European Cancer Inequalities Registry

BELGIUM

Country Cancer Profile

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OECD

BETTER POLICIES FOR BETTER LIVES

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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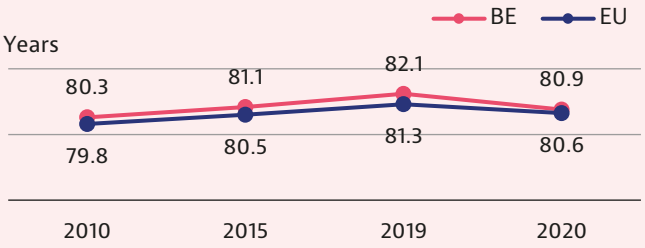

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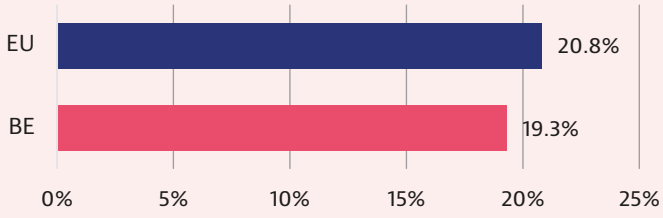

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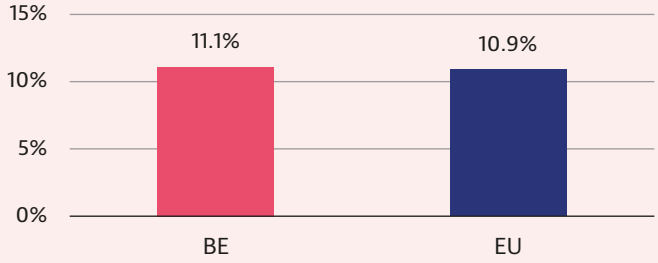
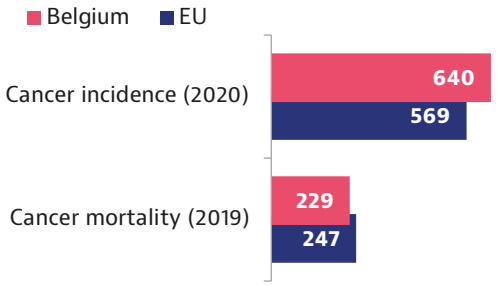


Source: Eurostat Database.

1. Highlights



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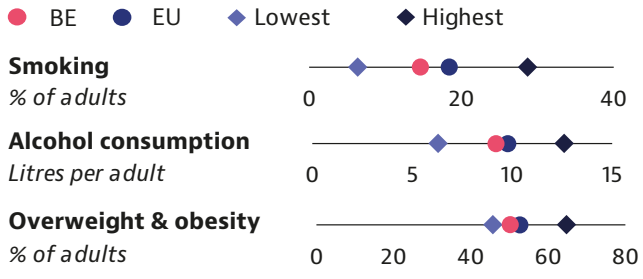
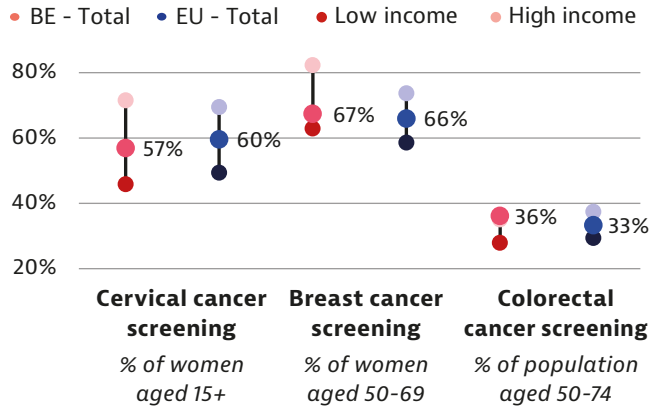
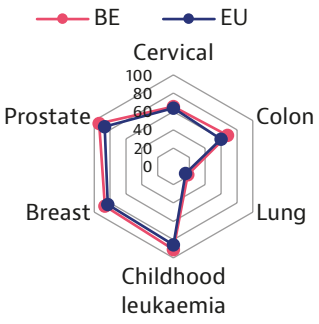
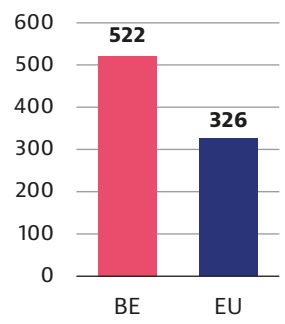






Five-year net survival rate by cancer site, 2010-14



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

Cancer in Belgium

In 2009 the Belgian authorities adopted a National Cancer Plan that led to improvements in monitoring and cancer care. Cancer mortality rates in the country are among the lowest in the EU and decreased significantly between 2011 and 2019, including among lung and colorectal cancers, which cause the most cancer-related deaths per capita in Belgium. In 2020, there were an estimated 75 000 new cancer cases expected in Belgium.

Risk factors and prevention policies

Behavioural risk factors for cancer including alcohol consumption and cigarettes smoking contribute to Belgium's cancer risk profile. Smoking rates have decreased substantially in recent years, but important disparities across socioeconomic groups persist. Vaccination against human papillomavirus (HPV), which is organised by region, is slightly above the EU average.

Early detection

Cancer screening programmes are organised and delivered at the regional level in Belgium. Population-based screening programmes are in place for breast and colorectal cancer in the three regions, but only Flanders runs population-based screening for cervical cancer. Overall screening uptake is close to the EU average, but socioeconomic inequalities persist.

Cancer care performance

Quality and organisation of palliative care are strong features of the Belgian health system. Five-year cancer survival is above the EU average for most common cancers. Concentration of cancer care is under way, but a cancer network has yet to be established. Spending on cancer is among the highest in the EU, and costs of new oncology medicines have soared in recent years. As in many other EU countries, COVID-19 had a substantial impact on cancer detection and care.

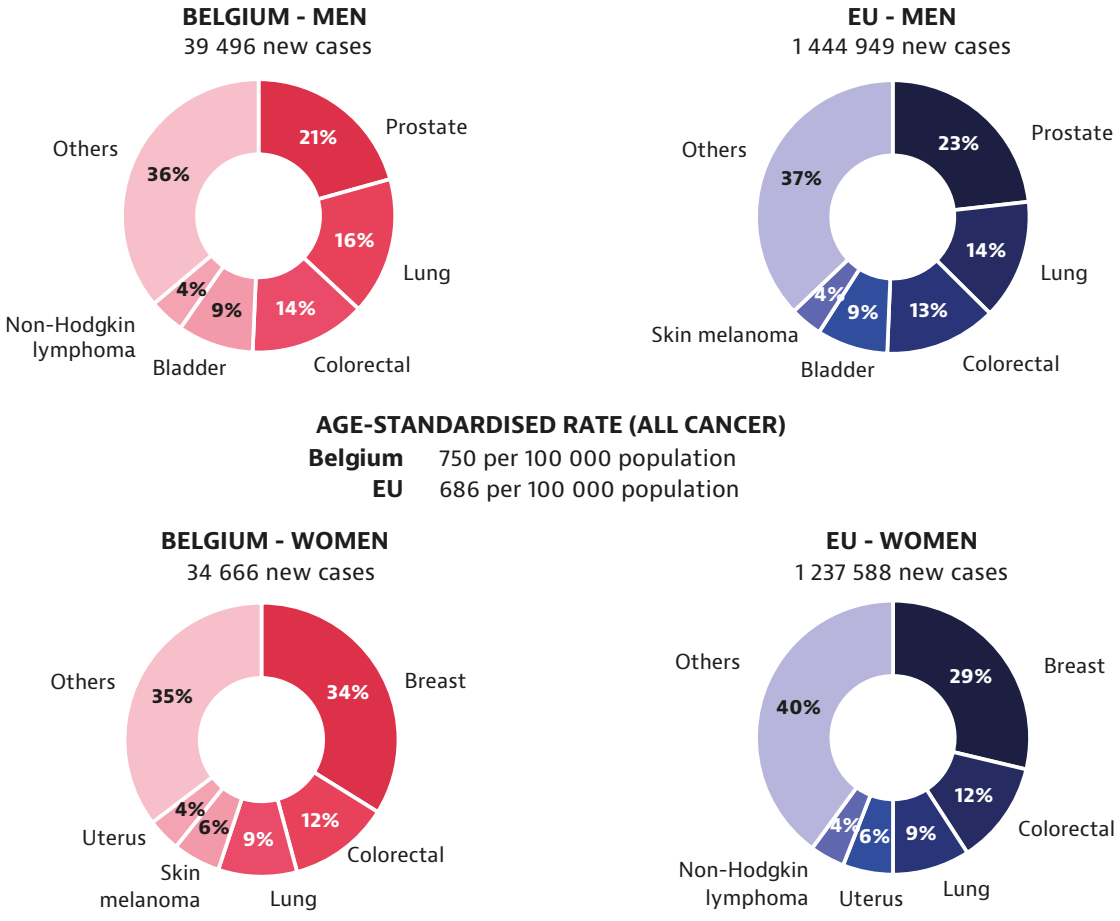
2. Cancer in Belgium

Incidence of cancer in Belgium is above the EU average

According to European Cancer Information System (ECIS) of the Joint Research Centre based on incidence trends from pre-pandemic years, around 75 000 new cases of cancer were expected in Belgium in 2020[1]. Age-standardised per capita incidence rates were expected to be slightly above the EU averages (Figure 1). Around 750 new cancer diagnoses were expected per 100 000 men, compared to 686 per 100 000 across the EU. Similarly, 561 new cancer diagnoses were expected per 100 000 women, which is above the EU average of 484 per 100 000.

Figure 1. Nearly 75 000 new cancer diagnoses were expected in Belgium in 2020

Distribution of cancer incidence by sex in Belgium and the EU



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 *According to official statistics, 68 782 new cancer diagnoses were registered in Belgium in 2020 (651 new cancer diagnoses per 100 000 men, and 548 new cancer diagnoses per 100 000 women).*

The main cancer types among men and women are consistent with broader EU patterns. For men, prostate cancer was expected to be the most common, constituting 21 % of new cases in Belgium, followed by lung, colorectal and bladder cancers. For women, breast cancer was expected to be the most common, constituting 34 % of new cases in Belgium (compared with 29 % across the EU), followed by colorectal and lung cancer, skin melanoma and uterus cancer.

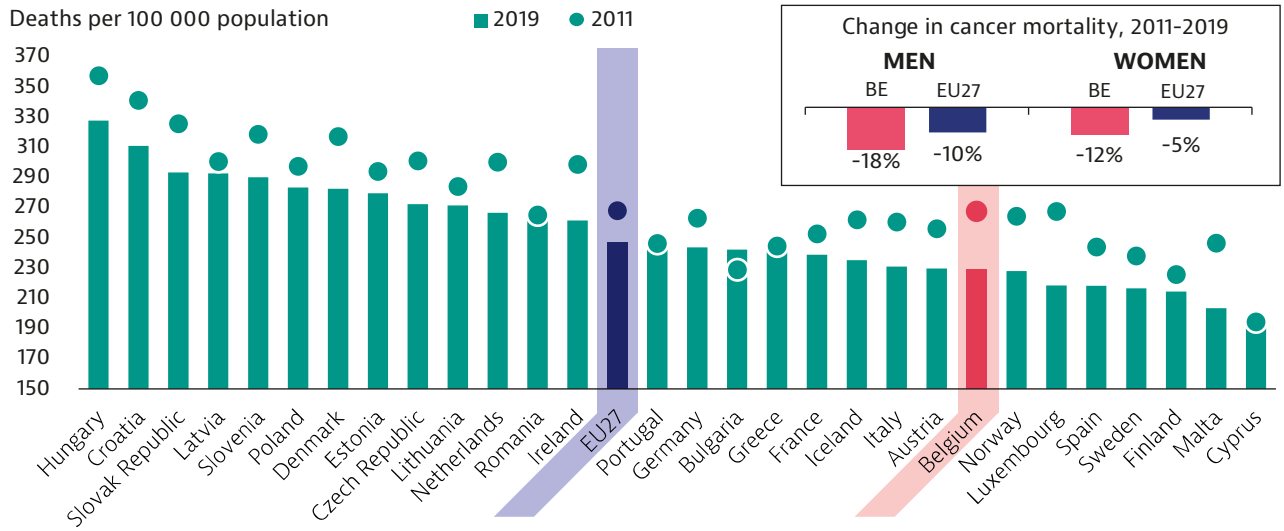
In 2020 in Belgium, gastric (stomach) cancer was expected to constitute 3 % of new cancer cases in men and 2 % in women, and accounted for an overall mortality rate of 5 per 100 000 population in 2019, which is half the EU average. Skin melanoma was expected to represent a slightly larger share of new cancer cases, at 4 % for men and 6 % for women, but not to be among the top 10 causes of cancer-related death for either sex. In 2020, a total of 17 883 diagnoses were rare according to RARECARE net guidelines.

According to the Belgian Cancer Registry, childhood cancer comprises less than 1 % of the total cancer burden. Every year, about 340 children (aged 0-14 years) and 180 adolescents (aged 15-19 years) are diagnosed with a malignancy. The total number of new cases for children and adolescents has increased recently, but this can be explained in part by yearly population growth of about 0.5 % over the last 17 years. Slightly more new cases are registered among boys (54 %) than girls (46 %), with a male/female ratio of 1.14:1.

Cancer mortality per capita is among the lowest in the EU

Each year, around 26 000 people in Belgium die from cancer of any kind: 14 000 men and 12 000 women. It is the second leading cause of death among adults after diseases of the circulatory system. Between 2011 and 2019, cancer deaths per capita decreased by 15 % from 268 to 229 per 100 000 population – a rate among the lowest in the EU (Figure 2).

Figure 2. Belgium's cancer deaths per capita decreased by 15 % between 2011 and 2019



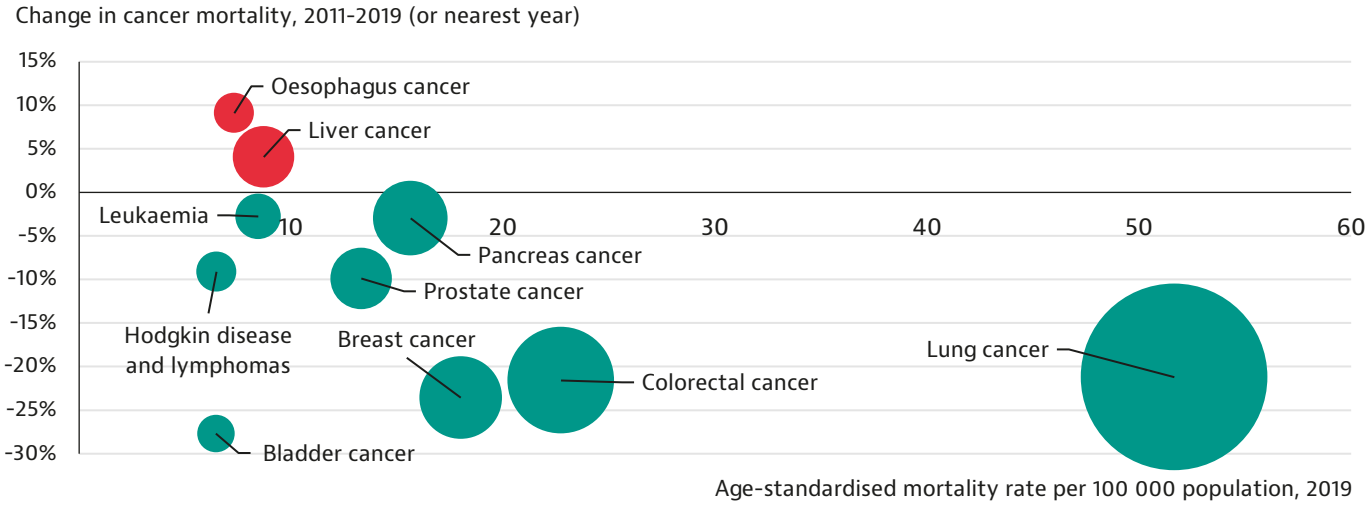
Note: The EU average is weighted (calculated by Eurostat for 2011-2017 and by the OECD for 2018-2019).
Source: Eurostat Database.

Belgium experienced decreases in per capita mortality between 2011 and 2019 for all the 10 deadliest cancers except liver cancer, which increased by 4 %, and oesophageal cancer, which increased by 9 % (Figure 3). The highest mortality rates in 2019 were from lung (52 deaths per 100 000 population), colorectal (23 per 100 000), breast (18 per 100 000) and pancreatic (16 per 100 000) cancers. These rates had all decreased since 2011: lung by -21 %, colorectal by -22 %, breast by -24 % and pancreas by -3 %.

The burden of cancer in Belgium has increased substantially over the past 15 years

The age-standardised non-fatal burden of cancer increased from 2004 to 2019 by 6 % for incidence-based years lived with disability (YLDs) and by 3 % for prevalence-based YLDs. In 2019, breast cancer had the highest morbidity among Belgian women, followed by colorectal and non-melanoma skin cancer. Among men, prostate cancer had the highest morbidity, also followed by colorectal and non-melanoma skin cancer. Between 2004 and 2019, age-standardised incidence-based YLDs for non-melanoma skin cancer increased

Figure 3. Lung and colorectal cancer were the most important causes of death by cancer in 2019



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.

significantly for both sexes – from 49 to 111 per 100 000 for men and from 15 to 44 per 100 000 for women – while important reductions were seen for colorectal cancer for both sexes, from 105 to 84 per 100 000 for men and from 66 to 58 per 100 000 for women (Gorasso et al., 2022).

Overall, between 2000 and 2016, potential years of life lost due to malignant neoplasms in Belgium saw a relative decrease of almost 30 %, and accounted for 1 241 years of life lost among 100 000 people aged up to 75 years in 2016. The relative decrease was larger among men (32 %) than women (22 %), with 1 388 and 1 101 years of life lost in 2016, respectively.

Belgium adopted a National Cancer Plan in 2009, which has been evaluated and monitored regularly

In 2009, Belgian authorities adopted a National Cancer Plan, consisting of 78 measures. Implementation improved the quality of cancer care thanks to a multidisciplinary approach, inclusion of psychosocial care and systematisation of data collection for all cancer cases via the Belgian Cancer Registry. The Cancer Centre, hosted by Sciensano, monitors progress on components of the cancer strategy across all governance levels, and acts as an advisory scientific body.

An evaluation of the National Cancer Plan took place in 2012. Implementation was deemed successful as most of the measures were achieved in a structural way. However, five areas for improvement were also identified: transmural care (coordination between the outpatient and inpatient sectors), socio-professional reintegration of patients with a history of cancer, the need for blood banks, quality of care and personalised medicine. For each of these topics, a thematic working group was created to set priority areas for intervention, with the help of various stakeholders (including patient representatives).

During 2015-2019, several new actions were adopted, including development of molecular diagnosis in oncology (including next generation sequencing); concentration of care to improve quality for certain rare conditions; and measures facilitating professional reintegration of cancer patients (see Section 5). As of 2022, no discussion is ongoing on adoption of a new cancer plan, but the authorities are considering further action on access to cancer care (including affordability for patients and from a public payer perspective); cancer in children and young adults; and further development of concentration of care.

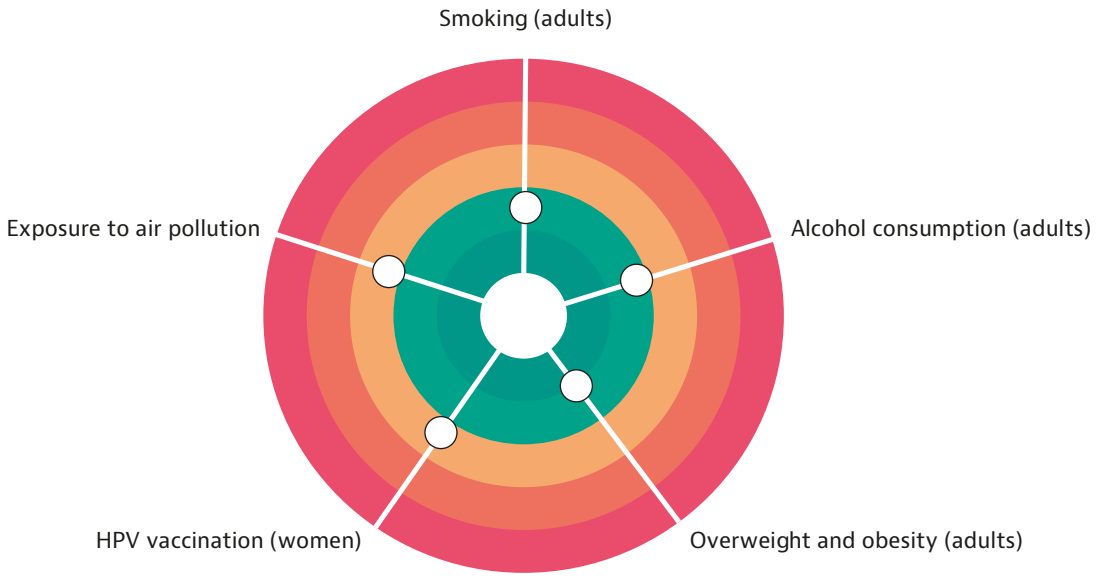
3. Risk factors and prevention policies

Behavioural risk factors are key drivers of cancer incidence

Belgium fares relatively well compared to most other EU countries for modifiable cancer risk factors (Figure 4). Tobacco consumption has decreased and is now lower than in many other countries, and overall alcohol consumption is slightly below the EU average.

Healthcare responsibilities in Belgium are typically divided across the three regions (Flanders, Brussels, and Wallonia). However, in 2016 a national protocol agreement on prevention including to reduce tobacco and alcohol use was agreed for coordinated implementation. In recent years, the federated entities have launched several initiatives to strengthen public health policies, notably in tobacco and alcohol control.

Figure 4. Belgium fares relatively well for most cancer-related risk factors



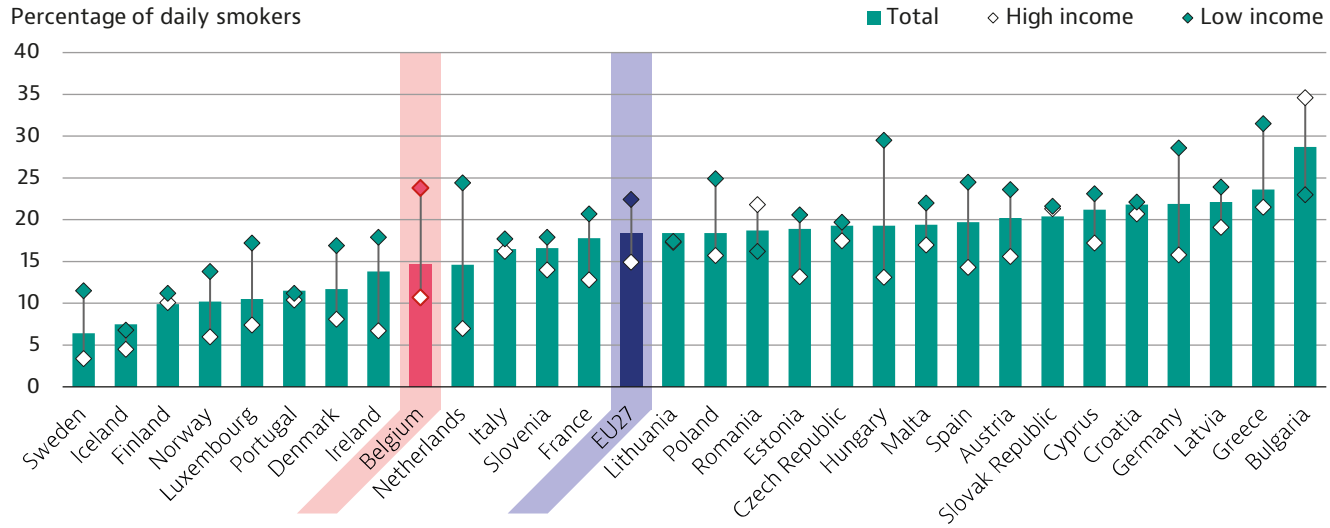
Note: The closer the dot is to the centre, the better the country performs compared to other EU countries. No country is in the white "target area" as there is room for progress in all countries in all areas.
Sources: OECD calculations based on the European Health Interview Survey (EHIS) 2019 for smoking 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).

Cigarette smoking rates in Belgium are among the lowest in the EU

About one in seven adults (15%) reported being daily cigarette smokers in Belgium in 2019, a rate lower than in many EU countries, but there was a persistent gender imbalance, with men (18 %) smoking more than women (12 %).

Only 11 % of people on high incomes smoked daily in 2019, compared to 24 % of those on low incomes – a difference of 13 percentage points (Figure 5). In addition, prevalence of tobacco use decreased at a much slower rate in the lowest than the highest income group over the past decade, increasing the income-related inequality gap. The education gap in smoking rates was also substantial: rates were twice as high among those with low than those with high education levels. Inequalities were also reported across regions: 19 % of the population smoked daily in Wallonia, 16 % in Brussels and 13 % in Flanders.

Figure 5. Socioeconomic inequalities in smoking rates are substantial



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

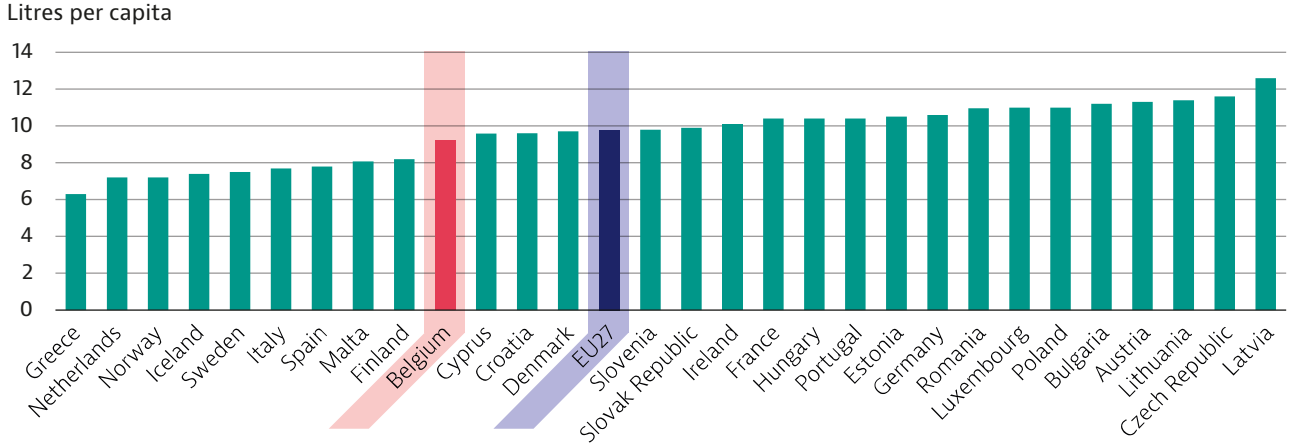
As in most EU countries, overall tobacco consumption has decreased steadily in recent decades (Bizel, 2017). Much of this reduction can be attributed to long-term policies, mostly adopted during the last 20 years at the federal and regional levels, including a) restrictive legislation on access to tobacco products (sales), advertising, protection of non-smokers in the workplace and public spaces, and a gradual increase in taxation; b) support of tobacco-dependence cessation services, through a multifactor approach including systematic health care professional advice and participation of specialists through assistance centres; and c) adoption of health promotion policies.

Most recently, a ban on the sale of tobacco products to people aged under 18 years took force in 2019, and plain packaging was instituted for tobacco products in 2020. From January 2021, the price of a cigarette packet increased from EUR 6.80 to EUR 7.50 on average.

Excessive alcohol consumption in adults is an important risk factor in Belgium

In 2020, people in Belgium aged 15 years and over consume 9.2 litres of pure alcohol on average per year, which is below the EU average of 9.8 litres (Figure 6). The rate has decreased slowly but steadily in Belgium since 2000, when average consumption was 11.2 litres per year. The per capita estimate of cancers attributable to alcohol consumption in Belgium in 2020 (14.7 cases per 100 000 population) was above the EU average (12.3 per 100 000), however.

Figure 6. Alcohol consumption in Belgium is slightly below the EU average



Note: The EU27 average is unweighted (calculated by the OECD).
Sources: OECD Health Statistics 2022; WHO GISAH (2020).

At the federal level, several initiatives have been adopted to limit alcohol consumption, including taxation of alcoholic beverages, prohibition of sales to young people (a ban on sales of hard liquor to 16-17-year-olds from 2018, although beer and wine purchases are permitted) and regulation of advertising and marketing of alcoholic drinks. Taxes on alcohol were also increased in 2016, based on the quantity of alcohol in drinks.

Adult overweight and obesity rates are among the lowest in the EU

Overweight and obesity levels among those aged 15 years and over are among the lowest in the EU. In 2019, 50.2 % of people in Belgium were overweight or obese. This was a slight increase since 2014 (47.9 %), but remained below the EU average (52.7 %). Men (56.2 %) are much more likely than women (44.6 %) to be overweight or obese, but both rates remain below the EU averages.

Poor nutrition is one factor contributing to rises in overweight and obesity rates. In 2018, significant proportions of people aged 15 years and over reported that they did not eat any fruit (45 %) or vegetables (24 %) daily; and even higher proportions of 15-year-olds did not eat any fruit (64 %) or vegetables (40 %) daily, although the shares were lower than in many EU countries. Low physical activity is also an important modifiable risk factor contributing to overweight and obesity. Belgian people aged 15 years and over are less physically active than those in most EU countries: 29% met the WHO recommendation of at least 150 minutes of moderate physical activity per week in 2019.

Several initiatives to promote healthy eating have been adopted in recent years. The National Nutrition and Health Plan 2006-2014, was followed by the Federal Nutrition and Health Plan, defining five strategic orientations based on international guidelines. This aims to harmonise and make consistent messages disseminated by the authorities and civil society organisations, but also by actors in the private sector.

Uptake of human papillomavirus vaccination varies widely across regions

HPV vaccination in Belgium is made available through three options: a) reimbursement by the National Institute for Health and Disability Insurance (INAMI), b) free of charge through regional community vaccination programmes, or c) full out-of-pocket payment at pharmacies. Currently, routine HPV immunisation programmes in Belgium are managed by regional governments, with national reimbursement available only for catch-up vaccinations for girls aged 12-18 years without access to a regional programme. HPV immunisation programmes for girls were initiated in the Flanders region in 2010 and Wallonia-Brussels region in 2011.

In 2010, the 4-valent HPV vaccine was made available free of charge in Flanders in a three-dose schedule through a regional vaccination programme for girls aged 11-12 years. In 2018, the 9-valent HPV vaccine (administered in a two-dose schedule) replaced it. Vaccinating boys with the 9-valent HPV vaccine was recommended since 2017 and implemented in 2019. Vaccine uptake rates are approximately 90 % in Flanders.

In 2011, the 2-valent HPV vaccine was made available in the Wallonia-Brussels region through a free school-based programme for girls aged 13-14 years. Vaccination of boys with the 9-valent HPV vaccine was also implemented in 2019. Vaccine uptake rates in Wallonia-Brussels were lower than in Flanders, at 29 % 1-2 years into the programme and 36 % 5-6 years into it (Simoens et al., 2021).

In 2019, all three regions adopted action plans to address air pollution

The Belgian Inter-regional Environmental Unit reports that, despite significant improvements in recent decades, the Belgian population is still exposed to too much air pollution. In 2019, exposure to PM_{10}[2] in Belgium reached 18.9 µg/m^3, which is lower than the EU average (20.5 µg/m^3). The concentration of $PM_{2.5}$ was also lower than in the EU (11.1 µg/m^3 vs. 12.6 µg/m^3). According to the Institute for Health Metrics and Evaluation, ozone and $PM_{2.5}$ exposure accounted for an estimated 3 % of all deaths in Belgium in 2019, a rate lower than the average across the EU.

Determination of air quality objectives is a regional competency. Nevertheless, the federal government plays an important role, particularly in setting standards for the sale of polluting products and machinery. Its role is also essential to supporting the effectiveness and coherence of regional laws and action.

The European Commission published the Clean Energy for All Europeans package in 2016, which encourages countries to develop strategic energy plans. In 2019, all three of Belgium's regions developed three distinct, but similar, action plans, containing measures to tackle air pollution and to limit the negative effects on health and the living environment. The plans include strategic objectives for the short, medium (2030) and long term (2050), in line with European objectives.

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

4. Early detection

Screening programmes are primarily the responsibility of regional governments

Organisation of population-based cancer screening programmes (screening offered to a specific at-risk target population) is both a regional and federal responsibility in Belgium. The Flemish, Walloon and Brussels authorities are responsible for implementation and coordination of screening programmes, with the help of mandated expertise centres: the Centrum voor Kankeropsporing (CvKO) in Flanders, the Centre Communautaire de Référence pour le dépistage des cancers (CCR) in Wallonia and Bruprev in Brussels.

Rates of breast cancer screening are slightly above the EU average

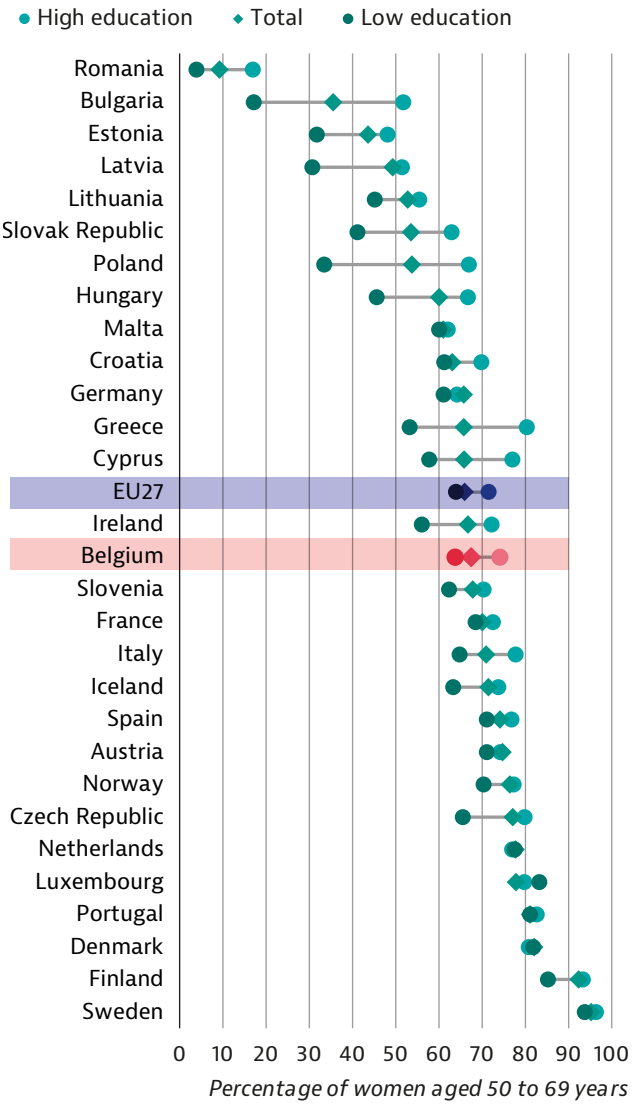
Belgium's breast cancer screening attendance is above the EU average. In 2019, 67.4 % of women aged 50 to 69 years reported having had a mammogram within the past two years, which is higher than the EU average of 65.9 %. Disparities in screening attendance exist between income and education level: the rate was 74 % among women with high and 64 % among women with low education levels (Figure 7).

In Flanders, at the request and with the funding of the Flemish government, the CvKO has organised population-based breast cancer screening for women aged 50-69 years since 2001. Every two years, women receive an invitation (with an explanatory document) to have a mammogram, which is fully paid for and examined independently by two radiologists. Breast cancer screening has been organised since 2002 according to the same criteria in Wallonia by the CCR and in Brussels by Bruprev.

Not all regions in Belgium have a population-based cervical screening programme

In 2019, the age-standardised mortality rate for cervical cancer was 2 per 100 000 women. This is among the lowest rates in the EU, and half the EU average of 4 per 100 000. Self-reported rates for cervical screening attendance are lower than in the EU, however. Around 57 % of women aged 15 years and over reported attending a smear test within the past three years (lower than the EU average of 59%). This rate is higher among women on high

Figure 7. The education gap in uptake of breast cancer screening is smaller than in many other EU countries



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.

(71 %) than low (46 %) incomes; it is also higher among women with high (74 %) than low (37 %) education levels (Figure 8).

In Flanders, for women aged 25-64 years, triennial screening for cervical cancer is recommended. This is done via a smear, during which the endocervical cells are evaluated by cytopathologists. Women for whom screening is indicated but who do not attend

are invited to participate in a mass screening programme. Wallonia has no population-based screening programme for cervical cancer yet, but a recent government announcement indicates that a pilot project is in development. In Brussels, all cervical cancer screening has been fully reimbursed every three years since 2013, for all women aged 20-64 years, but no cervical cancer screening programme is yet in place. This situation may in part explain the important gap in uptake of cervical cancer screening across regions: 64 % in Flanders compared to 46 % in Brussels and 48 % in Wallonia.

The three regions have a population-based colorectal cancer screening programme

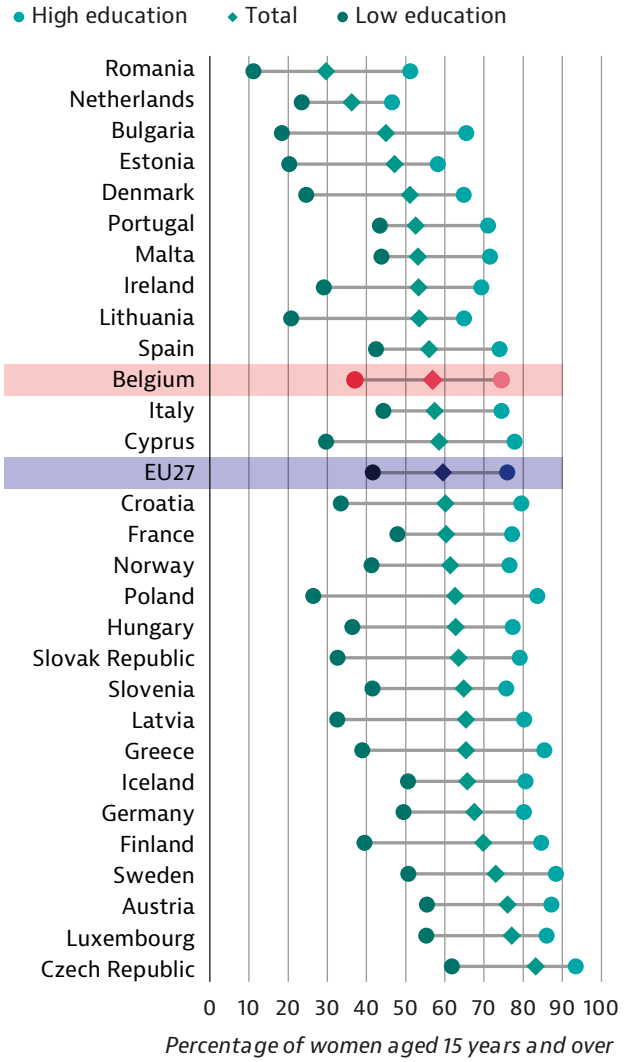
Belgium's colorectal screening participation rate (36 % of people aged 50 to 74 years) is slightly above the EU average of 33 %. Men (38 %) and women (35 %) have similar screening rates, and there is only a very small gap between people with high education levels (36.4 %) and those with low education levels (36.2 %). The rate is higher among people on high (35 %) than low (28 %) incomes.

Mass screening for colorectal cancer has been organised by the CvKO in Flanders since 2013. The target group consists of the population aged 50-74 years. Every two years they receive an invitation letter with an immunological detection test, a participation form, instructions for use and an accompanying brochure. The sample can be sent free of charge to the central laboratory for analysis. Population-based colorectal cancer screening was launched in Wallonia in 2009, targeting the same population. On receipt of a screening invitation, the test kit can be requested from a general practitioner (GP) or via a website. Colorectal cancer screening in Brussels has been in place since 2002. Until 2018 it was organised by the CCR, but the current programme is a pilot project targeting the population aged 50-74 years, led by Bruprev.

The Belgian authorities consider developing further risk-stratified screening approaches

While screening programmes aim to identify disease at an early stage, and to cover the widest possible share of the target population, screening is becoming increasingly individualised, based on genetic and risk stratification. The MyPeBS study will conduct a multi-country randomized controlled trial to compare targeted screening for breast cancer to traditional population-based screening approaches. The study will test whether using a risk-adjusted strategy based on comprehensive risk assessment that considers genetic and non-genetic risk factors has an impact on outcomes or participation rates. In the study, women at low risk will be advised to undergo screening mammography every four years, women at average risk every two years and women at high risk every year, while women at very high risk are advised to undergo both mammography and magnetic resonance imaging (MRI) every year to the age of 60 years. The study includes 85 000 women aged 50-70 years, and is being conducted in six countries, including Belgium.

Figure 8. Disparities in cervical cancer screening uptake by education level are substantial in Belgium



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

Compulsory health insurance ensures near universal coverage in Belgium

In Belgium, 99 % of the population are covered for health services. The remainder are those who do not fulfil administrative requirements (such as having a regular address). Belgium's compulsory health insurance is implemented through five private non-profit national associations of sickness funds, one fund for railway personnel and one public sickness fund and managed by the National Institute of Health and Disability Insurance (NIHDI). This public body determines reimbursement criteria, establishes and controls the budget, gives information to health care providers, promotes quality of care and organises negotiations between stakeholders.

According to a report from the Belgian Health Care Knowledge Centre (Devos et al., 2019), socioeconomic inequalities exist in access to health care in Belgium. Unmet needs are four times higher among people with low than with high education levels. The report also points to problems with waiting times for an appointment with a specialist. However, no specific survey or analysis of access to cancer care has been conducted.

Numbers of doctors and nurses have increased

The number of practising doctors was 3.2 per 1 000 population in 2020 – well below the EU average of 4.0. Over the past decade, this number has increased at a slower rate in Belgium than in most EU countries. Further, about 44 % of doctors are aged 55 years and over, raising concerns about possible future shortages. A medical workforce planning system has been developed over the past two decades to monitor supply and demand, allowing the government to adjust the quotas of medical students. The number of medical graduates has more than doubled over the past decade (over 2 000 in 2019, up from about 850 in 2009), and the absolute number of GPs is expected to increase slightly (by 3 %) between 2021 and 2026. The number of nurses has increased over the past decade to reach 11.1 per 1 000 population in 2018, up from 9.3 in 2008. Although this is well above the EU average (8.4 per 1 000 population), the patient-nurse ratio remains high in hospitals, and there have been difficulties recruiting nurses in some areas.

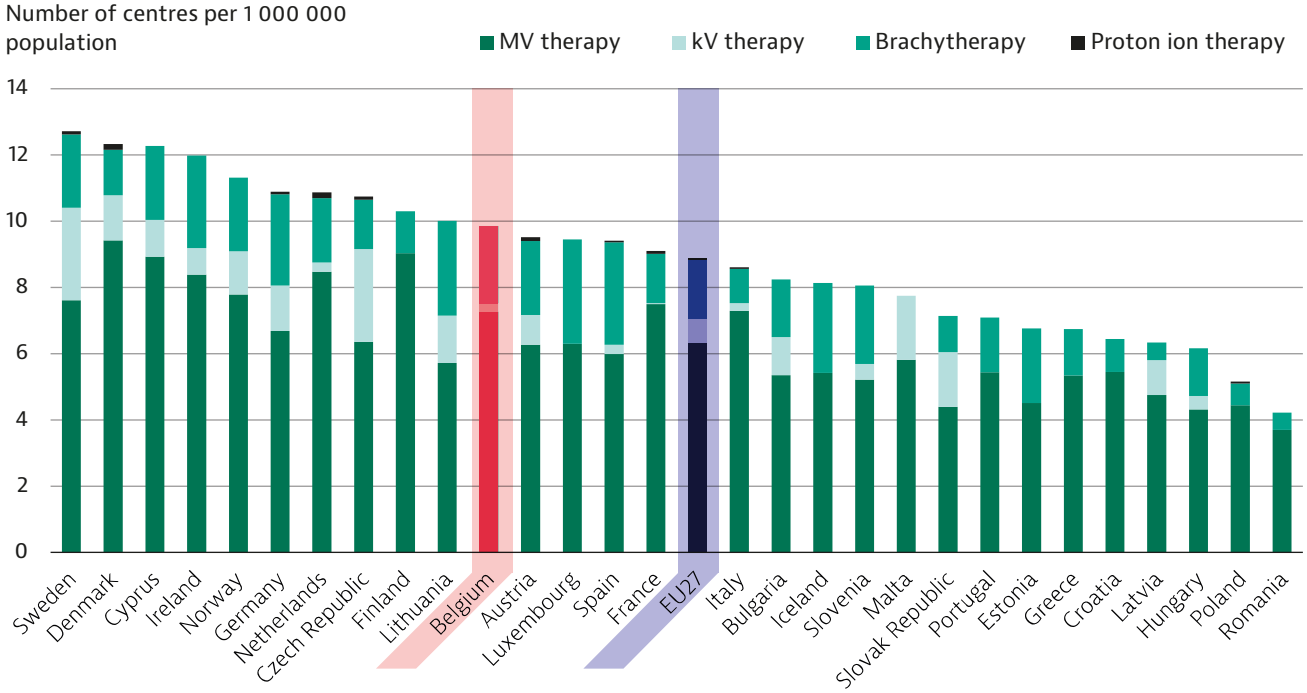
According to a national report (Cellule Planification de l'Offre des Professions des Soins de Santé, 2020), the number of specialist physicians allowed to practise medical oncology in 2019 was 304 (171 men and 133 women). In 2020, 3 147 oncology nurses and 44 haematology and paediatric oncology physicians were practising. In an international survey based on 2015 data, it was reported that the rate of new patients per oncologist in Belgium was 307 – higher than the European average of 238 (Mathew et al., 2018).

Belgium recently opened its first proton therapy centre

Proton beam therapy is used to treat the most intractable tumours, as the beams are more accurate than conventional radiotherapy and less harmful to the surrounding tissues. Until recently, this treatment was not available in Belgium, and cancer patients could only access it by travelling to neighbouring countries. The cost of treatment was met by NIHD, but the travel involved was a burden for patients and their families. Construction of the Leuven proton therapy centre started in 2016, and the centre treated its first patient in July 2020. Discussions are under way to open a second centre in Belgium.

Overall, Belgium reports 9.9 radiotherapy centres per million inhabitants, which is slightly higher than the EU average of 8.9 (Figure 9). However, radiotherapy remains underutilised. A study analysing radiotherapy delivery over time showed that only 37 % of cancer patients received external beam radiation therapy from diagnosis plus five years, while the evidence-based optimal utilisation is 53 %. Overall, more than one in four Belgian cancer patients did not receive the required radiotherapy treatment, with large variations between cancer types (Lievens et al., 2017).

Figure 9. Belgium has more radiotherapy equipment per capita 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.

Belgium has amended its programmes for compassionate use and medical need to expand access

A 1964 law regulates use of medicinal products that have not (yet) received marketing authorisation for compassionate use, and for off-label use in cases of medical need. Accordingly, the Belgian Federal Agency for Medicines and Health Products must grant authorisation to allow use in these contexts. In December 2020, Belgium amended the rules on compassionate use and medical need to confirm that the programmes can continue to operate after marketing authorisation has been granted, while the decision on reimbursement is still pending.

Palliative care and its organisation are of high quality in Belgium

In Belgium, competences in palliative care are divided between the federal state and the regions. The federal level is responsible for financing of palliative care delivered in the inpatient sector and reimbursement of medication. It also has a Palliative Care Evaluation Unit, which draws up a detailed report every other year. The regions are responsible for organisation and financing of palliative care associations, multidisciplinary palliative care support teams and palliative day centres.

In 1995, palliative care networks were responsible (15 in Flanders, 1 in Brussels, 8 in Wallonia and 1 in the German-speaking community) for promoting co-operation between institutions and health professionals. The networks cover specific geographical areas and have several responsibilities defined by law: informing the public; promoting co-operation between partners; organising training for health professionals; supporting and helping to organise volunteer work; collecting data; and evaluating palliative services. In addition to the networks, three regional palliative care federations act as centres of knowledge and expertise. They contribute to improving the quality of palliative care by organising training for health professionals, creating public support for palliative care and representing the palliative sector at the different levels of government.

Every patient in Belgium has the right to palliative care at the end of life, which can be initiated by a GP, a specialist, the patient's relatives or any other concerned health professional. In hospitals, two structures for palliative care have been developed: specialised palliative care units and a palliative function in hospitals. In the former, patients receive comprehensive individual care from a multidisciplinary team under the medical direction of a physician with specific experience in palliative care. The hospital palliative function was created to support patients who are not in a palliative care unit. It includes all necessary activities and is provided by a multidisciplinary team. Palliative care can also be provided at home.

5.2 Quality

Overall quality of cancer care has improved in Belgium

Belgium compares well with other EU countries for five-year survival rates following common cancers (breast, colon, cervical, prostate and lung cancer) and childhood leukaemia, based on the most recent data available for people diagnosed in 2010-2014[3] (Figure 10). Five-year survival rates have been improving over the past 20 years.

Figure 10. Belgium compares well with other EU countries on five-year cancer survival rates

Prostate cancer	Childhood leukaemia	Breast cancer	Cervical cancer	Colon cancer	Lung cancer
Belgium: 94%	Belgium: 91%	Belgium: 86%	Belgium: 65%	Belgium: 68%	Belgium: 18%
EU24: 87%	EU24: 82%	EU24: 83%	EU24: 64%	EU24: 60%	EU24: 15%

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.

Children (aged 0-14 years) and adolescents (aged 15-19 years) with cancer have a relatively high rates of survival: 10-year observed survival of children (84 %) is very similar to that of adolescents (85 %), although survival for infants (82 %) is slightly lower. Further, 10-year survival for children and adolescents was very similar in boys (84 %) and girls (86 %), and survival has improved over time according to the Belgian Cancer Registry.

Several cancer services are being concentrated in Belgium

Compared to neighbouring countries, Belgium has a large number of hospitals that can treat many forms of cancer. This does not correspond to what is described as best practice in the literature. For complex cancers, more centralisation is indicated, while less complex cancers can be treated within the framework of a network and under the direction of reference centres.

The Organisation of European Cancer Institutes has offered an accreditation programme since 2002, on a voluntary basis. Of the 39 currently accredited centres, three are in Belgium.

In 2019, NIHD introduced a memorandum of understanding for centres that perform complex pancreatic surgery, with the aim of improving quality of care. The Belgian Cancer Registry oversees the collection of additional data through which an evaluation is performed. As of January 2020, 15 centres had signed the agreement. In addition, since 2019, NIHDI reimburses complex oesophageal surgery operations only if performed in an accredited centre (10 in total) or in a hospital with which a co-operation agreement is concluded. Another example of concentration and centralisation of care is breast cancer centres, for which a Royal Decree of 2007 sets the standards to be met to treat patients.

In 2016, a "rare disease function" was implemented within Belgian university hospitals with a view to fostering a multidisciplinary approach to diagnosis and treatment of these pathologies. Patients with rare diseases can be referred to a hospital with a recognised expertise. Some of these centres are part of the European Reference Network on Rare Adult Solid Cancers.

Oncology networks are not yet formally established in Belgium

Oncology networks are not formally established in Belgium, but several initiatives have been launched over the last few years, including NETwerk, the Flemish hospital network for neuroendocrine tumours.

The innovative technique next generation sequencing (NGS) allows the sequences of a set of genes to be determined rapidly and simultaneously. A pilot study (2019-2022) introduced this technology to the Belgian health system. Within this framework, NGS networks of hospitals and laboratories that have signed an agreement with NIHDI can benefit from higher reimbursement for molecular diagnostic tests in oncology and onco-haematology using NGS.

3 *According to the Belgian Cancer Registry, the 5 years relative survival for the period 2016-2020 is 98.4% for prostate, 92.4% for breast, 68.8% for cervix, 71.1% for colorectal, and 25.9% for lung cancers.*

The Iridium Network is a highly specialised radiotherapy network based on a multidisciplinary approach. It makes possible structured collaboration between doctors from different hospitals in the Greater Antwerp and Waasland area. With eight partner hospitals, it is the largest radiotherapy network in Belgium.

Patient-reported experience and outcome measurements are being developed in Belgium

Several initiatives related to patient-reported experience measurements (PREMs) are under way in hospitals. For example, a project initiated by a private consulting company measures the general and specific experiences of patients in 17 hospitals in Brussels and Wallonia, which participate on a voluntary basis. The project supports hospitals in applying statistical methodology and standardised measures, and provides comparative analyses of patient experiences. It also identifies best practices and priorities for action to ensure patient satisfaction.

A large proportion of hospitals in Flanders use patient survey questionnaires as part of the Flemish Indicators Initiative, and register the results on a voluntary basis. Other initiatives have also been announced on the development of patient-reported outcome measurements (PROMs) and PREMs, including a project organised by Sciensano. A new PROMS and PREMS project started for lung and rectal cancer coordinated by the Vlaams Instituut voor Kwaliteit van Zorg (VIKZ).

Belgium is one of the few EU countries that has formally implemented the right to be forgotten

The Right to be Forgotten Act (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) was enacted in Belgium in February 2020. It introduces a modification to legislation intended to make it easier for people who have recovered from cancer to take out insurance. It applies not only to insurance covering a mortgage loan for acquisition or refurbishment of a home, but also to insurance covering a business loan.

Psychological and social support is provided to cancer patients

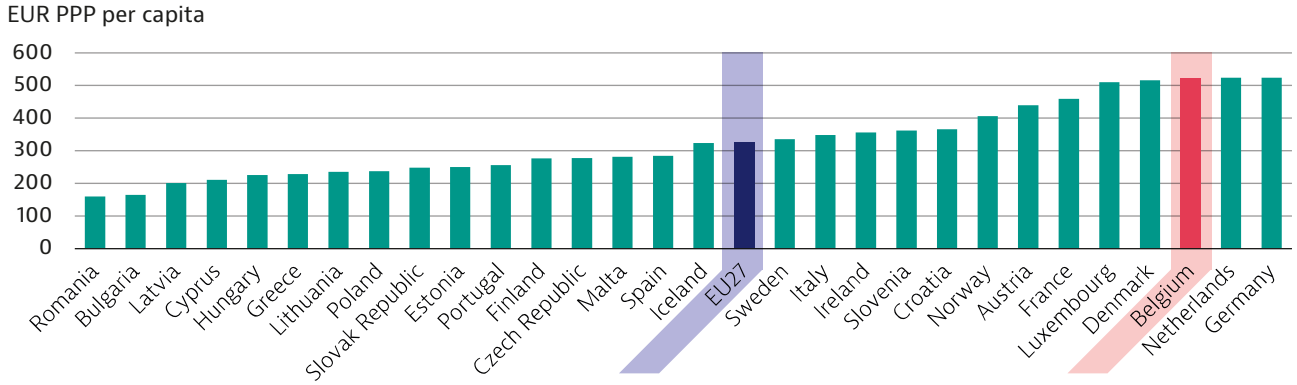
The Royal Decree setting the standards for cancer care programmes requires the presence of a clinical psychologist, a psychiatrist and a social worker. However, the role of these actors is neither specified nor assured in the long term. Since 2017, psychological support for cancer patients has been covered by health insurance, and as of 2020, sessions are also reimbursed for children and adolescents under the age of 18 years, and for people aged 65 years and over. As onco-psychology services are not systematically recorded, however, it is difficult to assess the proportion of oncology patients who have benefited from this support. An evaluation carried out within the framework of the National Cancer Plan showed that about 40 % of patients need psychosocial support but only 30 % of those who need it explicitly request it.

5.3 Costs and value for money

Spending on cancer in Belgium is among the highest in the EU

In 2018, the country spent EUR 284 per capita on cancer care, plus an additional EUR 90 on cancer drugs. Overall, including both direct costs such as expenditure on care and medication and informal care costs, and indirect costs such as lost productivity, cancer costs in Belgium were EUR 522 per capita in 2018, adjusted for purchasing power parity (PPP). This makes it one of the most expensive cancer care systems in the EU (Figure 11).

Figure 11. The cost of cancer care in Belgium is the third highest in the EU



Note: The EU27 average is unweighted (calculated by the OECD).
Source: Hofmarcher et al. (2020).

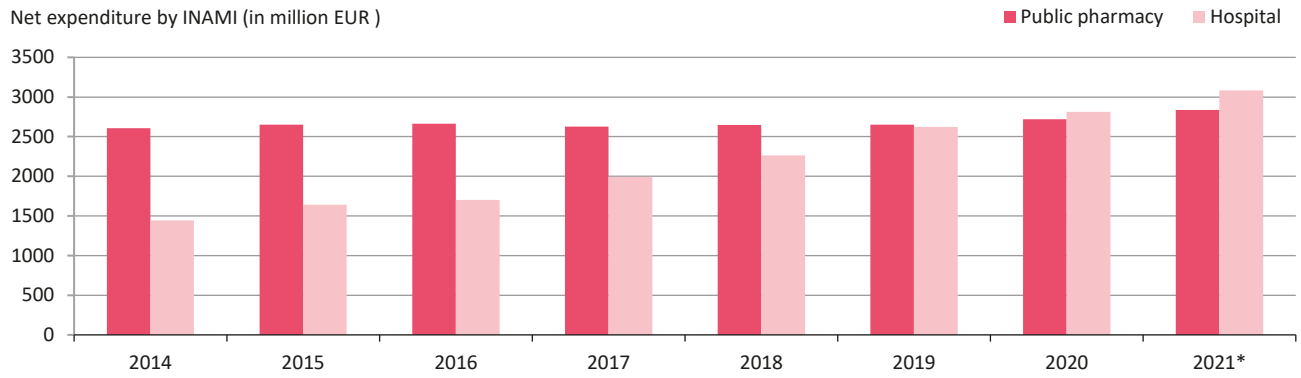
Strong financial investment in preventive care can be an important tool for countries to improve health care system functionality, including for cancer care. Belgium consistently devotes below the average proportion of its health care spending to preventive care. In 2019, the EU average was 3.4 %, while Belgium spent only 2.1 %.

New cancer medicines represent a major financial burden

A 2020 report monitoring reimbursement of significant expenses provides insights into pharmaceutical expenditure in Belgium (INAMI, 2020). NIHDI's overall net expenditure on drugs increased by about 6 % yearly between 2017 and 2019, to exceed EUR 5.2 billion. The evolution differs between pharmacies and hospitals. Expenditure has been relatively stable in public pharmacies, at about EUR 2.6 billion. In contrast, there has been a sharp increase in hospital expenditure (Figure 12), corresponding to an increase of 17 % in 2017, 13.2 % in 2018 and 14.4 % in 2020. In 2019, hospital drug expenditure accounted for about half of total drug expenditure.

Expenditure categorised by Anatomical Therapeutic Chemical classification showed that the L01X class (antineoplastic agents such as monoclonal antibodies and immunotherapy, but not chemotherapy and protein kinase inhibitors) represented the largest part of hospital expenditure, accounting for about EUR 1 billion in 2019. L01X drug expenditure increased sharply from about EUR 140 million in 2007 to EUR 403 million in 2016 and EUR 1 billion in 2019.

Figure 12. Expenditure on hospital medicines has grown substantially in recent years



*Note: * refers to provisionnal data for 2021.*
Source: INAMI (2020).

To illustrate the challenging context surrounding access to innovative oncology medicines, NIHDI asked the Belgian Health Care Knowledge Centre to explore the real-life health gain generated by the entry of such medicines to the market. An analysis performed by the Belgian Cancer Registry of observational data pertaining to 40 innovative oncology medicines for 12 indications during 2004-2017 found substantial increases in expenditure and treatment costs, but limited gains in life expectancy for half of these indications, although such data do not allow a causal relationship between these costs and health gains to be established (Neyt et al., 2022).

Belgium is a member of the Beneluxa initiative

Belgium participates in the Beneluxa initiative with the Netherlands, Luxembourg, Austria and Ireland. This collaboration aims to provide sustainable access to medications – usually high-cost or difficult to obtain – to the populations of these relatively small countries. The national reimbursement authorities work together to support sustainable access to innovative medicines through horizon scanning, health technology assessment, information sharing and joint price negotiations. Although Beneluxa initially focused on orphan medicines, its scope has been extended to medicines generating a high budget impact, such as oncology products. To date, its success has been hampered by the need to invest resources in setting up an operational structure and supporting legal framework, the need to align pricing and reimbursement procedures, a lack of transparency and clarity on how the internal procedures work, and the limited willingness of pharmaceutical companies to submit joint applications, since the advantages of market access via the initiative remain unclear to them.

5.4 COVID-19 and cancer: building resilience

The COVID-19 pandemic led to approximately 2 700 missing cancer diagnoses

The Belgian Cancer Registry followed the number of cancer diagnoses closely during the first two years of the COVID-19 pandemic. In the first peak in April 2020, a 43 % decline in diagnoses of invasive cancers was observed compared to April 2019, but the rate recovered to near normal levels for the rest of 2020. The number of diagnoses in 2021 began to reflect pre-pandemic trends, but a persistent 2 % decline in diagnoses over the two-year period compared to 2019 remained – equivalent to about 2 700 missing cancer diagnoses (Belgian Cancer Registry, 2022). While for younger age groups and certain cancer types diagnosis rates appear to have recovered, for older patients and most cancer types the decline persists.

The largest estimated absolute numbers of missing diagnoses were for colorectal cancer (900 cases), haematological malignancies (560 cases), head and neck cancer (490 cases) and breast cancer (450 cases). Colorectal and head and neck cancers also had the largest persistent declines in diagnoses at the end of 2020, and this continued into 2021: colorectal cancer diagnosis rates fell by 8 % and head and neck cancer diagnosis rates by 9 % over the first two years of the pandemic.

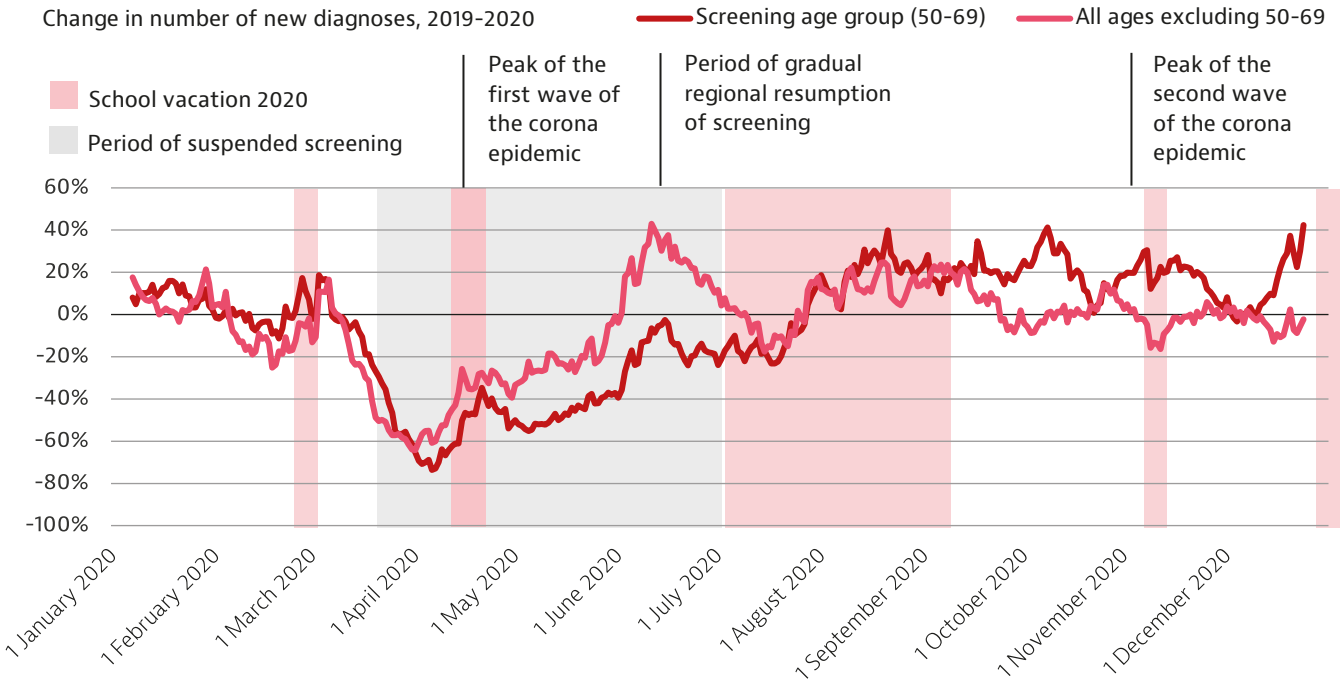
The pandemic may have also led to delays in diagnosis. Fewer breast cancer tumours were detected at clinical stage I in 2020 compared to 2019. It may be too early to draw any conclusions yet, but similar findings were also reported in the Netherlands.

Declines in diagnosis were particularly marked in screening target age groups

The first confirmed case of COVID-19 in Belgium occurred on 4 February 2020. On 14 March, all consultations, medical tests and interventions deemed non-essential were halted temporarily. Additionally, population-based screening programmes for breast, cervical and colorectal cancer were suspended in the week of 16 March 2020, and only resumed from mid-May 2020.

A large decline in diagnoses was observed for breast and colorectal cancer, particularly in the age groups targeted by screening programmes (Peacock et al., 2021). In April 2020, breast cancer diagnoses among women aged 50-69 years declined by 75% (Figure 13). The decline in diagnoses persisted longer for this target population than the non-target population; recovery only began at the end of May, reaching baseline levels around August, correlating with the resumption of screening activities. A similar trend was observed for colorectal cancer, with an initial decline in April 2020 of 68 % in the screening population aged 50-74 years, and a rebound lagging behind the trend for the non-target population until July.

Figure 13. Suspension of breast cancer screening activity led to substantial reductions in new diagnosis rates



Source: Belgium Cancer Registry, 2022.

6. Spotlight on inequalities

Despite the framework agreement on prevention and public health between the federal government and the regions, the division of responsibilities remains a challenge for Belgium. Social and economic disparities in exposure to risk factors are substantial, and the low level of health literacy in certain categories of the population is a major obstacle to prevention activities.

- Screening programmes are organised at the regional level. Although European guidelines on screening are implemented well in all three regions, programme coverage rates are below target levels.
- In addition, differences in participation by income and education are greater in Belgium than in other EU countries. Breast screening participation rate was 74 % among women with high and 64 % among women with low education levels. Colorectal cancer screening participation rate is higher among people on high (35 %) than low (28 %) incomes.
- All three regions have population-based screening programmes for breast and colorectal cancer, but only Flanders has a cervical cancer screening programme. This results in important disparities in uptake across regions, ranging from 64 % in Flanders to 46 % in Brussels and 48 % in Wallonia.
- Belgium reports 9.9 radiotherapy centres per million inhabitants, which is slightly higher than the EU average of 8.9. However, radiotherapy seemingly remains underutilised: more than one in four Belgian cancer patients did not receive the required radiotherapy treatment, with large variations among cancer types.

A large number of hospitals in Belgium can treat many forms of cancer. This does not correspond to what is described as best practice with comprehensive care centres or network to deliver high quality care. For rare cancers, differences in treatment can be seen, depending on the type of cancer and the hospital. An important movement to concentrate care is under way to improve care quality and safety. Access to and organisation of palliative care are strong features of the health system.

As in most countries, COVID-19 had a negative impact on cancer care. In the first peak of the pandemic in April 2020, a 43 % decline in diagnoses of invasive cancers was observed compared to April 2019. While for younger age groups and certain cancer types the missing diagnoses appear to have recovered, for older patients and most cancer types the decline in diagnoses persists.

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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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