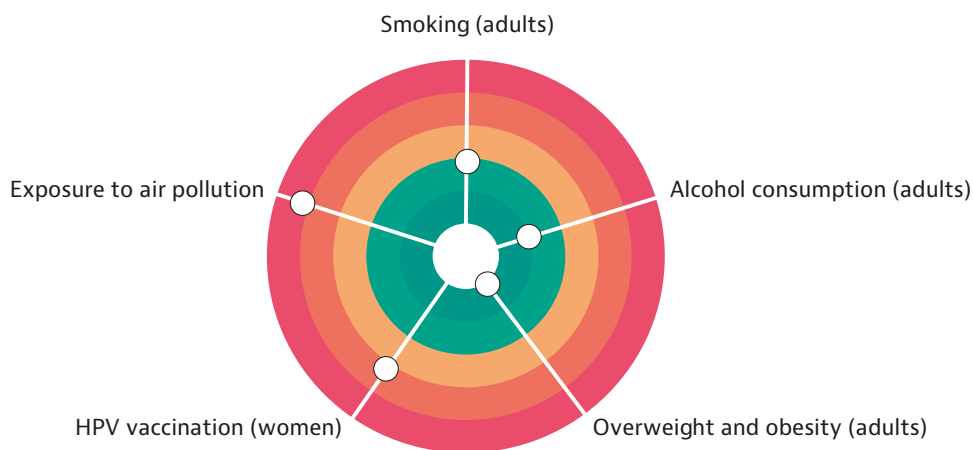
Italy performs well on risk factors such as overweight, obesity and smoking compared to other EU countries, but less well on exposure to air pollution (Figure 4). In 2020, expenditure on prevention corresponded to 5.5 % of health spending, the highest share among EU countries, and well above the EU average of 3.4 % (OECD health statistics, 2022).

The *Guadagnare salute* (Gaining health) campaign was adopted in 2007 and led by the Ministry of Health to tackle risk factors and promote healthier lifestyles (Box 2). Comprehensive plans and guidelines tackling air pollution exposure are currently lacking, despite existing initiatives on indoor pollution and the Radon plan. The latter, introduced in Italy in 2002 and regularly updated, aims at reducing the risk of exposure to

radon, a gas that represents a risk factor for lung cancer. The draft National Cancer Plan 2022-2027, whose approval is still in progress, aligns with the recommendations of the WHO Ostrava Declaration on Environment and Health and includes measures to reduce indoor and outdoor exposure to air pollution (Ministry of Health, forthcoming). In 2019, exposure to PM₁₀³ in Italy reached 25.5 µg/m³, which is higher than the EU average (20.5 µg/m³). Italy also had a higher concentration of PM_{2.5} than in the EU (15.1 µg/m³ vs. 12.6 µg/m³). According to the Institute for Health Metrics and Evaluation, ozone and PM_{2.5} exposure accounted for an estimated 4 % of all deaths in Italy in 2019, a rate similar to the average across the EU.

3 Particulate matter (PM) is classified according to size: PM₁₀ refers to particles less than 10 micrometres in diameter; PM_{2.5} to particles less than 2.5 micrometres in diameter.

Figure 4. Exposure to air pollution is a major risk factor in Italy



Note: 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 the European Health Interview Survey (EHIS) 2019 for smoking and overweight/obesity rates, OECD Health Statistics 2022 and WHO Global Information System on Alcohol and Health (GISAH) for alcohol consumption (2020), WHO for HPV vaccination (through the WHO/UNICEF Joint Reporting Form on Immunization) (2020) and Eurostat for air pollution (2019).

Box 2. *Guadagnare salute* is a multi-stakeholder mass media campaign to promote healthy behaviours

In 2007, the Ministry of Health launched a comprehensive mass media campaign to boost healthy behaviours. The *Guadagnare salute* campaign targeted behaviours such as unhealthy diet, tobacco smoking, physical inactivity and harmful alcohol drinking. Activities included regulations, funding, information sharing and education involving ministries, local governments, schools, industry and civil society.

An element of the campaign consisted of distributing leaflets and booklets to improve awareness of unhealthy behaviours and to suggest simple healthy behaviours.

As part of the campaign, in 2017 the Ministry of Health established a new national board to define and promote objectives and initiatives to incentivise healthy behaviours among the population. The board includes representatives of the national and local governments, research centres, the National Institute of Health and the National Institute for Insurance against Accidents at Work.

Evidence shows that sales of cigarettes decreased by 37.5 % between 2004 and 2020, and prevalence of smokers also fell. The prevalence of overweight and obesity in children decreased from 32.2 % in 2008 to 29.8 % in 2019, although with wide regional differences, while physical activity levels did not change substantially.

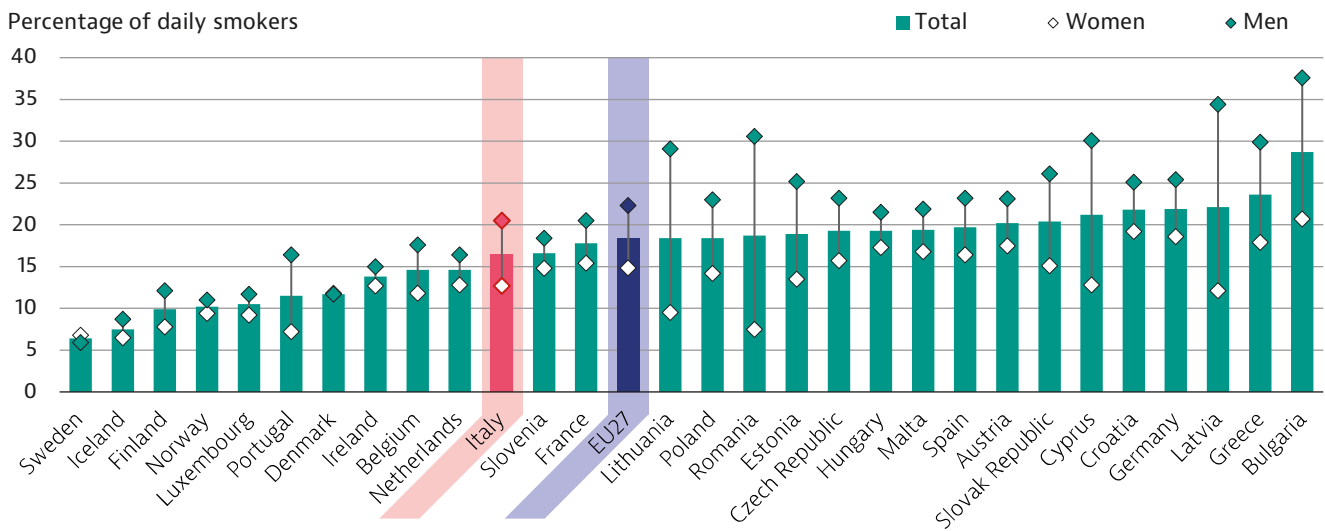
Daily cigarette smokers are less common than in the EU, but smoking cessation is higher in northern Italy

The share of adults smoking cigarettes daily decreased in Italy from 17.4 % in 2014 to 16.5 % in 2019 – figures similar to the EU average (19 % to 18.4 %). However, smoking remains an important public health issue. The share of daily smokers is much higher among men than women, with a gender gap larger than the EU average (Figure 5). The COVID-19 pandemic has worsened the situation, with an increase of over two percentage points in the proportion of people smoking regularly – particularly among people using electronic cigarettes.

Although there is no clear geographical pattern in the distribution of people who smoke, people who have quit smoking (former smokers who have not smoked in the last six months) are more concentrated in the north than the south (Figure 6).

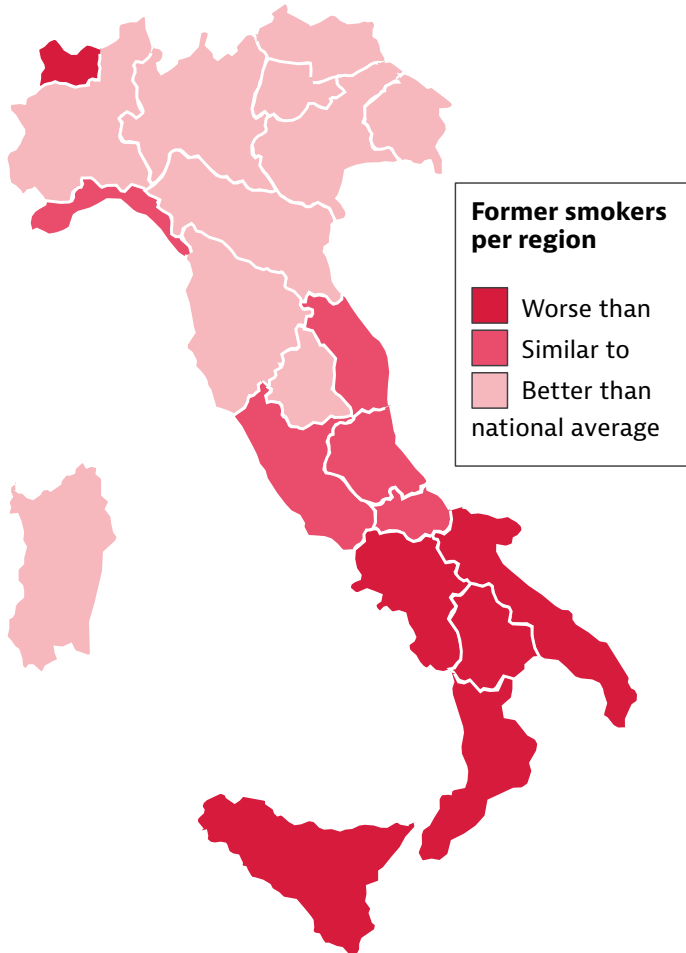
Italy has taken little policy action to disincentivise smoking. The price level indices (PLIs) for tobacco in Italy are below the EU average according to Eurostat data from 2021, and the price remained quite stable over time. Services for people who wish to quit smoking are more numerous in northern regions than in central and southern regions, which might partly explain the unequal geographical distribution of people who quit smoking (Box 3). Furthermore, the city of Milan banned smoking outdoors within 10 metres of other people in 2021.

Figure 5. In Italy, people are less likely to smoke than the EU average



Note: The EU average is weighted (calculated by Eurostat).
Source: Eurostat Database (EHIS). Data refer to 2019.

Figure 6. More people quit smoking in northern regions of Italy



Note: Performing better than national average means having more people who quit smoking.
Source: National Institute of Health.

Box 3. Anti-smoking centres offer support services for people who wish to quit smoking

People who want to quit smoking can visit specialised anti-smoking centres. The national health service has 292 centres, some managed by the Italian League against Cancer, covering the whole country. The number of people contacting such centres is still small for several reasons, including insufficient resources (such as funding and workforce shortages) and high out-of-pocket payments. In 2016, Italy added the helpline number to receive counselling and support to quit smoking on cigarette packaging. The measure achieved a four-fold increase in the number of calls (from 3 000 to 12 000 people per year). Nevertheless, participation to counselling to quit smoking by health professionals is rather low with only half of daily smokers who ever received it, and this share fell from 52 % in 2010 to 47 % in 2020.

Source: National Institute of Health (2021).

Alcohol consumption is lower than the EU average, but more prevalent in northern regions

Italians consumed on average 7.7 litres of pure alcohol per capita in 2020 – lower than the EU average of 9.8 litres. Hazardous and binge drinking slowly increased in Italy between 2008 and 2018, but the COVID-19 crisis has reversed the trend. The reduction in social events and the closure of bars and restaurants to stop the spread of the virus probably – at least temporarily – changed drinking behaviours (National Institute of Health, 2022).

Disparities in alcohol consumption by education and income levels are higher in Italy than other EU countries. People with lower education levels are

more likely to drink heavily (3.7 %) than those with higher levels (2.1 %). Inequalities by income are present but less marked, with higher income linked to higher hazardous alcohol consumption. Most hazardous and binge drinking happens in northern regions.

To tackle harmful alcohol consumption, Italy applies excise tax on alcohol and adjusts it periodically to link it to consumer price indexes.

Overweight and obesity are low compared to the EU average, but social inequalities exist

Italy has the lowest share of adults self-reporting overweight or obesity in the EU. Nevertheless, less than half of the population reported consuming a healthy diet that meets national standards or international guidelines. Healthy dietary habits are more common among females and people with higher education levels (OECD, 2019). Only 1 in 4 Italians reported undertaking at least 150 minutes of health-enhancing aerobic physical activity per week in 2019 – much lower than the EU average of 32.7 %. According to the EHIS, older people, women, people with lower education status and people living in southern regions report much lower levels of physical activity.

Self-awareness seems to be an issue for Italians. Fewer than half of overweight people recognise that their weight does not fall within healthy parameters and fewer than half of overweight adults reported that their general practitioner recommended that they lose weight or do physical activity (National Institute of Health, 2022). Social inequalities are among the highest in the EU. The education gap in rates of overweight and obesity

is around 60 % - the second largest in the EU after Portugal. Gender inequalities are the second highest after Luxembourg, with 37 % of females and 55 % of males overweight or obese (Eurostat, 2022).

Like many European countries, Italy has developed national obesity action plans, consisting of adult and child obesity management strategies, national physical activity guidelines and national dietary guidelines. In 2021, further agreements with the food industry stated that advertisements for food and beverages should include accurate information and should promote healthy behaviours.

Italy has also organised campaigns to promote healthy diet and joined the EU-funded European Physical Activity on Prescription Model Project (2019-2022), during which health care professionals, trainers and educators receive education and training on physical activity.

Uptake of human papillomavirus vaccination is close to the EU average

In line with other EU countries, Italy introduced HPV vaccinations free of charge for girls aged 11-12 years in 2008; an out-of-pocket payment could be required for older ages. HPV vaccine coverage for both girls and boys is still far below the 95 % target set by WHO: in 2020, 60 % of girls aged 15 years had received the vaccine against HPV (close to the EU average of 59 %), although coverage differs across regions (Ministry of Health, 2021). The National Plan for Prevention through Vaccination 2017-2019 extended vaccination free of charge to boys aged 11-12 years, starting with those born in 2006.

4. Early detection

Breast cancer screening rates in Italy are among the highest in the EU

Italy initiated a breast cancer screening programme in 1990, which is free of charge and was rolled out nationwide in 2008. The programme covers biannual screening of women aged 50-69 years⁴ – a frequency and time span in line with most EU countries. Local health authorities send

individual invitation letters with a proposed date for screening, which also provide information on benefits and harms of the screening and a request to sign an informed consent form. Those who screen positive are invited for further assessment (IARC, 2017; OECD, 2013).

The share of people receiving a mammogram is higher than the EU average. In 2019, 71 % of women

⁴ In Piemonte and Emilia Romagna the target is wider, covering women aged 45-74 years. Data from Emilia Romagna showed a consequent reduction in the waiting times for spontaneous mammography screening.

aged 50-69 years reported having a mammogram in the last year in Italy, compared to the 66 % EU average. However, this share is highly unequal when examined across education and income levels. The gap between women with higher and lower education levels is 13 percentage points, and between higher and lower income groups is 20 percentage points. These gaps are larger in Italy than the EU average (Figure 7).

Uptake of breast cancer screening also varies widely across regions, with northern regions showing higher shares (through both the national programme and voluntary screening). Between 2017 and 2020, while Friuli Venezia Giulia reports a 90 % uptake of breast cancer screening, the percentage is 54 % in Campania, and the average uptake in the country is around 75 % (National Institute of Health, 2022).

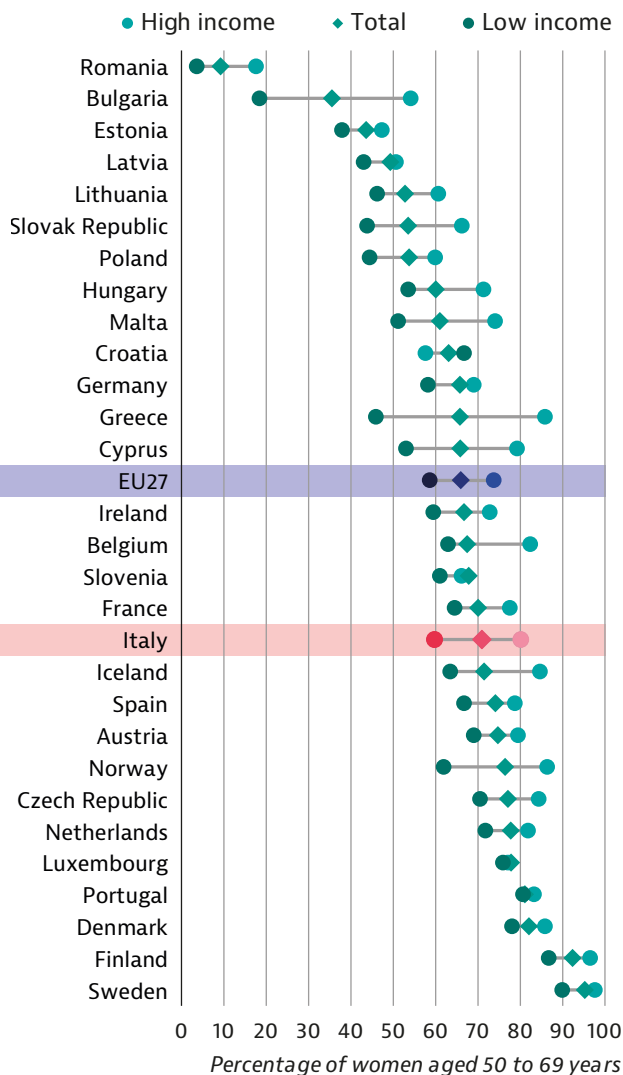
Risk-stratified breast cancer screening pathways, including breast cancer risk evaluation tests – genetic tests to detect the possibility of developing some types of cancer – have been available since 2012 in Emilia Romagna, one of the first places in the EU to use such tests.

Uptake of cervical cancer screening is close to the EU average, but with disparities by social groups

Italy initiated cervical cancer screening programmes in 1989. Screening is nationwide, and the rollout is ongoing. Screening is performed every three years for people aged 24-64 years, in line with most EU countries. People receive letters of invitation with a proposed timeslot for the appointment and written information on the benefits and harms of the screening, but they are not required to sign to give informed consent. Those who screen positive are invited for further assessment (IARC, 2017; OECD, 2013).

The reported cervical screening rate in 2019 in Italy (57 %) is close to the EU average (59 %), with marked inequalities across education and income levels. The difference in uptake between people with higher and lower education levels is around 30 percentage points – slightly lower than the EU average (34.3 percentage points). Southern regions report significantly lower shares of people receiving cervical cancer screening than northern regions. Between 2016 and 2019, uptake of cervical cancer screening varied from around 90 % in the province of Bolzano and the regions of Friuli Venezia Giulia and Emilia Romagna to slightly more than 60 % in the regions of Calabria, Campania and Molise. Cervical cancer is the fifth most prevalent cancer among young women (aged 50 years or younger)

Figure 7. Italy has high rates of self-reported mammograms, but with inequalities by income level



Note: The EU average is weighted (calculated by Eurostat). The figure reports the percentage of women aged 50 to 69 years who reported receiving a mammogram in the past two years. Source: Eurostat Database (EHIS). Data refer to 2019.

in Italy, with incidence of 2 400 new cases in 2020 (representing 1.3 % of all cancers among women) and a five-year survival rate of 68 %.

Colorectal cancer screening shows great regional inequalities

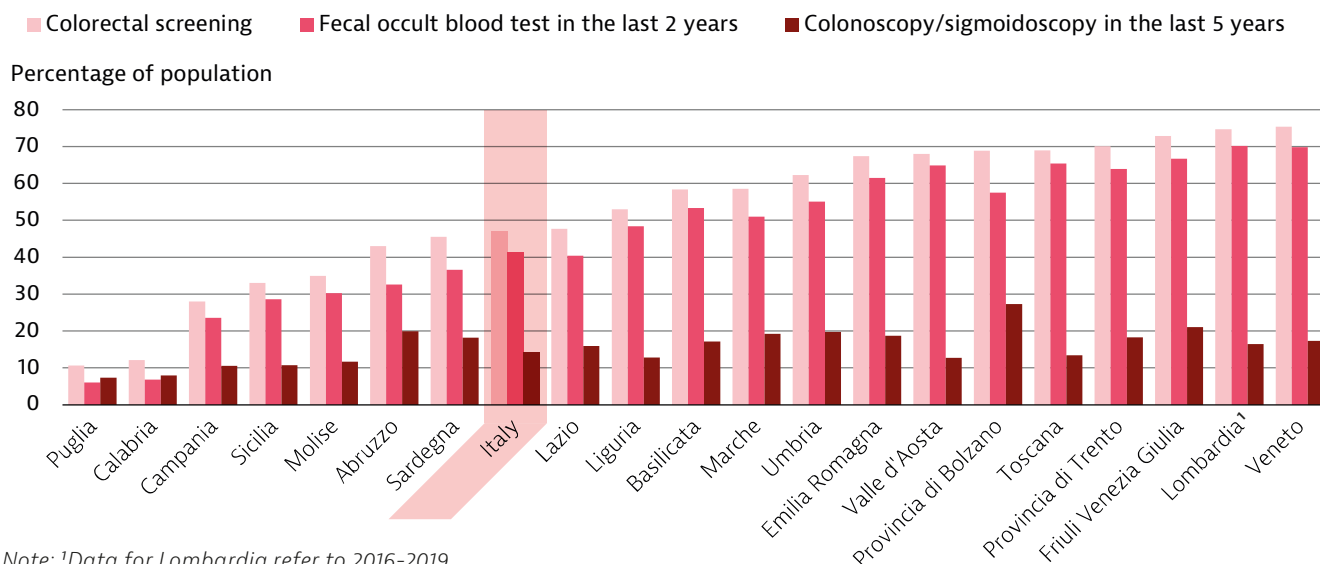
The region of Toscana was the frontrunner in the introduction of colorectal screening programmes in 1982; most other regions started it between 2000 and 2005. The programme targets people aged 50-69 years, who are screened every two years. People receive invitation letters and written information on benefit and harms, they are required to sign an informed consent form, and those who screen positive are invited for further assessment. Italy mainly uses the faecal immunochemical test, except in Piemonte, which

also uses rectosigmoidoscopy, performed only once in life at the age of 58-60 years. While many EU countries mail test kits to individuals invited to the screening, this does not routinely happen in Italy (IARC, 2017).

Around 36 % of Italians aged 50 to 74 years reported having performed colorectal cancer screening in the last two years in 2019 – slightly

higher than the EU average of 33 %. Unequal distribution can also be seen across regions, with northern regions performing better than southern ones. The proportion of people performing colorectal screening or undertaking a faecal occult blood test in the last two years in Veneto was six times higher than in Puglia in 2019 (Figure 8).

Figure 8. The gap is six-fold between northern and southern regions in colorectal cancer screening



Note: ¹Data for Lombardia refer to 2016-2019.
Source: National Institute of Health.

Screening programmes for lung cancer are currently in development

While Italy does not yet have a nationwide screening programme for lung cancer, progress has been made in recent years, with pilot studies currently under development (Box 4). A private lung cancer screening programme was in place in Lombardia, organised by the European Institute of Oncology and Humanitas Hospital, in collaboration with the Umberto Veronesi Foundation. The programme targets people aged 50-74 years who have smoked at least 10 cigarettes per day for 30 years or at least 15 cigarettes per day for 25 years. People with such habits who quit smoking fewer than 10 years ago were also included. The screening uses low-dose computed tomography and is recommended at yearly or biannual frequency. People undertaking the test received written information and signed an informed consent form; they could also contact the European Institute of Oncology anti-smoking centre to receive personalised counselling to quit smoking. Those who tested positive were referred to a specialist and evaluated by a multidisciplinary team. The Umberto Veronesi Foundation started a similar programme at the San Raffaele Hospital

in Milan, where screening tests and counselling to quit smoking are available for people aged 55 years and over who have smoked for more than 30 years. The Ministry of health has also financed, through the Centre for prevention and diseases control (CCM), a study of Health Technology Assessment – HTA on this screening approach.

Box 4. A national lung cancer screening programme is currently in development

In 2021, the Ministry of Health established a national network for lung cancer screening programmes, investing EUR 2 million over 2021-2022 and identifying 18 centres across 15 regions where screening will be available. The national screening programme also provides counselling to quit smoking. Participants are identified by general practitioners, but online information is also available to all. Participants receive written information, sign an informed consent form and complete a questionnaire collecting information on their health status. The regional centres upload the information into a national database.

5. Cancer care performance

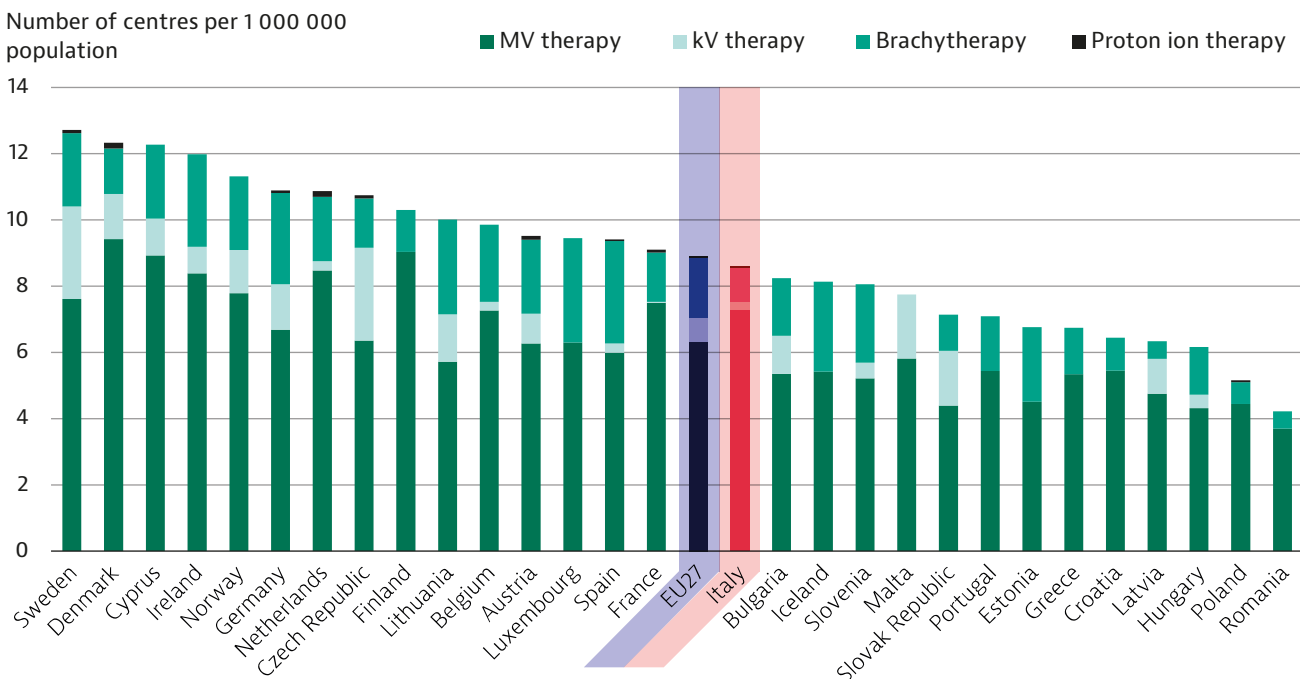
5.1 Accessibility

Cancer care in Italy is free of charge, but availability of services varies across regions

In Italy, people with suspected diagnosed cancer can access care free of charge. Thus, accessibility issues tend mainly to be linked to poor care coordination and availability of facilities, professionals and/or equipment, rather than economic barriers. Oncologists and specialised cancer centres are available, although geographical distribution of services is uneven. Italy has the highest rate of physicians with an oncology speciality in the EU, with a rate of 7.2 per 100 000 inhabitants compared to 3.3 on average among 23 EU countries in 2014. The number of centres with cancer therapies available per 1 000 000 population is in line with the EU average, but while availability of megavolt (MV) therapies is higher than the EU average, the opposite holds for kilovolt (kV) therapies, brachytherapy and proton ion therapy (Figure 9). Cancer centres are also unevenly distributed across the country, so many cancer patients seek care in northern regions where centres are more widely available (OECD, 2013).

Italy had a rate of 7.1 physicians with oncology specialty per 100 000 inhabitants in 2015, the highest across 20 EU countries with available data (Eurostat Database). Despite the high rate of specialists, the competencies and education of oncologists show room for improvement. The Piano Oncologico Nazionale 2010-2012 stated the need of reviewing oncology training of healthcare professionals and to have a national plan on oncology training, which has never been published. In 2020, the associations of medical oncology (AIOM), the Italian committee of hospital oncology doctors (CIPOMO) and the committee of university oncology doctors (COMU) published an analysis of oncologic competencies and education, highlighting the weaknesses of current training and education on oncology and the need to rethink and improve them. The new Piano Oncologico Nazionale 2020-2027 includes the improvement of education and training for formal and informal oncologic caregivers among its strategic objectives.

Figure 9. Availability of cancer care centres in Italy is close to the EU average



Note: The EU27 average is unweighted (calculated by the OECD).
Source: International Atomic Energy Agency.

Italy has developed a system of networks to make cancer care more accessible nationwide

To improve accessibility to cancer care and prevention, Italy established regional oncological networks of care in 2019. These aim to ensure a multidisciplinary approach to cancer care, providing patients with equitable and timely access to the most appropriate care. They consist of networks of care providers with different specialisations that coordinate care to ensure

adequate access to the most appropriate services from prevention and diagnosis to treatment and palliative care. The networks are regional, but the Ministry of Health established a strategic coordinating body, which analyses, measures and evaluates implementation of the networks across regions. Italy has also developed a specific network to improve access to care for people affected by rare cancers (Box 5).

Box 5. Improving research and care for rare and paediatric cancers

In 2017, Italy established a national network for rare cancers, which focuses on adult solid cancers, adult blood cancers and paediatric cancers. The network aims to improve care access and coordination, to provide patients with timely diagnosis and high-quality care, as well as improving research into rare cancers.

As the regions are responsible for cancer care in Italy, the Ministry of Health has established a national body in charge of ensuring functional

coordination of the network. This body includes representatives of the Ministry of Health, National Agency for Regional Health Services, regions, health care professionals and associations. It is also in charge of monitoring and evaluation of the network and supporting its development.

The draft National Cancer Plan 2022-2027, still to be approved, sets the objective of developing a national platform for data sharing and teleconsultations for people with rare cancers.

Palliative care is provided by multidisciplinary teams

Palliative care is available free of charge for people of all ages in all settings, and is provided by multidisciplinary teams. Since 2014, all professionals providing palliative care must hold a defined set of competencies. They must provide patients with adequate information on their health status, care options and must take into account individual preferences. The Italian Scientific Society of Palliative Care fosters awareness of ethnic and cultural inequalities in palliative care by providing training courses and material on its website.

The COVID-19 crisis has clearly highlighted the need for home care and related investment. In July 2020, Italy invested in improvement of home care, including provision of palliative care at home, with the aim of ensuring adequate home care services in all regions, to abolish geographical disparities in access.

Digitalising cancer care aims at improving access to care and information

The draft of the National Cancer Plan 2022-2027 includes a dedicated section on digitalisation of cancer care. The strategic objectives include improving access to information and care by boosting teleconsultations; developing a smart card (a digital document summarising all the clinical information of the cancer patient to

simplify provision and monitoring of follow-up care); improving knowledge of patients and their relatives around cancer care, risk factors and prevention; and providing digital training to cancer professionals, associations, patients and informal caregivers (Ministry of Health, forthcoming).

5.2 Quality

Cancer survival in Italy is higher than in the EU, and has increased over time

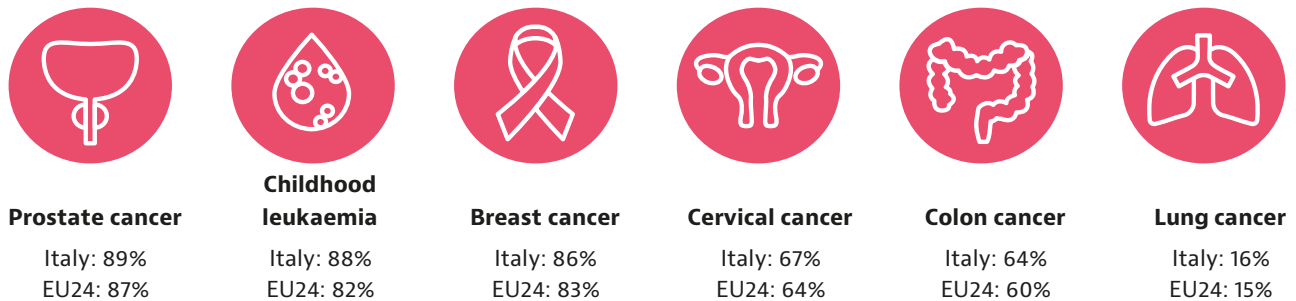
Cancer survival rates in Italy have improved over time, and are higher than the EU average. Between patients diagnosed in 1995-1999 and 2000-2014, five-year survival rates increased in Italy by 5-10 % for colorectal and liver cancers. Five-year survival rates for prostate, breast, cervical, colon and lung cancer and childhood leukaemia were higher in Italy than the EU averages for people diagnosed in 2010-2014 (Figure 10). For people diagnosed between 2010 and 2014, the highest survival rates were in prostate cancer (89 % vs. 87 % in the EU) and childhood leukaemia (88 % vs. 82 %), while survival remained poor for lung cancer (16 % in Italy vs. 15 % in the EU). The highest 5-year survival rates in Italy were recorded for thyroid cancer in women (96.2 %) and testicular cancer in men (93.2 %) (Association of Medical Oncology & Association of Cancer Registries, 2021).

Furthermore, coverage of regional registries increased from 38.6 % in 1995-1999 to 58.3 % in

2000-2014, and to 70 % (including only certified registries) in 2017, meaning that recent data are likely to provide a more realistic picture of the current situation, despite ongoing development of a national cancer registry with full coverage. In Italy, 45.7 % of breast cancer cases are diagnosed

at an early stage of the disease, which is lower than in most EU countries. If Italy improved the timeliness of cancer diagnosis, cancer survival could experience further improvements (Allemani et al., 2018).

Figure 10. Cancer survival in Italy is above the EU average for most cancers



Note: Data refers to people diagnosed between 2010 and 2014. Childhood leukaemia refers to acute lymphoblastic cancer. Source: CONCORD Programme, London School of Hygiene and Tropical Medicine.

There are several initiatives in favour of the right to be forgotten

National cancer plans have included psychosocial support for cancer patients since 2010, although barriers such as lack of resources and lack of awareness among patients and professionals hamper implementation. To enhance uptake in clinical practice, in 2019 the Italian Association of Medical Oncology developed evidence-based guidelines on psychological support for cancer patients. The draft National Cancer Plan 2022-2027 will aim to strengthen psychological support for cancer patients further, with special attention to new precision oncology patients.

The Plan also recognises the need to ensure reintegration in the labour market for cancer patients by including initiatives such as initial evaluation and adapting working conditions. Even long after cancer recovery, patients often face discrimination in the labour market and from financial and insurance services. Italy does not have a law on the right to be forgotten (a right that gives individuals the ability to exercise control over their personal data, including health information, by deciding what should be accessible to the public), but in January 2022, the Association of Medical Oncology Foundation launched a campaign on social networks to share information and increase awareness on the topic of cancer survival and the right to be forgotten. The Foundation also started collecting signatures to introduce the right to be forgotten in Italian law; as of September 2022, around 76 000 signatures had been collected, of a target of 100 000.

A comprehensive national cancer registry is currently in development

Italy is currently developing a national cancer registry. As of 2022, 50 certified cancer registries across the regions cover 70 % of the population. Regional governance and provision of cancer care, together with movement of patients across regions, have delayed creation of a national registry with complete coverage. Nevertheless, in 2019 the parliament approved legislation on development of a national cancer registry, with a dedicated budget of EUR 1 million per year from 2020. The budget has been divided across regions to finance the development of regional cancer registries, which will collect and transfer data to the national registry. The draft National Cancer Plan 2022-2027 includes finalisation of the national cancer registry among its goals, and sets monitoring indicators (Ministry of Health, forthcoming).

Italy is planning to shift towards an integrated and multidisciplinary patient pathway

Cancer care in Italy was traditionally provided in inpatient hospital setting. The average length of stay for cancer was close to or higher than the EU average for most cancers in 2019, except breast and skin and sweat gland cancer.

The draft of the National Cancer Plan 2022-2027 sets out a new model of care for cancer patients, defined as a prevention, diagnosis, therapeutic and palliative pathway. The Plan aims to develop an integrated pathway that supports the patient from the moment of suspected or diagnosed cancer throughout the disease’s development. Among the key elements are evidence-based decision

making, creation of case managers to improve care coordination, establishment of multidisciplinary teams and provision of outpatient care where possible (Ministry of Health, forthcoming).

Quality indicators are not widespread but local initiatives are starting to emerge

Quality indicators are not widespread for cancer care in Italy. Nevertheless, some indicators are monitored regularly at either the regional or national level through the National Agency for Regional Health Services, which publishes an annual outcome evaluation of health care services covering both public and private providers. The draft of the National Cancer Plan 2022-2027 recognises the importance of quality indicators, and sets the goal of developing use of patient-reported outcome measures (PROMs), patient-reported experience measures (PREMs) and other quality indicators in cancer care (Ministry of Health, forthcoming). Local initiatives to measure PROMs and PREMs are already emerging. For instance, in Piemonte and Toscana, the local hospital of Biella and the research centre Sant'Anna School of Advanced Studies in Pisa (OECD, 2021b) collected PROMs and PREMs from cancer patients between 2019 and 2021. Patients undertook the surveys entirely digitally from their homes. The surveys focused on patients who underwent breast reconstruction surgery and asked about their quality of life and satisfaction with the surgery results. The research centre's website contains early reports with aggregated survey results.

5.3 Costs and value for money

Informal carers represent an important share of total cancer costs

Italy spent EUR 348 per capita (adjusted for purchasing power parity - PPP) in 2018 for cancer, a cost in line with the EU average of EUR 326 (Figure 11). The total yearly cost of cancer care is estimated to be EUR 20 billion, of which nearly EUR 6 billion covers the cost of pharmaceuticals and more than EUR 5 billion is paid by patients. Informal care represents an important part of total cancer costs. Italy has the second largest cost of informal care in the EU, at EUR 85 per capita in 2018 – twice the EU average of EUR 39. The cost of informal care is also forecast to increase further as Italy established a fund to support informal caregivers in 2017. The fund consisted of EUR 20 million per year between 2018 and 2020 and increased to EUR 30 million per year between 2021 and 2023 (Ministry of Health, forthcoming). Since 2014, the Ministry of Health has financed the EPICOST Project, which collects data on cancer

costs by region, cancer type and disease stage to support decision making on investment in cancer care. Epicost reconstructs individual patterns of care and profiles of costs directly sustained by the National Health System for managing cancer patients from diagnosis to treatment and monitoring, up to end-of-life follow up.

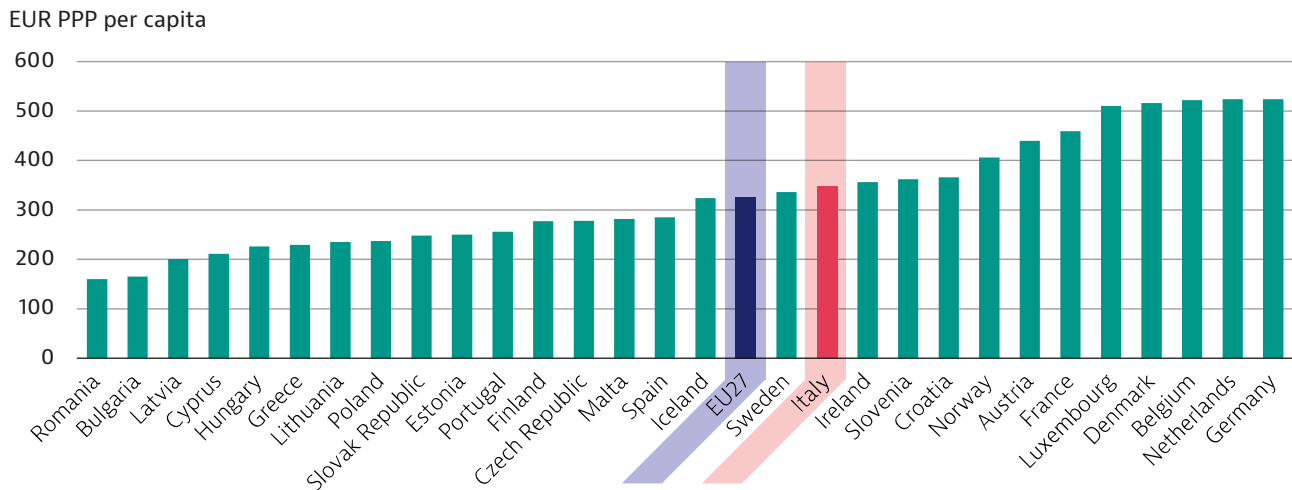
Risk-sharing mechanisms and price ceilings for pharmaceuticals are used to control costs

In Italy, patients can access cancer care free of charge, but mechanisms exist to ensure rational and evidence-based use of pharmaceuticals. Like other EU countries, Italy in some cases applies risk-sharing mechanisms and price ceilings to pharmaceuticals. After approval by the Italian Medicine Agency (AIFA) cancer drugs are available for the doctors of the national health service in accordance with the indication approved and with the limitations that in some cases are introduced by the agency. To prescribe many of the new oncology drugs, doctors must fill in a registry module aimed at ensuring the appropriateness of use and to monitor some key parameters of efficacy and safety. The National Health Service then covers the total cost of medication only in cases of proven evidence of effectiveness (OECD, 2013).

To ensure access to high-cost new cancer medicines, Italy established a national earmarked fund of EUR 500 million in 2017 for innovative oncology drugs. In 2020, a further EUR 500 million was added to the fund. The Italian Medicines Agency sets three criteria to define drugs as innovative: therapeutic need, added therapeutic value and the quality and robustness of evidence. To minimise regional inequalities, all innovative medicines (including for oncology) must be included in all regional lists. If expenditure on innovative drugs exceeds the fund, the expenses are counted in the general pharmaceutical expenditure for which pharmaceutical companies must pay part of the excess over the budget. Italy allows regulated off-label use of oncology drugs under specific conditions: if a) there are unmet needs; b) the pharmaceutical company is not conducting clinical trials; or c) there are no compassionate use programmes. To be reimbursed by the National Health Service these off-label uses have to be approved by AIFA.

Italy will use part of the EU Recovery and Resilience Fund to improve cancer care and reduce inequalities across regions. Investment is planned on digitalisation of care provision and broadening the network of available outpatient facilities to implement multidisciplinary and community-based cancer care, improving accessibility (Ministry of Health, forthcoming).

Figure 11. The per capita total cost of cancer is close to the EU average



Note: The EU average is unweighted (calculated by the OECD).
Source: Hofmarcher et al. (2020).

5.4 COVID-19 and cancer: building resilience

The COVID-19 crisis has disrupted cancer screening programmes significantly

The number of cancer screening tests decreased in Italy during the pandemic. Between January 2020 and May 2021, cervical cancer screening rates fell by 35.6 %, breast cancer screening by 28.5 %, and colorectal cancer screening by 34.3 %. As a result, cancer diagnoses decreased, and screening programmes accumulated delays. The National Screening Observatory estimates these accumulated delays to be 6 months for cervical cancer screening, 4.8 months for breast cancer screening and 5.8 months for colorectal cancer screening. Missed and delayed screening has occurred unevenly across regions. Northern regions, which were particularly hit by the pandemic, experienced stronger reductions in screening uptake. The accumulated delays registered in Basilicata, Calabria, Lombardia and Valle d'Aosta are double the national average. Compared to the delays registered in 2020, data from 2021 show some improvement, but further efforts are needed in most regions to return to pre-pandemic levels. The draft of the National Cancer Plan 2022-2027 does not include specific measures to ensure that, while catching up with delays in cancer screening, socioeconomic and regional inequalities in uptake of screening programmes are addressed. Yet, it recognises the importance of reducing socioeconomic and regional inequalities in the uptake of screening programmes. The National Institute of Health has called for action on this issue.

The next national vaccination plan will address backlogs for human papillomavirus vaccination

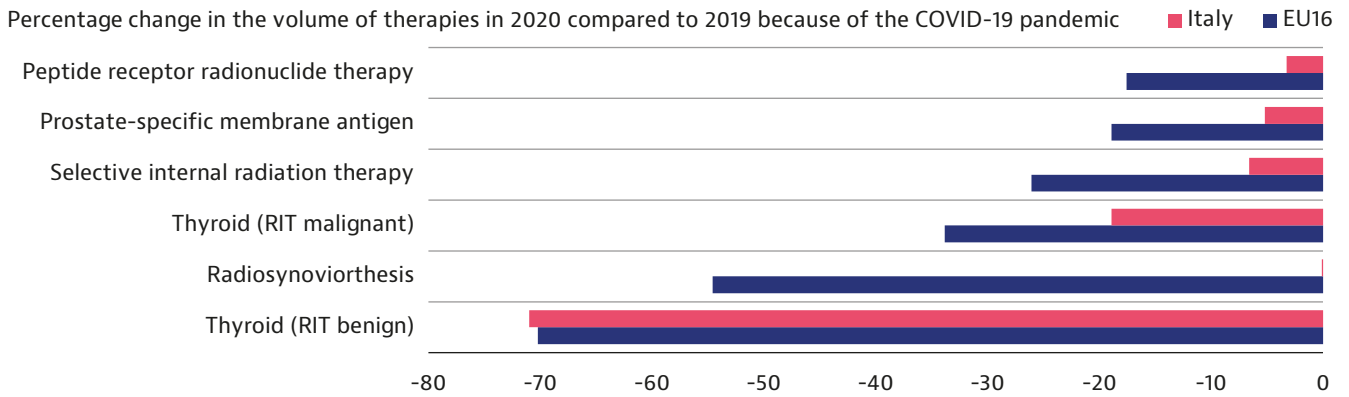
Delays due to the pandemic have also affected vaccination campaigns, including HPV vaccination. The full HPV vaccination rate for 15-year-old girls fell from 70 % in 2019 to 64 % in 2020. Italy is working on a national plan on vaccination 2022-2025, which will address disruption in vaccination campaigns to reduce the backlogs caused by the pandemic. It will also tackle inequalities in access to vaccines, harmonising vaccination campaigns across regions.

The volume of cancer therapies has decreased during the pandemic, but less than the EU average

Data on the impact of COVID-19 on cancer surgery are currently only available for breast and colorectal cancer. These show reductions in procedures by 12.3 % for breast and 13.6 % for colorectal cancer between 2019 and 2020 (Association of Medical Oncology & Association of Cancer Registries, 2021).

Therapies to treat cancer experienced less disruption during 2020 in Italy than the EU average, except for radioiodine therapy for benign diseases (Figure 12). Nevertheless, a non-negligible share of people missed therapies and medication because of the pandemic. Among the 13 % of people who reported missing a dose of medication in 2020, in half of cases this was because a health facility or pharmacy was closed and in a fifth of the cases because the person was turned away from a health facility or pharmacy.

Figure 12. Disruption in cancer therapies due to COVID-19 was lower in Italy than in EU countries



Note: The EU average is unweighted (calculated by the OECD).
 Source: Freudenberg et al. (2020).

6. Spotlight on inequalities

Cancer incidence in Italy is higher among men than women, as in other EU countries. Overall mortality and preventable mortality are also higher among men than women, but mortality is declining more sharply among men thanks to reductions in smoking habits. Gender, education and geographical disparities affect the distribution of the main risk factors for cancer.

- The gender gap in smoking habits is slightly wider in Italy (61 % gap) than the EU average (50 % gap), with higher prevalence of smoking among men.
- Overall alcohol consumption and hazardous drinking are more common among people with lower education and lower income levels. People with lower education levels are 75 % more likely to drink heavily than those with higher levels.
- People with lower educational attainment are 60 % more likely and men are 50 % more likely to be overweight and obese. These groups are also less likely to report healthy dietary habits.
- More people quit smoking in northern regions, while in southern regions prevalence of overweight and obesity is higher, and physical activity is less common.
- Uptake of screening programmes varies across education levels, income quintiles and geographical regions. In breast cancer screening, educational and income gaps are wider than the EU averages. For example, the gap between

women with higher and lower education levels is 13 percentage points, and between higher and lower income groups is 20 percentage points.

- For the main three cancer screening programmes, uptake is higher in northern regions than southern regions. The proportion of people performing colorectal screening or undertaking a faecal occult blood test in the last two years in Veneto was six times higher than in Puglia.

Cancer care is free of charge, although informal care is a major component of the economic burden of cancer in Italy. Furthermore, the distribution of cancer centres is uneven across the country, causing patients to seek care in northern regions. Increased coordination among cancer centres and increased data availability are needed to improve accessibility and quality of cancer care.

COVID-19 has caused disruption in cancer screening programmes and slowed down preventive interventions, especially in northern regions. The pandemic has also affected delivery of cancer therapy, highlighting the need to invest in home care.

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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
Czech Republic	CZ	Greece	EL	Lithuania	LT	Portugal	PT		

European Cancer Inequalities Registry

Country Cancer Profile 2023

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 Expert Thematic 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 the impact of COVID-19 on cancer care.

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