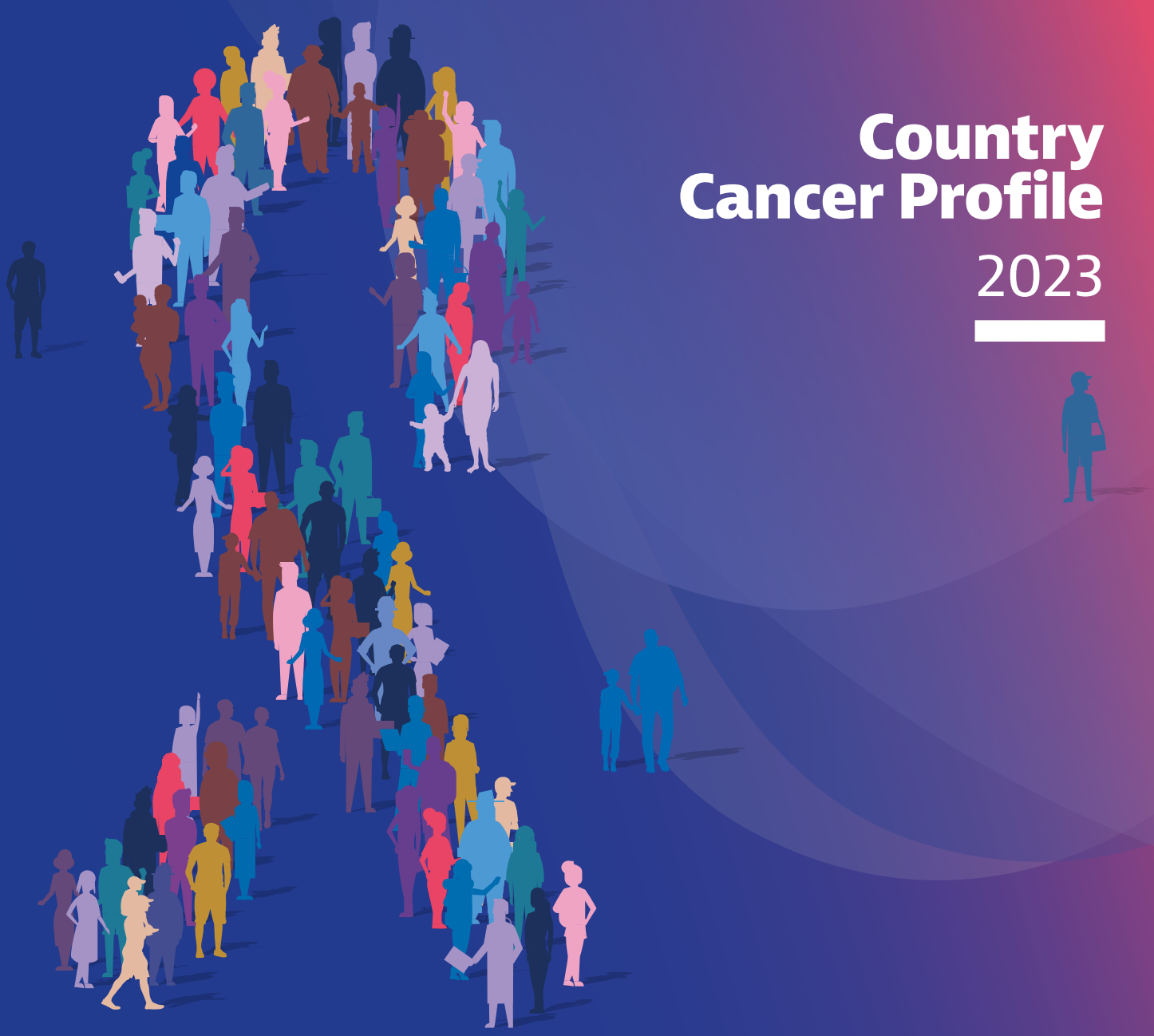


I R E L A N D

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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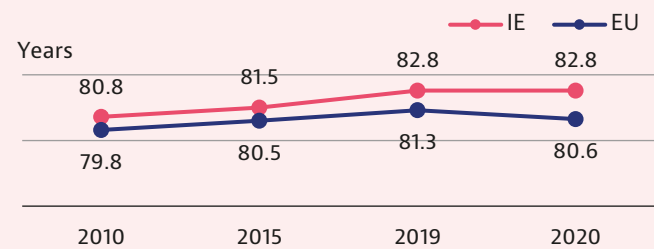
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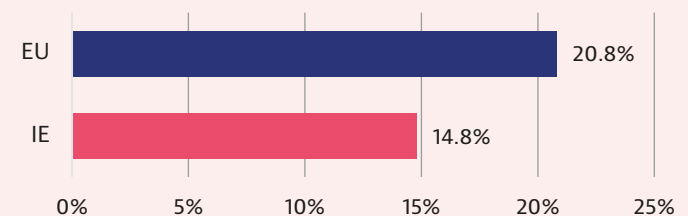
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Summary of the main characteristics of the health system

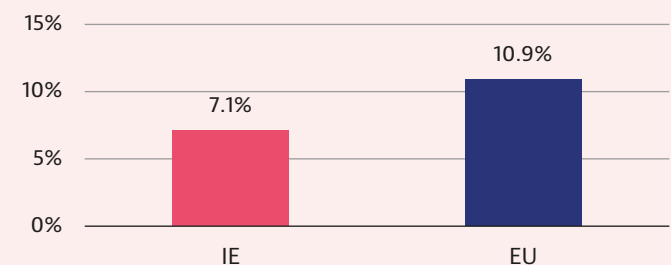
LIFE EXPECTANCY AT BIRTH (YEARS)



SHARE OF POPULATION AGED 65 AND OVER (2021)

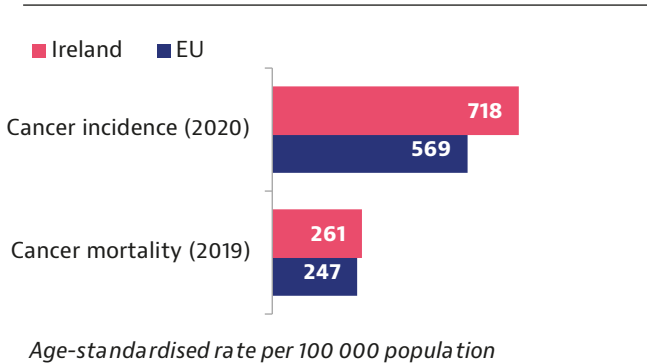


HEALTH EXPENDITURE AS A % OF GDP (2020)



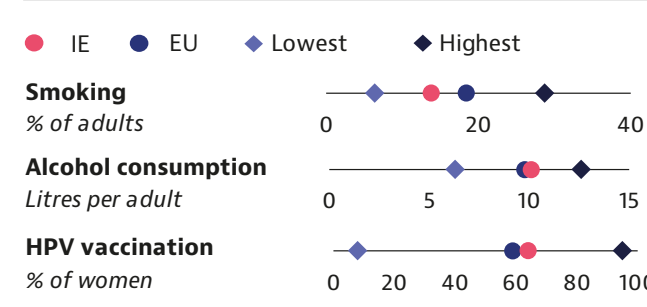
Source: Eurostat Database.

1. Highlights



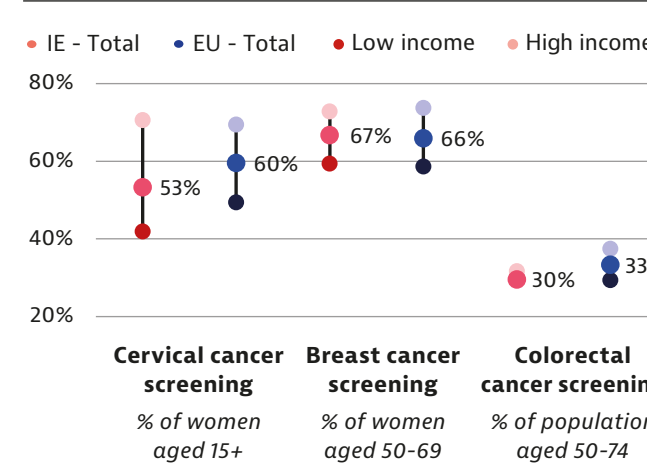
Cancer in Ireland

Estimated new cancer diagnoses and cancer deaths per capita in Ireland are higher than EU averages, which is attributable in part to increasing life expectancy overall. For nine of the ten most common causes of cancer death, mortality rates have been decreasing over time.



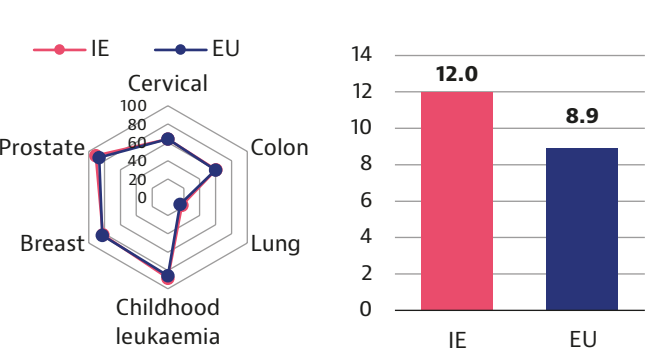
Risk factors and prevention policies

Smoking and alcohol consumption are important drivers of cancer incidence and mortality in Ireland. Progress is being made to reduce the rates of both. Ireland has among the bottom quarter of smoking rates in the EU, but alcohol consumption remains above the EU average.



Early detection

In 2022, Ireland launched the Early Diagnosis of Symptomatic Cancer Plan, which focuses on addressing the many factors that impact timeliness of diagnosis, from the level of individual patient-clinician interactions to more systematic factors. Currently, rates in Ireland are close to the EU averages for breast and colorectal cancer screening attendance.



Cancer care performance

Ireland outperformed by a small margin the EU averages for five-year net survival rates for most of the commonest cancers between 2010 and 2014, including prostate, colon and lung cancer, as well as childhood leukaemia. Irish survival rates for cervical and breast cancers are even and one percentage point behind the EU averages, respectively. The country also performs well compared to the EU average on premature mortality due to malignant neoplasms. These trends are indicative of high-quality care. However, timeliness of access – especially pre-diagnosis – remains a problem for patients.

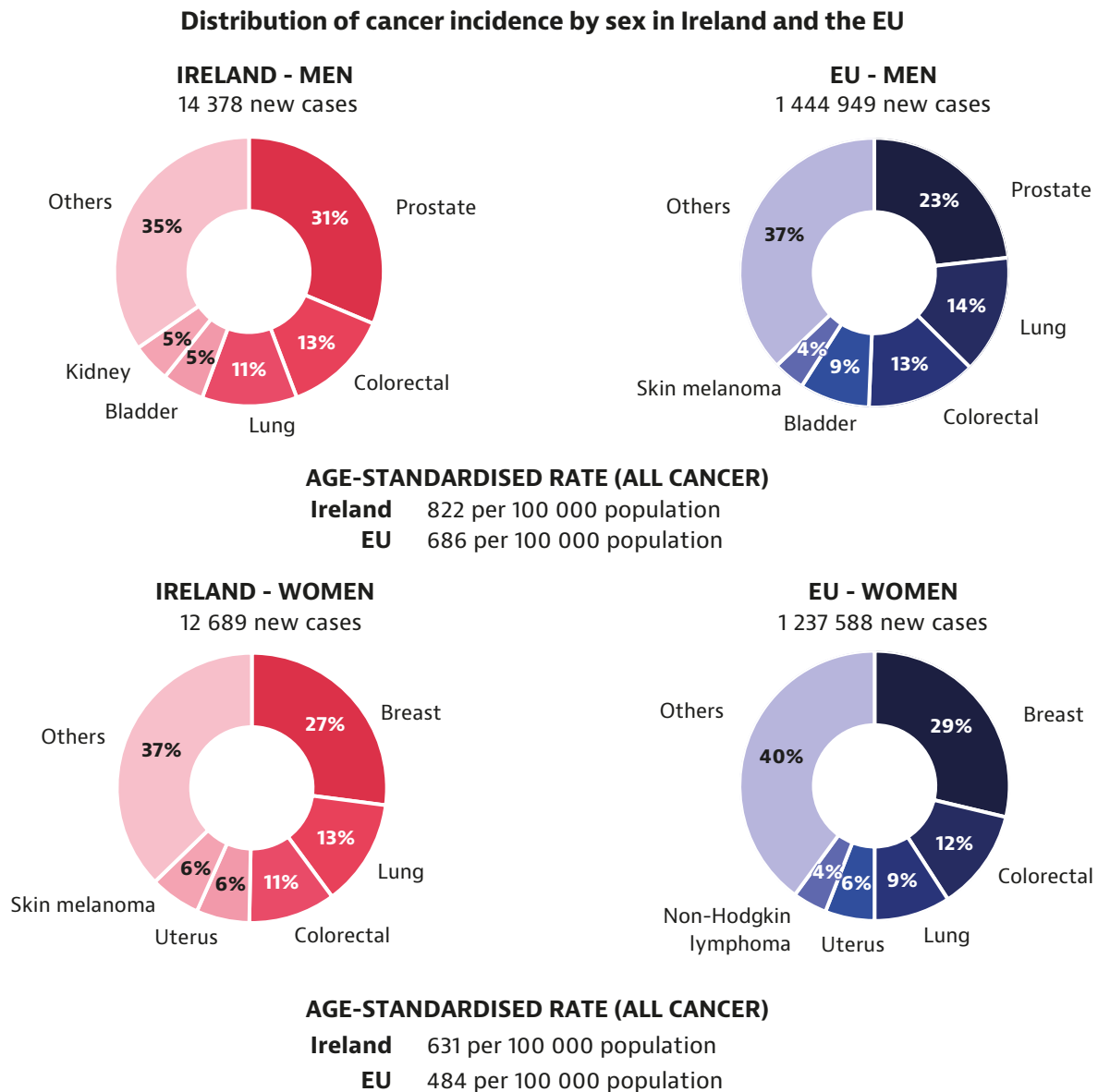
2. Cancer in Ireland

New cancer diagnoses in Ireland are becoming more common

Overall cancer incidence has increased around 3 % per year since 1994. When standardising for age, the risk of cancer in Ireland has grown by only around 1 % per year during this period. This implies that an important driver of the increase in the absolute number of cases is the growing population of elderly adults in Ireland.

According to European Cancer Information System (ECIS) of the Joint Research Centre based on incidence trends from pre-pandemic years, 631 new cancer cases per 100 000 women and 822 new cancer cases per 100 000 men were expected in Ireland in 2020¹ (Figure 1).

Figure 1. Approximately 27 000 new cancer diagnoses were estimated for 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.

¹ These data are pre-pandemic based on incidence trends from previous years and may differ compared with observed rates. According to the National Cancer Registry NCRI annual statistical report, the observed number of new cancer cases in 2019 was 24 871, equivalent to an aged-standardised rates of 560.7 per 100 000 women and 730.2 per 100 000 men.

Both rates are higher than the predicted EU averages of 484 per 100 000 women and 686 per 100 000 men. Consistent with patterns seen across the EU, more men than women were expected to be diagnosed with cancer in 2020.

The main cancer sites among men and women are mostly consistent with broader EU patterns. For men, prostate cancer was expected to be the most common invasive cancer (excluding non-melanoma skin cancer) in 2020 (31 % of cases), followed by colorectal (13 %) and lung (11 %) cancers. Among women, breast cancer was expected to be the most prevalent (27 %), followed by lung (13 %) and colorectal (11 %) cancers.

Expected gastric (stomach) cancer and melanoma account for much smaller shares of cancer cases among the Irish population, although incidence rates for both cancers are higher than the EU averages. The expected age-standardised rate of new melanoma cases was 33.9 cases per 100 000 in

2020, compared to the EU average of just 22.9 per 100 000². This number is affected by the high rate of melanoma among Irish women (37.6 cases per 100 000 women vs. the EU average of 20.9), which is the fourth highest in the EU. For gastric (stomach) cancer, Ireland had an age-standardised rate of 19 new cases per 100 000 people, which was higher than the EU average of 15.8.

Ireland has relatively low rates of paediatric cancer incidence, with a new case rate of 13.9 cancers per 100 000 Irish children aged 0-14 years (Box 1). In 2013, the estimated number of new rare cancer cases in Ireland was 4 564.

Box 1. Around 170 Irish children are diagnosed with cancer each year

Approximately a third of new cancer diagnoses among children are leukaemia (Irish Cancer Society, 2022). On diagnosis, children are referred to the national Paediatric Haematology and Oncology Centre at Children's Health Ireland outside Dublin, where treatment and follow-up plans are established. The Centre also oversees coordination of care between the hospital and community settings, specialist follow-up and intervention as necessary after treatment, counselling and more.

Experts around the world agree that traditional models of paediatric and adult cancer care do not adequately meet the needs of adolescents and young adults aged 16-20 years. As such, the two Irish National Cancer Strategy recommendations about care for young cancer patients involve developing specific services and facilities needed by this population. In 2019, construction began a new children's hospital on the campus of St. James's Hospital in Dublin, where care for children, young adolescents and young adults will be developed further.

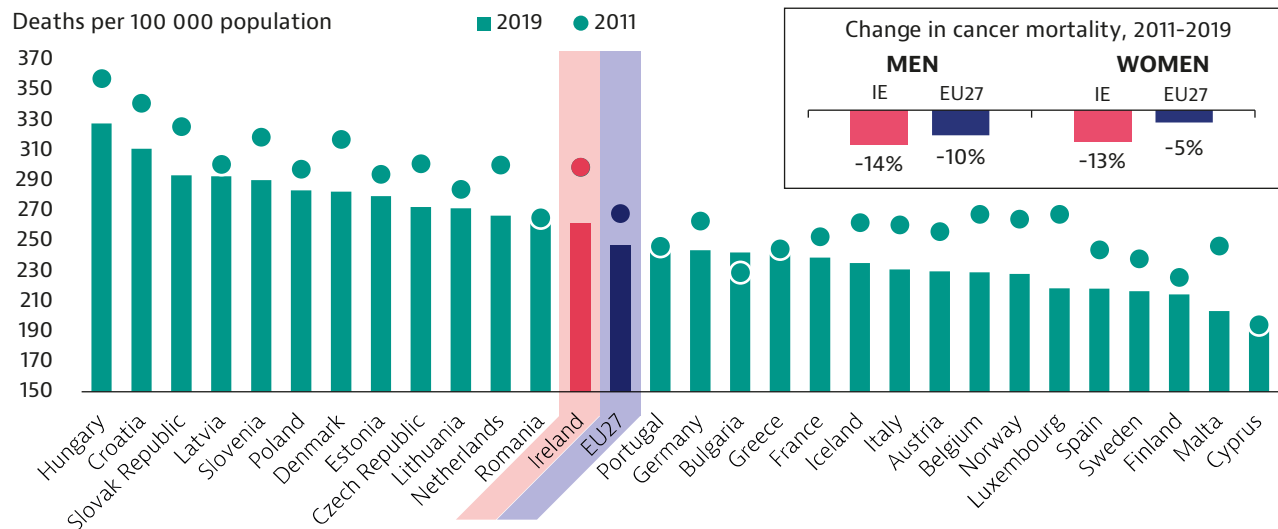
Cancer is the most common cause of death in Ireland

The proportion of deaths attributable to cancer in Ireland has risen to over 31 % from 20 % in the 1980s. In 2019, cancer was the cause of 261 deaths per 100 000 population, down from 299 deaths per 100 000 in 2011 (Figure 2). In this period, cancer mortality decreased by 14 % for men and 13 % for women. Irish cancer mortality rates were greater than the EU averages but also experienced a greater reduction during 2011-2019. In the EU, cancer deaths per 100 000 people decreased from 268 in 2011 to 247 in 2019, with a 10 % fall for men and a 5 % fall for women.

Of the 10 main causes of cancer deaths in Ireland, the country saw a reduction in per capita mortality between 2011 and 2019 for all the most common cancers except liver cancer, which saw a 24 % increase in mortality rate (Figure 3). Among the four leading causes of death by cancer, the mortality rate in 2019 for lung cancer was 53 deaths per 100 000 population (a 16 % reduction since 2011), for colorectal cancer was 28 deaths per 100 000 (a 23 % reduction), for breast cancer was 19 deaths per 100 000 (a 21 % reduction) and for prostate cancer was 18 deaths per 100 000 (a 13 % reduction).

2 The observed age-standardised rate of new melanoma cases in Ireland was 30.9 per 100 000 population in 2019 (29.1 cases per 100 000 women).

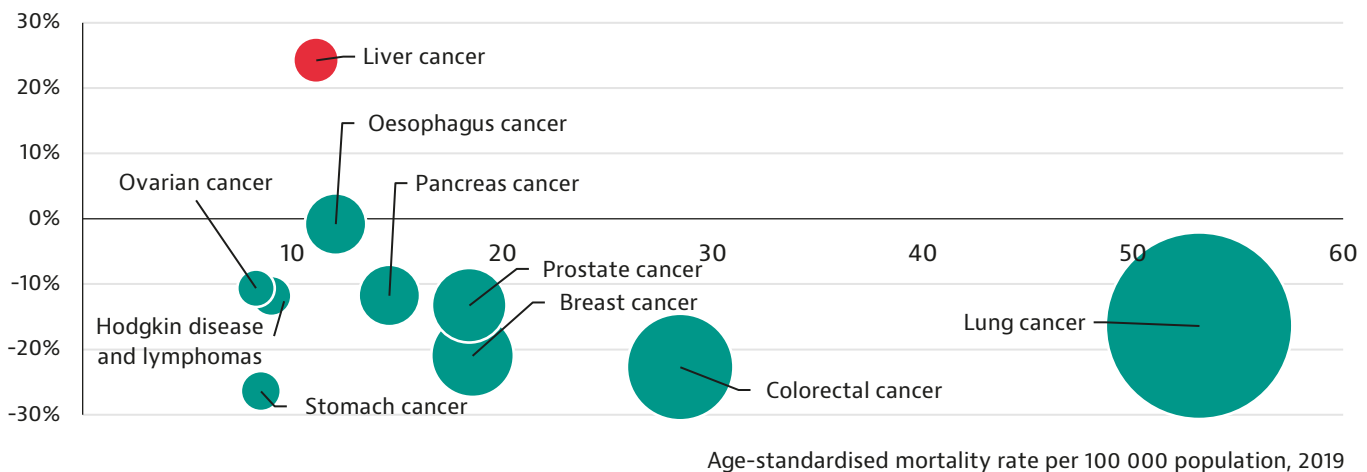
Figure 2. Ireland’s cancer mortality in 2019 was higher than the EU average



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

Figure 3. Per capita mortality has decreased for most common cancers except liver cancer

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.

Ireland adopted its third National Cancer Strategy in 2017

Ireland published its first National Cancer Strategy in 1996, which organised and planned progress for health services related to cancer. Progress continued when the country’s second strategy was published in 2006 and focused on population needs, reform and reorganisation of care delivery. In the scope of this new strategy, the National Cancer Control Programme was established in 2007 to ensure that all elements of cancer care are delivered to the maximum possible extent (HSE, 2022). The Programme designates cancer centres throughout the country, catalyses awareness

campaigns about lifestyle risks, and implements survivorship programmes, among other responsibilities (see Section 3).

Ireland’s most recently published version is the National Cancer Strategy 2017-2026 (Department of Health, 2017). This outlines four main goals: reducing the cancer burden; providing optimal care; maximising patient involvement and quality of life of those living with and beyond cancer; and enabling and ensuring progress through attention to workforce development, government leadership and research. In line with the third goal of fostering patient involvement, the Department of Health created the National Patient Forum in 2015

to develop the renewed Strategy in partnership with the Cancer Strategy Steering Group. The Forum is composed of patients and representatives from patient advocacy organisations.

The National Cancer Strategy contains 23 actions with key performance indicators, grouped within 8 objectives related to diagnosis, treatment and research into cancer – including lifestyle behaviours, public awareness, screening, service availability, end-of-life care and participation in clinical trials – with performance indicators, targets and target dates. It also lists 52 policy recommendations and names a lead agency to be accountable for each one. These include

recommendations related to developing national surveillance services for vulnerable groups and ensuring that patient representatives are involved with policy planning at all levels. Other recommendations consider the psychosocial needs of people during care delivery at designated cancer centres, the development of survivorship programmes, and improvements in workforce training, care integration and research. Lead actors include the country’s public health care system (the Health Service Executive, or HSE), the Department of Health, the National Cancer Control Programme, designated cancer centres and clinicians.

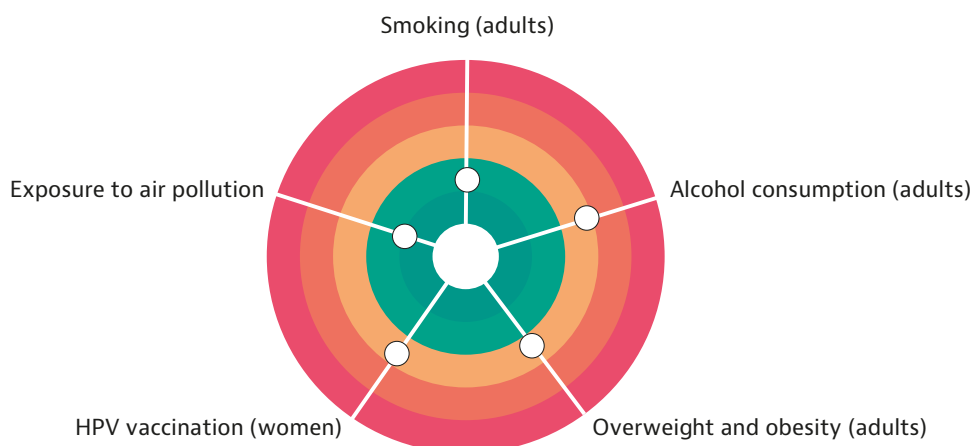
3. Risk factors and prevention policies

Behavioural risk factors are a major driver of cancer incidence

The proportion of cancer cases attributable to modifiable risk factors is estimated to be 30 % (NCRI, 2020). Smoking has by far the biggest impact among these risk factors and is associated with about one in every eight cancer cases (NCRI, 2020). For this reason, Ireland has focused strongly on reducing smoking habits over the past two decades and has made significant progress. Overweight

and obesity as well as infection (such as human papillomavirus, or HPV) are risk factors that lead to high numbers of cancer cases. Other lifestyle behaviours – such as alcohol consumption – remain prevalent which calls for more effective prevention (Figure 4). In 2020, expenditure on prevention corresponded to 3.3 % of total health expenditure (lower than the EU average of 3.4 %).

Figure 4. Alcohol consumption, human papillomavirus vaccination rates, overweight and obesity are key public health concerns



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 human papillomavirus (HPV) vaccination (through the WHO/UNICEF Joint Reporting Form on Immunization) (2020) and Eurostat for air pollution (2019).

Smoking cessation is a top public health priority in Ireland

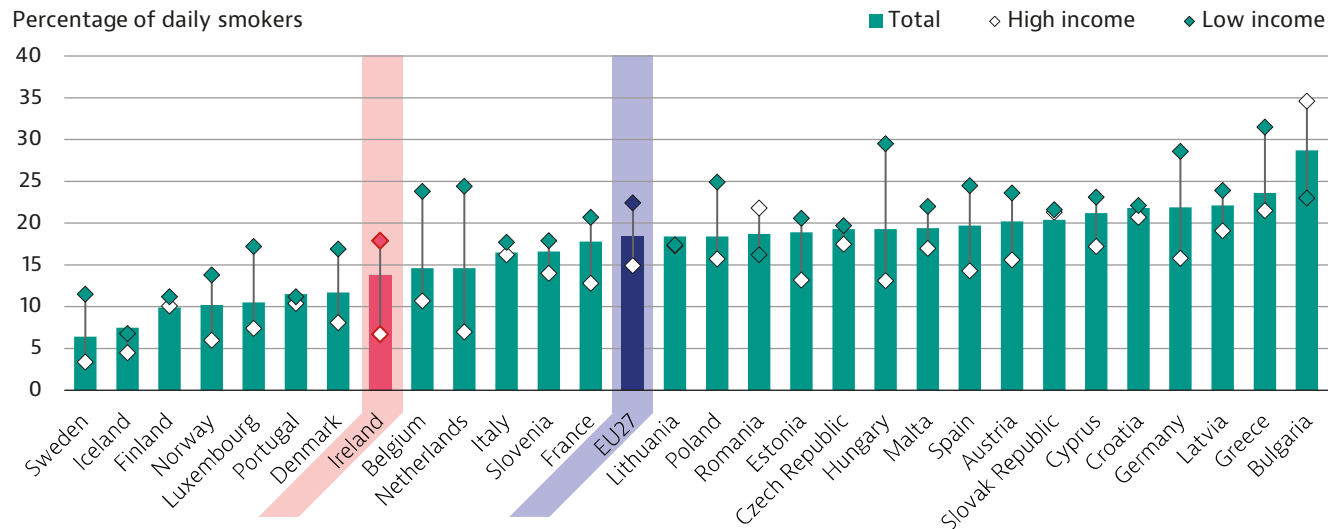
Smoking is the biggest cause of overall preventable mortality in Ireland and results in 2 900 cancer deaths each year (Department of Health, 2017). Overall, smoking (including passive smoking) is responsible for 13 % of all cancer (NCRI, 2020). For this reason, the first goal of the National Cancer Strategy is making Ireland tobacco-free – defined as a prevalence rate of less than 5 % – by 2025.

Smoking rates in Ireland are already low relative to many other EU countries. According to the EHIS, around 14 % of Irish people were daily smokers of cigarettes in 2019, compared to the EU average of more than 18 %. However, smoking prevalence

increased by more than 1 percentage point between 2014 and 2019. This uptick was driven largely by increases in smoking prevalence among men aged 15-64 years. The greatest disparity in smoking habits is by income level. Nearly 18 % of the population on lower incomes smoked daily, compared to only 7 % of those on higher incomes (Figure 5).

While cigarette smoking rates are relatively low, other tobacco products may pose more of a challenge. Ireland has the highest rates of vaping among EU countries that report such data, at 5 % of the population aged 15 years and over in 2019, which is more than double the EU average of 2.3 %.

Figure 5. Ireland experiences above average differences regarding smoking habits between income levels



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

Alcohol consumption leads to 506 new cancer diagnoses annually according to the National Cancer Registry

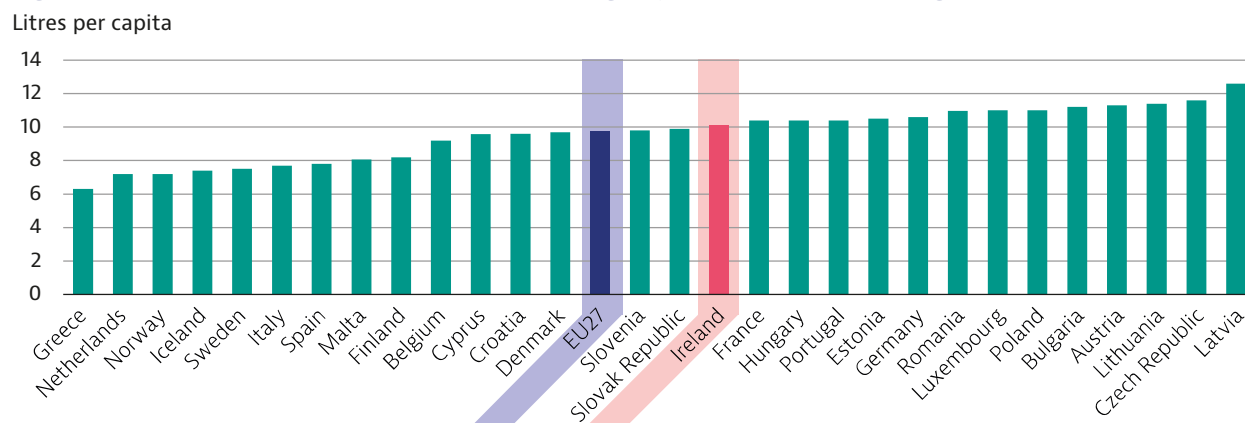
Recent analyses by the National Cancer Registry Ireland show that 506 new cancer case were attributable to alcohol consumption in 2016. The population aged 15 years and over consumed on average 10.1 litres of pure alcohol per capita in 2020 (Figure 6). While this number is higher than the EU average of 9.8 litres per capita, it has decreased since 2000, when the rate was more than 14 litres of alcohol per capita.

More than 5 % of Ireland’s population in 2014 were considered hazardous alcohol drinkers, which was the second highest rate in the EU. The shares of hazardous alcohol drinkers among men (5.6 %) and women (5.3 %) were even. The largest disparity among subpopulation groups was seen between

those living in urban versus rural areas of Ireland. Nearly 8 % of city inhabitants were counted as hazardous drinkers, compared to 5 % of those living in towns and suburbs and 4 % of those in rural areas. Further, hazardous drinking was more prevalent among people with higher (6.1 %) than lower (4.1 %) education levels, and among people on lower (6.5 %) than higher (5.9 %) incomes.

In 2018, cross-government collaboration through the Healthy Ireland initiative facilitated the introduction of the Public Health (Alcohol) Act to restrict access to alcohol by setting price minimums, restricting advertising, adding warning labels and limiting product placement in stores.

Figure 6. Alcohol consumption per capita is slightly above the EU average



Note: The EU27 average is unweighted (calculated by the OECD).
Sources: OECD Health Statistics 2022; WHO GISAH.

Overweight and obesity rates have remained the same since 2014 according to the EHIS survey

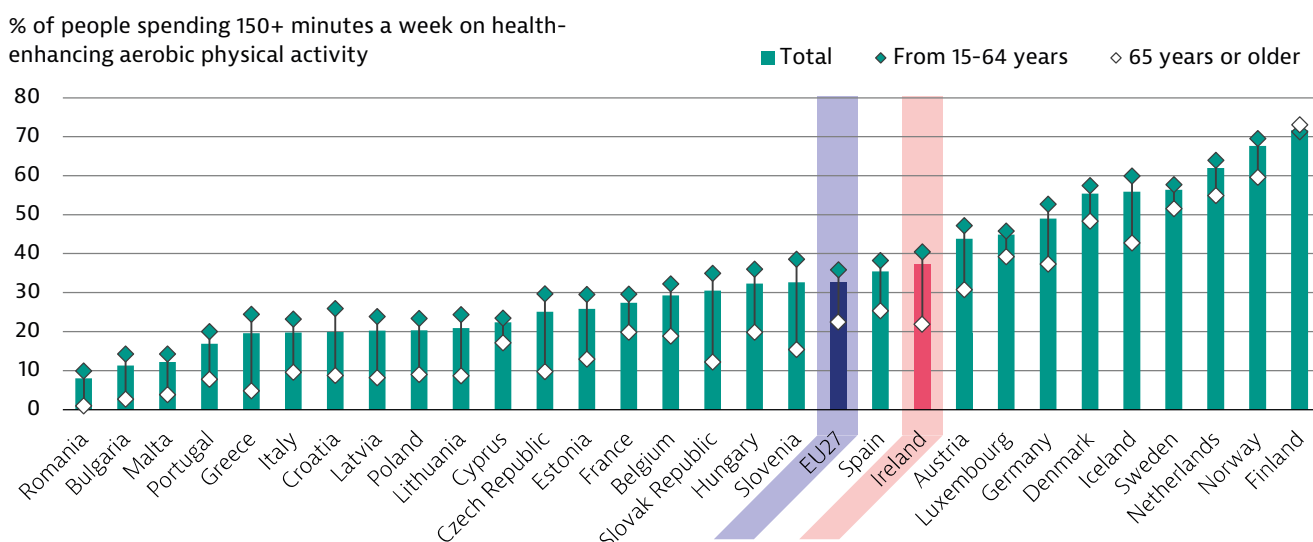
Excess body weight is estimated to cause more than 1 000 new cases of cancer each year in Ireland (NCRI, 2020). According to the EHIS, more than half of the Irish population aged 15 years and over (54 %) were considered overweight or obese in 2019. Overweight and obesity among men (62 %) was more frequent than among women (46 %), with a 16 percentage-point difference. The gap between those with lower (64 %) and higher (52 %) education levels was similarly stark.

Although overweight and obesity rates have remained stagnant, rates of physical activity and healthy eating habits have seen progress since 2014. Just over 29 % of Ireland’s population aged 15 years and over reported at least 150 minutes of

aerobic activity a week in 2014, but this increased to 37 % in 2019 (Figure 7). Improvement was particularly notable for adults over the age of 65 years, who increased their rate to 22 %, nearly on par with the EU average. Similarly, proportions of people eating at least one fruit and one vegetable a day increased between 2014 and 2019, and have remained above the EU average.

In 2016, the Department of Health published the Obesity Policy and Action Plan to document trends more thoroughly and lay out a map for improving overweight and obesity rates within 10 years (Department of Health, 2016). In 2019, an interim progress report noted progress achieved, including introduction of a tax on sugary drinks, development of nutrition standards for schools and the addition of a National Clinical Lead for Obesity to the HSE (Department of Health, 2019).

Figure 7. In 2019, physical activity among the Irish people remained slightly above the EU average



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

Exposure to air pollution is lower in Ireland than in the EU

In 2019, exposure to PM₁₀³ in Ireland reached 12.7 µg/m³, which is lower than the EU average (20.5 µg/m³). Ireland also had a lower concentration of PM_{2.5} than in the EU (8.8 µg/m³ versus 12.6 µg/m³). In 2016, 0.2 % of all cancer (excluding non-melanoma skin cancer) were attributable to PM_{2.5} exposure in Ireland (NCRI, 2020).

Human papillomavirus vaccination rates have varied drastically year to year

In 2010, the national vaccination programme began to offer the HPV vaccine to girls aged around 12 years and men aged 16-26 years who have sex with men. Despite initial success, within its first five years, the programme was negatively affected by a widespread anti-vaccination movement that targeted parents and politicians with misinformation and media, including a nationally

televised documentary (Corcoran, Clarke, Barrett, 2018). In reaction, the National Immunisation Office engaged in focus group research to hear parents' concerns; revised informational materials and school team training; and improved communication between schools, teachers and parents. In 2017, the HVP Vaccination Alliance was launched to further combat misinformation and raise awareness.

Vaccination rates went on to peak in 2017, when 94 % of girls aged 15 years received the recommended doses of the HPV vaccine. More recently, in 2020, only 64 % of that same subgroup received the vaccine doses – probably owing to the impact of the COVID-19 pandemic (see Section 5.4). However, this rate was still higher than the EU average of 59 % in 2020. Boys aged 12 years were made eligible for the vaccine in 2019.

4. Early detection

Early detection is a key priority for Irish cancer care

The National Cancer Control Programme published in 2022 the Early Diagnosis of Symptomatic Cancer Plan for the next three years. It focuses on the complex work of increasing the proportion of symptomatic cancers diagnosed at early stages (I and II) (NCCP, 2022). Among other initiatives, it emphasises additional education for clinicians and awareness campaigns for patients on recognising the signs and symptoms of potential symptomatic cancer of any type. It also covers system-level factors such as referral guidelines and pathways, access to diagnostics, funding, and cancer care configuration, including integration with primary health care.

Ireland runs three robust cancer screening programmes

Established in 2007, the Irish National Screening Service runs three free cancer screening programmes: BreastCheck, CervicalCheck and BowelScreen. The HSE's website supplies extensive information on all three programmes, including background context and what patients can expect.

Ireland's screening programmes include assessment and first treatment in their pathways. The National Screening Service directly employs the entire breast screening programme, up through surgeons. Cervical and bowel screening include access to endoscopists and colposcopists.

While disparities in access to and use of screening programmes exist in Ireland, the National Cancer Strategy does not go into detail about issues or solutions. The Department of Health acknowledges the need for research and work to address inequities. Recently, a needs assessment examining cancer screening among sexual and gender minorities, Irish Traveller communities and people with disabilities was completed in order to begin collecting data as a first step in measuring and addressing disparities.

The National Screening Advisory Committee advises the Department of Health on screening policies. It issued an open call in 2021 for new programmes to implement beyond the breast, cervical and colorectal programmes already in place. Suggestions included new programmes for lung and prostate cancer screening, as well as modifications to existing programmes such as self-sampling for cervical and colorectal cancers,

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.

breast density exams and changes to surveillance intervals. The committee has not yet formalised the next steps.

Almost 70 % of women aged 50 to 69 years participate in breast cancer screening

Originally, BreastCheck invited women aged 50-64 years for biennial mammography, which takes place at a BreastCheck clinic or mobile screening unit. In 2015, the age cohort was extended to include women aged up to 69 years. Since its inception, BreastCheck has provided almost 1.4 million mammograms to over 480 000 women in Ireland, and more than 8 500 cancers have been detected. According to national data, the uptake of breast screening is 75 % among women aged 50 to 69 years.

According to the EHIS, in 2019, 67 % of women aged 50 to 69 years self-reported receiving a breast cancer screening within the past two years. This is slightly higher than the EU average of 66 %. Disparities in breast cancer screening between geographic location, income and education groups exist. For instance, there is a 16 percentage-point difference in breast screening uptake between women in the highest (72 %) and lowest education groups (56 %). In addition, breast screening uptake is slightly higher among women living in urban areas (68 %) than those living in rural areas (65 %).

Ireland has relatively low cervical cancer screening attendance rates, with a stark education gap

Observed cervical cancer new cases in 2019 were 274, which translates to an age-standardised rate of 11.5 new cases per 100 000 women in 2019. CervicalCheck had a coverage rate of 79 % from mid-2010 to mid-2015, which is approaching the 80 % goal designated in the National Cancer Strategy.

According to the EHIS, in 2019, 53 % of women aged 15 years and over self-reported receiving a cervical smear within the last three years (Figure 8). The rate varied widely according to educational attainment. Women with higher education levels had a much higher rate (69 %) of recent smear tests than those with lower education levels (29 %), indicating that some population subgroups require more targeted outreach and assistance than others.

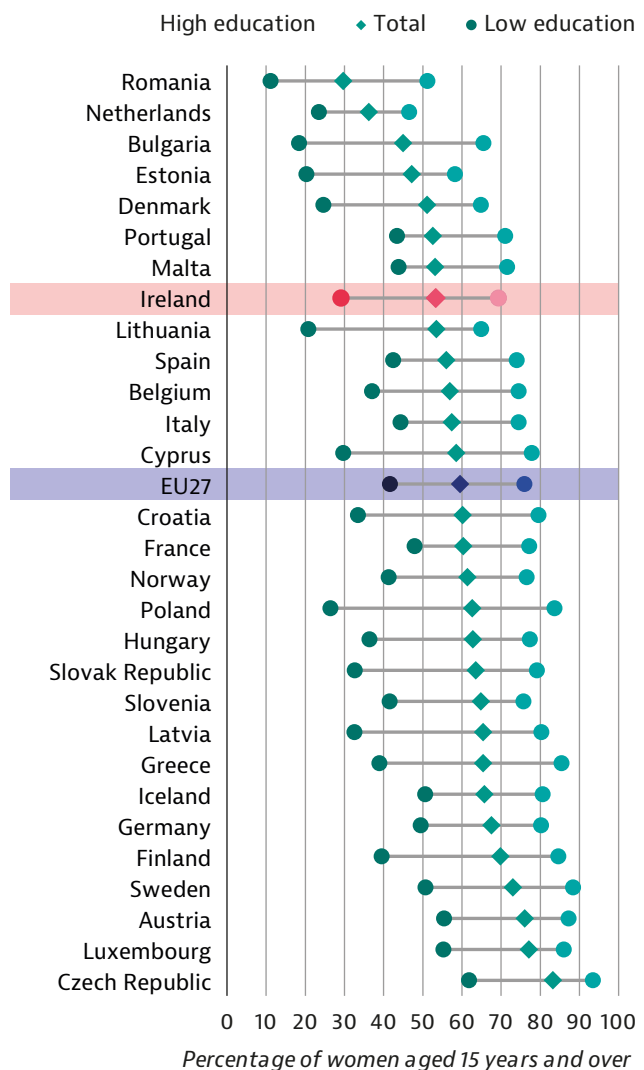
Ireland plans to expand the colorectal cancer screening age cohort

Ireland’s third national screening programme, BowelScreen, was introduced in 2012. It began with a three-year cycle of screening, and in that first round 521 cancers were detected. In

2016, BowelScreen moved to a two-year cycle. The programme currently invites people aged 60 years or older for screening, though evidence supports extending colorectal cancer screening to people aged 55-74 years. As such, one of the recommendations in the National Cancer Strategy involves ensuring endoscopy capacity to facilitate such an expansion.

In 2019, 30 % of the population aged 50 to 74 years self-reported receiving colorectal cancer screening within the past two years. This is close to the EU average of 33 %. Disparities between groups based on socioeconomic status, sex and geographic location are generally small. The gap by gender, at 5 percentage points between men (32 %) and women (27 %), is also relatively small.

Figure 8. Highly educated women are more likely to receive a cervical cancer screening



Note: The EU average is weighted (calculated by Eurostat). The figure reports the percentage of women aged 15 years and over who reported having a cervical smear test in the past three years. Source: Eurostat Database (EHIS). Data refer to 2019.

5. Cancer care performance

5.1 Accessibility

Financial access to care may leave behind vulnerable populations

Ireland has a publicly funded health care system wherein those with low incomes – about one third of the population – qualify for medical cards that render most health services free of charge under the General Medical Services Scheme. The other two thirds of people pay for insurance, which partially covers the care they receive (for example, a GP visit usually costs between EUR 50 and 70). Some have the means to purchase private health insurance, which can often help them be seen by clinicians – especially specialists – more quickly.

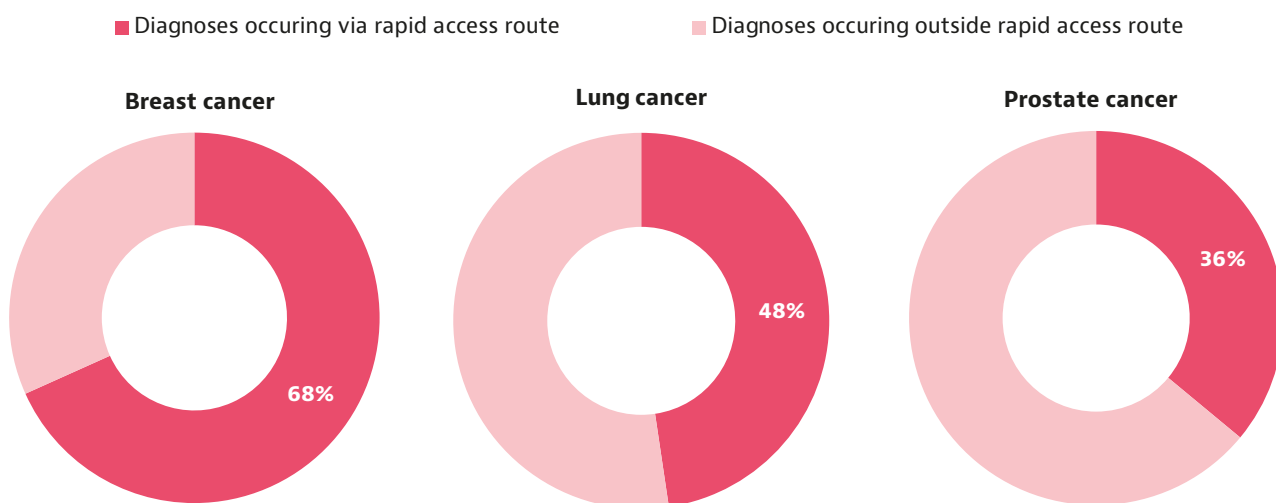
Delays in diagnosis are Ireland’s biggest hurdle to timely access to cancer care

Ireland’s most pressing issue related to accessibility of cancer care concerns timeliness of receiving a diagnosis in the public sector. Typically, once a diagnosis of cancer is definite, delays in care are infrequent. Efforts have been made to address this at the national level, such as Sláintecare – the proposed reform to achieve a universal, single-tier health care system.

The National Cancer Control Programme developed a system of rapid access clinics where access is based on clinical need rather than ability to pay, meaning that anyone can receive fast access to care, irrespective of insurance. Patients can typically secure an appointment at a breast or lung rapid access clinic within two weeks, and at a prostate rapid access clinic within a month of being referred by a clinician. Rapid access clinics take on much of the country’s diagnostic work for these tumours. More than two thirds of Ireland’s breast cancer patients (but virtually all symptomatic breast cancer patients), nearly half of all lung cancer patients and one third of prostate cancer patients are diagnosed via the rapid access route (Figure 9).

Another policy aimed at improving the diagnosis timeline is a community diagnostics initiative, which was introduced by the HSE at the outset of the COVID-19 pandemic. The programme increased direct access of GPs to X-ray, computerised tomography, magnetic resonance imaging and bone density scans. This programme will continue beyond the pandemic; however, changes are being made to focus it on patients in the public system.

Figure 9. Rapid access clinics are an important site of cancer diagnosis



Source: Burke et al. (2020).

Ireland is served by eight publicly funded cancer centres

Eight cancer centres serve defined patient populations and geographic areas. Half are clustered in Dublin while the other four are dispersed throughout the country, largely in the southern half where populations are denser. There are also five hospitals that employ medical oncology and haematology consultants, and 12 hospitals with visiting or part-time consultants. Chemotherapy is delivered under the planning and supervision of the eight cancer centres. Radiation oncology is available in the public system in Dublin, Cork and Galway.

One key recommendation of the National Cancer Strategy directs the Department of Health to ensure development of at least one comprehensive cancer centre in Ireland – probably on the site of one of the eight existing designated cancer centres – that more completely integrates the highest quality of cancer care with research and education.

Ireland has a steady and strong workforce devoted to cancer care

Oncologist numbers in Ireland stayed roughly steady at around 4 per 100 000 inhabitants between 2012 and 2016 according to Eurostat Database. This places Ireland among the top quarter of EU countries, but there is room to improve the oncology workforce. Overall, Ireland reported lower physician density (636 per 1 000 cancer cases vs. an EU average of 691) than other EU countries.

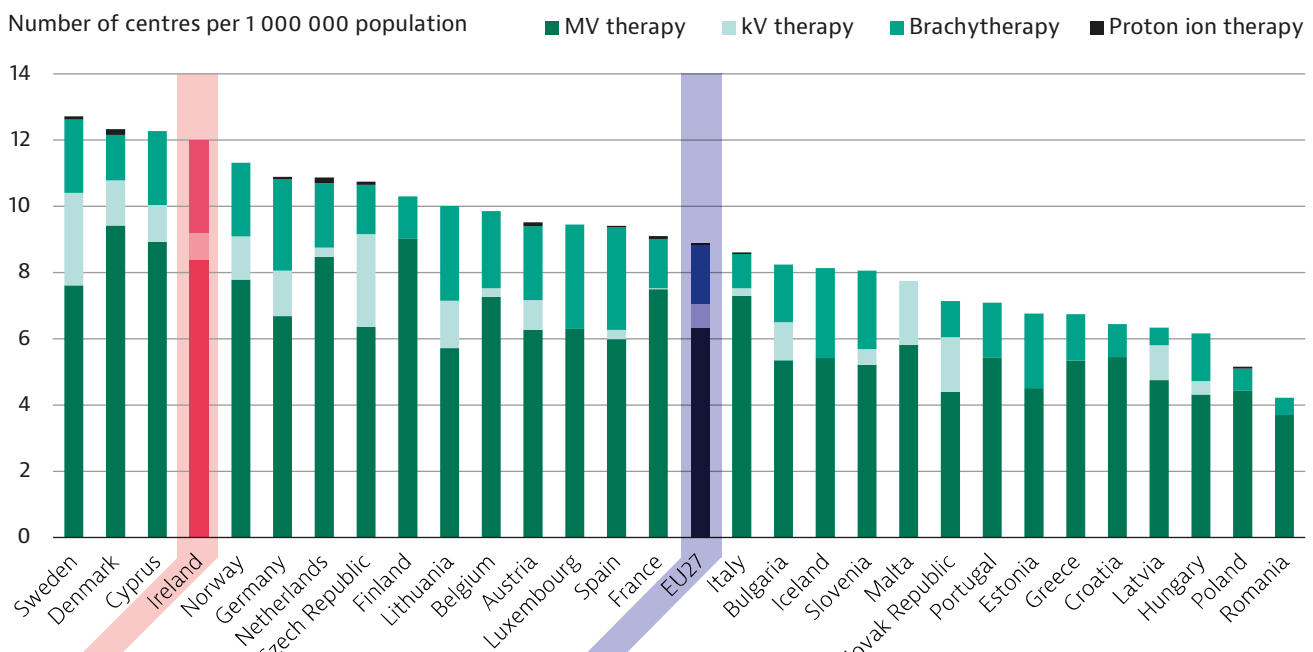
The National Cancer Strategy acknowledges areas that have the greatest need, including specialist and advanced practice roles related to surgical oncology, radiation oncology and pharmacy, as well as research (including cancer clinical trial units) and leadership.

Ireland has among the most radiotherapy facilities per capita in the EU

Public radiotherapy facilities are in place in Dublin, Cork and Galway. The HSE also has service level agreements in place in Limerick and Waterford, where radiotherapy is available through private sector partners. Ireland has steadily increased its numbers of radiotherapy units for the past 20 years, to 51 in 2020. The country has roughly 12 centres per 1 000 000 people, which is a third higher than the EU average of 8.9 radiotherapy centres per 1 000 000 people (Figure 10).



Figure 10. Ireland has a higher density of radiotherapy centres than the EU average



Note: MV stands for megavolt and kV stands for kilovolt. The EU27 average is unweighted (calculated by the OECD). Source: International Atomic Energy Agency.

Approval of new drugs for public reimbursement takes four months longer than the EU average

Since 2012, a standard assessment procedure has been in place for the consideration of public reimbursement of new drugs and for new indications for existing drugs in Ireland. This process includes a pricing and reimbursement application submitted by the drug company that is reviewed by the HSE's Corporate Pharmaceutical Unit and the National Centre for Pharmacoeconomics, which determines whether a health technology assessment is necessary. The final approval decision is made by the HSE Executive Management Team.

This approval process is among the slowest compared to other EU countries. Between 2017 and 2020 only Portugal was slower, according to the Irish Pharmaceutical Healthcare Association (2022). As of May 2021, only 28 of the 91 systemic anticancer therapies – which includes chemotherapy, hormone therapy, targeted therapy, and immune therapy – were licensed by the European Medicines Agency, while the United Kingdom funds more than double that number of therapies (O'Reilly et al., 2022). The median cost of systemic anticancer therapies in Ireland was more than EUR 6 000 in 2015 and rose to more than EUR 10 000 in 2020⁴.

5.2 Quality

Irish survival rates have generally improved since the 1990s

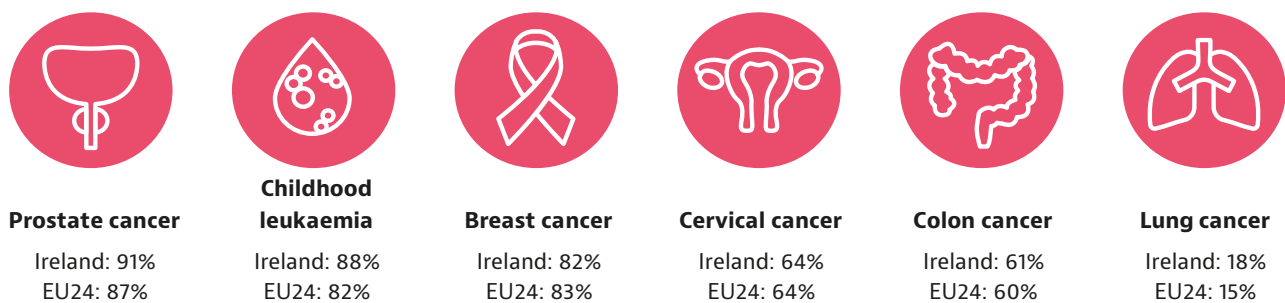
Age-standardised five-year survival rates for patients diagnosed with cancer between 1994

and 1998 (excluding non-melanoma skin cancer) averaged 42 % (NCRI, 2021). This number increased more than 20 percentage points to 65 % for people diagnosed between 2014 and 2018. This increase reflects both improvements in survival as well as an increase in cancers with more favourable outcomes.

Between 2010 and 2014, Ireland outperformed EU averages for five-year net survival rates for many of the most common cancers, including prostate, colon and lung cancers and childhood leukaemia (Figure 11). Ireland had the same five-year survival rate as the EU average for cervical cancer (64 %) and close to the EU average for breast cancer (1 percentage point lower at 82 %). Ireland also outperformed the EU average five-year survival rates for oesophagus, rectum and stomach cancers and melanoma of the skin. Ireland's overall net survival rates from invasive cancer (excluding non-melanoma skin cancer) were estimated in 2017 as 76 % one year after diagnosis, 61 % five years after diagnosis, and 57 % 10 years after diagnosis.

Patients from highly deprived populations have poorer cancer survival rates (NCRI, 2016). For all cancers combined, these patients are around 40 % more likely to die from cancer within 5 years of diagnosis than those from the least deprived group. This decreases to 27 % more likely when adjusting for cancer type (NCRI, 2016). Also a contributing factor is the prevalence of comorbidities in more deprived populations, which is about 20 % higher than in the least deprived population group.

Figure 11. Ireland's cancer survival rates outperform most EU averages



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

Between 2000 and 2015, Ireland saw a reduction by more than 25 % of potential years of life lost due to malignant neoplasms. In 2000, Irish inhabitants lost 1 801 years per 100 000 people aged up to

75 years, compared to the EU average of 1 898. By 2015, that rate dropped to 1 273 – still below the EU average of 1 322.

⁴ Price confidentiality may mean that actual prices paid are lower than those reported.

Improving cancer survival rates means more people with a history of cancer

One important priority of the National Cancer Strategy involves an emphasis on survivorship, as there are nearly 200 000 people with a history of cancer in Ireland (NCRI, 2021). This population has distinct needs, some of which remain unmet. For that reason, the National Cancer Control Programme carried out and reported on a needs assessment in 2019. Needs related to a range of indications, ranging from the physical, such as pain or fatigue, to the psychological, such as the fear of recurrence. They also included information deficits and cancer site-specific needs that tended to be physical ramifications of their journey through the cancer pathway. The report culminated in eight recommendations, including development of tailored survivorship care programmes that include comprehensive psycho-oncology services, improved awareness around the existence of such programmes and much more research.

Further specifics regarding care for people with a history of cancer, including acknowledging their 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) and labour market reintegration, are not yet part of any high-level policy conversations.

Ireland is remodelling cancer care to better position patients at the centre

Ireland’s National Cancer Strategy posits integration and multidisciplinary teams as crucial cornerstones of comprehensive, continuous and efficient cancer care. Currently, GPs and small hospitals typically refer to designated cancer centres for diagnosis and treatment, with some referral back for follow-up. Cancer centres are staffed by multidisciplinary teams, but variation in how these teams function may lead to inequity of care (Department of Health, 2017).

The Strategy calls for guidelines for multidisciplinary teams and development of a new model of care that achieves greater integration between primary health care and hospital settings, as well as greater involvement for patients in the direction of cancer-related policy and improvement of care. This greater involvement can come in the form of patient-reported experience and outcome measures (PREMs and PROMs), which Ireland is testing and has potential to implement more thoroughly in the future.

Palliative care in Ireland is more than easing suffering during the last stages of life

Delivered on the basis of need rather than prognosis, palliative care may begin earlier in a patient’s care journey and in conjunction with curative treatment, rather than instead of it (Department of Health, 2017). In support of this broad definition, the HSE established in 2010 the National Clinical Programme on Palliative Care. The programme seeks to ensure that persons and their families with a need for palliative care can easily access service that is appropriate for them regardless of care setting or diagnosis.

The sufficient provision of palliative care is also a priority of the National Cancer Strategy, which delineates three recommendations on the topic related to a) cancer centres staffing with sufficient specialist palliative care professionals, b) oncology staff receiving education for supporting patients with palliative care needs, and c) the HSE further developing children’s palliative care services.

Cancer data collection in Ireland is becoming increasingly electronic

Ireland lacks an integrated information system that spans the entire health service. For example, the National Cancer Registry collects information on incidence, staging and treatment in one system, while the Central Statistics Office collects mortality data elsewhere. However, the National Cancer Strategy designates a central list of 23 key performance indicators grouped by objective to track implementation and progress for improvements outlined in the document. These indicators cover all stages of the patient journey, from lifestyle behavioural factors to survivorship programmes and palliative care, as well as clinical research, and include internationally comparable outcome measures.

The National Cancer Registry is a separate independent body that exists outside the HSE, as it has the authority to collect data from anywhere in Ireland on both public and private cancer care. Its collection process has become increasingly electronic over time, although the transition is not complete. For example, automating notifications from pathology laboratories has been an arduous process, as each of the country’s 30 laboratories runs on a unique system. The registry currently collects data from 23 pathology laboratories on a routine basis. Hospital inpatient data, death data from the Central Statistics Office and extracts from the public radiotherapy systems are also collated. Staging information and treatment details apart

from radiotherapy are usually added to the registry manually.

PREMs and PROMs are not embedded or consistently collected by the registry; however, they have been collected and analysed on an ad hoc basis as research grants allow. BowelScreen is set to begin piloting an initiative to collect PREMs, which may help to inform the process for future programmes to collect those data as well.

Data systems outside the National Cancer Registry are digitising as well. The National Cancer Control Programme leads work on the National Cancer Information System, an e-health project dedicated to delivering a clinical information system to support cancer care across Ireland. The system is a patient-centred, longitudinal and accessible care record that provides tools for hospitals to collect data on diagnosis, staging, treatment planning, prescribing and administration. It also enables effective resourcing through functionalities related to bed planning and the recording of care-related discussions and recommendations by cancer care team members. The system was implemented first in 2019 and has since gone live in 7 sites throughout Ireland, with plans for implementation in all 26 publicly funded hospitals that deliver systemic anticancer therapy.

Data collection priorities for the future include measuring and tracking inequality and differences in care and outcomes among vulnerable groups.

5.3 Costs and value for money

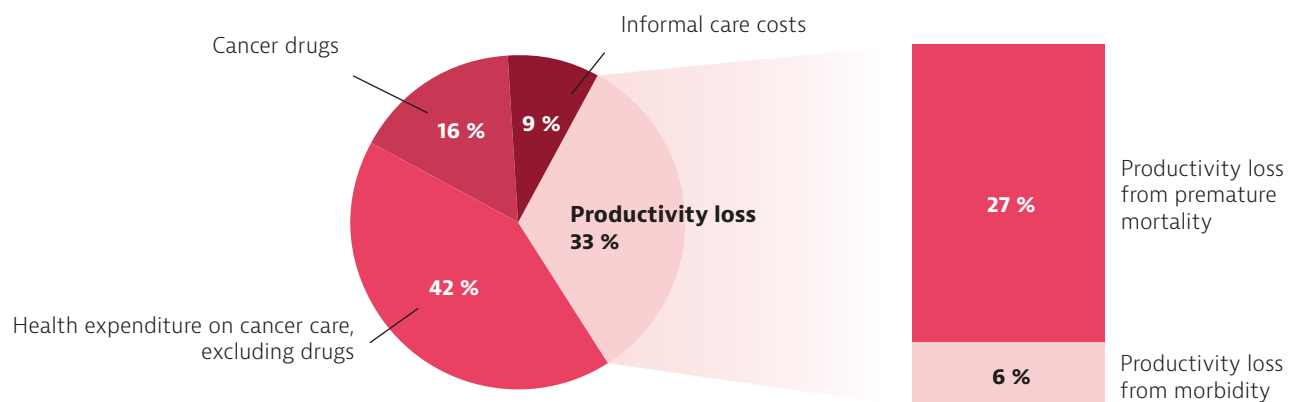
Per person cancer spending in Ireland exceeds the EU average

In 2018, Ireland spent EUR 1 139 million on cancer care – nearly half its total expenditure on cancer-related costs (Figure 12). This includes medical staff, equipment, facilities and vaccines, and is about 5 % of the country's total health care expenditure (Hofmarcher et al., 2020). This number is higher than the EU average proportion of total cancer-related spending devoted to care. Ireland also spent more per capita on cancer drugs (EUR 64) than the EU average (EUR 47). On a per capita basis, Ireland spent EUR 234 on cancer care, compared to the EU average of EUR 154.

Overall, including drugs spending, informal care costs and productivity lost, Ireland devoted EUR 404 per person to cancer care (nearly 30 % higher than the EU average of EUR 313): a total of EUR 1 957 million.

Robust financial investment in preventive care is crucial. Ireland devoted 3.3 % of current health expenditure to preventive care in 2020 – just less than the EU average of 3.4 % that year.

Figure 12. Almost half of Ireland's cancer-related costs is expenditure on care



Notes: No adjustment for price differentials. Cancer drug expenditure do not include confidential rebates.
Source: Hofmarcher et al. (2020).

Economic evaluations are not a standard step of policy and programme implementation

In Ireland, health technology assessments are typically performed by the Health Information and Quality Authority (HIQA), although other

areas of the health care system also conduct these assessments and other cost analyses. The HIQA also provides guidance to other organisations and agencies on conducting assessments.

Health technology assessments are not mandatory in Ireland. They are usually formally requested by the Minister for Health or the HSE, although anyone can contact the HIQA directly to suggest a potential need. The HIQA leads a prioritisation process advised by a group of key stakeholders to choose which health technology assessments are undertaken. From there, a team of HIQA employees and, when appropriate, external experts convenes and is informed by expert advisory groups of stakeholders. All health technology assessments are freely available online in a report that includes all relevant information used in the assessment process, an executive summary, a plain language summary and a brief section outlining recommendations.

One goal of the National Cancer Strategy is for the National Cancer Control Programme to lead on developing service improvements through an ongoing review of measures based partly on the outcomes of health technology assessments.

5.4 COVID-19 and cancer: building resilience

Cancer-related care decreased early in the pandemic before quickly recovering

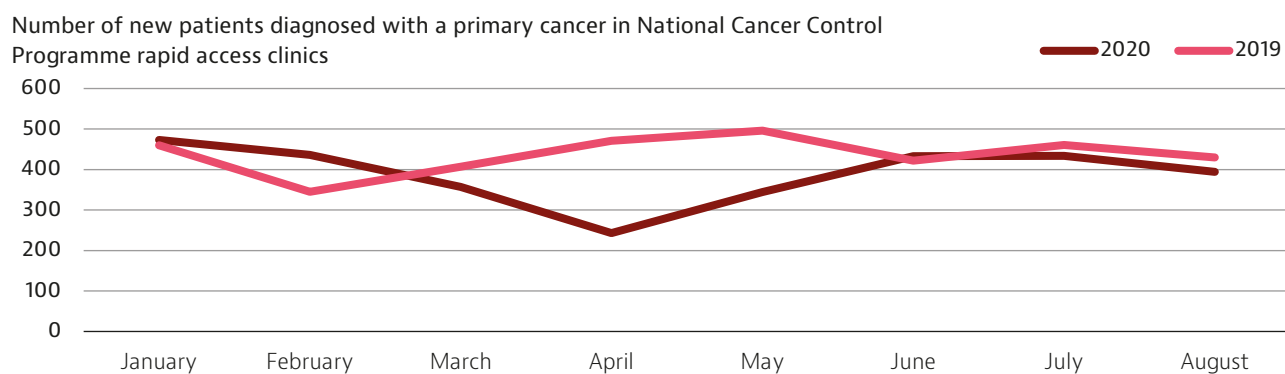
Stay at home orders were first issued in Ireland around 27 March 2020, and the months of March and April saw decreases in most cancer-related detection activities, including rapid access clinic referrals, attendance and diagnoses; diagnostic testing including biopsies; and treatments including resection surgeries and chemotherapy attendance.

Urgent referrals with a suspicion of cancer to National Cancer Control Programme clinics dropped sharply by between 40 and 50 % for breast, lung and prostate cancers during the first two months of the pandemic (Burke et al., 2020). Attendance at rapid access clinics overall in 2020 was 88.1 % of 2019 levels (RCPI, 2021).

The number of detected cancers fell to 52 % of expected levels in April 2020 (Figure 13) (Burke et al., 2020). Overall, from March to June 2020, 419 fewer cancers were detected (a reduction of 23 %). Prostate cancer was the worst affected, followed by breast and lung cancer. Biopsies decreased by more than 60 % compared to prior years. Endoscopies in April 2020 were down by nearly 90 % compared to the same month in previous years. From March to June 2020, 740 fewer resections were performed. This reduction in care supplied is far smaller than that seen in diagnostic testing.

The reductions in activities observed during the lockdown period of spring 2020 were not observed again during the lockdown initiated in October 2020, which indicates an increase in system resilience as well as behavioural changes among patients and clinicians as they adapted to the reality of seeking care during the pandemic (RCPI, 2021). Numbers and rates related to screening, diagnostics and treatment have since begun to recover at varying rates, but the total impact on patient outcomes is still unknown. It is likely that, with the missed diagnoses, more cancers will be diagnosed in the next few years at later stages than necessary, when the cancers are more aggressive and less easy to treat.

Figure 13. New cancer diagnoses dropped in March and April 2020 but recovered just as quickly



Source: Burke et al. (2020).

The Irish pandemic response had a positive impact

The HSE entered into a safety net agreement with private hospitals to obtain additional capacity for three months from March to June 2020, enabling patients – including cancer patients – to

be transferred from public hospitals or admitted directly as public patients. This reduced pressure on the health system and aided capacity, which is probably why rates of resections and other cancer treatments performed in hospital settings decreased less than screening and diagnostics.

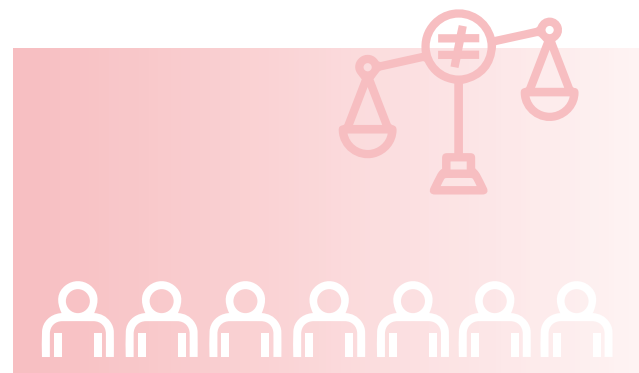
6. Spotlight on inequalities

Important progress has been made to reduce cancer-related risk factors such as smoking; to standardise the cancer care pathway, including referral processes and treatment guidelines; and to improve procedures related to early detection. However, more work needs to be done to understand discrepancies and inequalities within these areas of progress and in terms of cancer incidence, outcomes and mortality:

- Patients from highly deprived populations have poorer cancer survival rates. For all cancers combined, these patients are around 40 % more likely to die from cancer (within 5 years of diagnosis) than those from the least deprived group.
- Behavioural risk factors generally follow social deprivation patterns, in addition to other demographic traits such as age and sex. Smoking, the most significant cause of preventable mortality in Ireland, is no different. Daily smoking rates are higher for populations on low incomes, with an 11 percentage-point difference in between the highest (7 %) and lowest income (18 %) levels. Rates are also higher for populations with low educational attainment, with an 8 percentage-point difference between groups with higher (9 %) and lower (17 %) education levels.
- Educational attainment is also a factor for inequalities among screening programme attendance, particularly for the breast and cervical cancer programmes, which demonstrate 16 and 40 percentage point differences, respectively. Women with high educational attainment more often reported a recent screening (72 % for breast cancer and 69 % for cervical cancer) than women with low educational attainment (56 % and 29 %, respectively). The difference between high and low income groups for these same screening programmes are less notable.
- Waiting lists are a significant issue in Ireland – especially waiting times to receive a diagnosis.

Ireland plans to conduct further research into what marginalised groups exist – particularly related to non-English-speaking and migrant communities – and their cancer care needs. Engagement with these communities, including translation of educational materials and on-the-ground outreach, occurs, among other avenues, through a partnership called the Irish Cancer Prevention Network, which links the National Cancer Control Programme and three charitable organisations: the Irish Cancer Society, the Marie Keating Foundation and Breakthrough Cancer Research.

To introduce accountability and measure progress, the National Cancer Strategy designates two inequality-related objectives to reach by 2026: reducing the difference between the bottom and top socioeconomic quintiles to no greater than 3 % for both age-standardised cancer incidence for all malignant neoplasms and five-year survival rates for all cancers combined, as well as colorectal, lung and breast cancers individually.



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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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