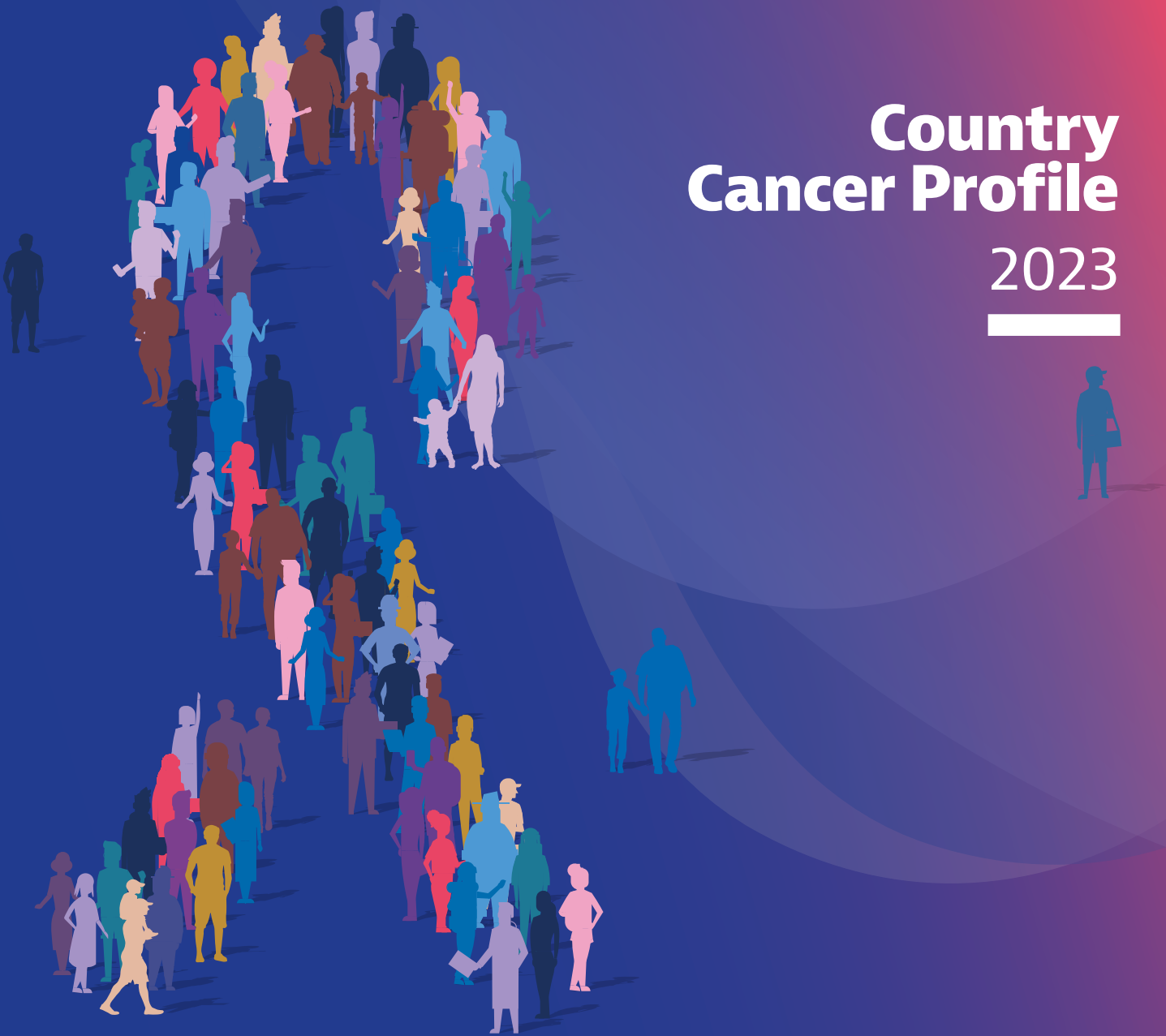




S P A I N

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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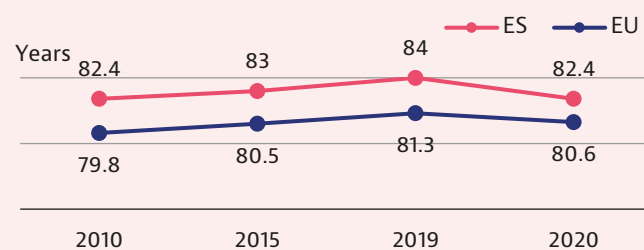
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Contents

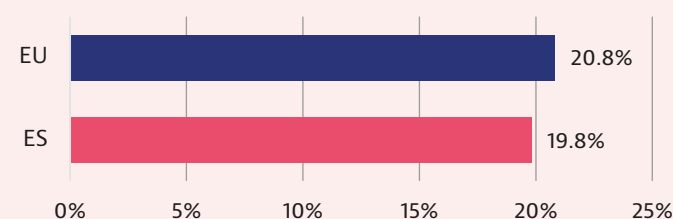
1. HIGHLIGHTS	3
2. CANCER IN SPAIN	4
3. RISK FACTORS AND PREVENTION POLICIES	7
4. EARLY DETECTION	9
5. CANCER PERFORMANCE	11
5.1 Accessibility	11
5.2 Quality	13
5.3 Costs and value for money	16
5.4 COVID-19 and cancer: building resilience	16
6. SPOTLIGHT ON INEQUALITIES	18

Summary of the main characteristics of the health system

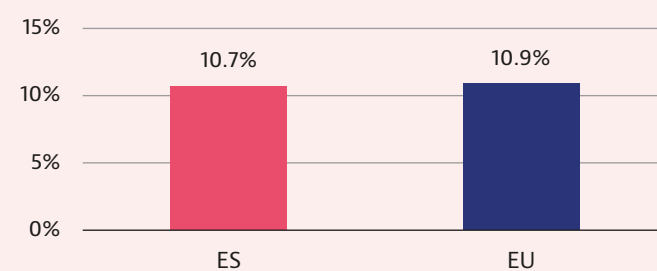
LIFE EXPECTANCY AT BIRTH (YEARS)



SHARE OF POPULATION AGED 65 AND OVER (2021)

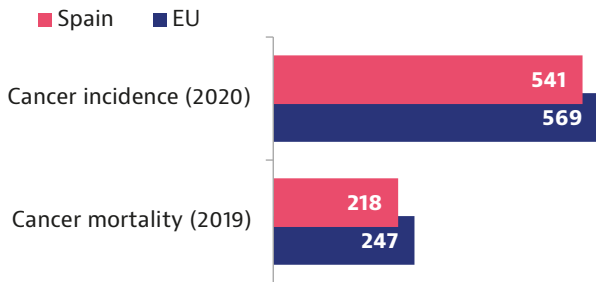


HEALTH EXPENDITURE AS A % OF GDP (2020)



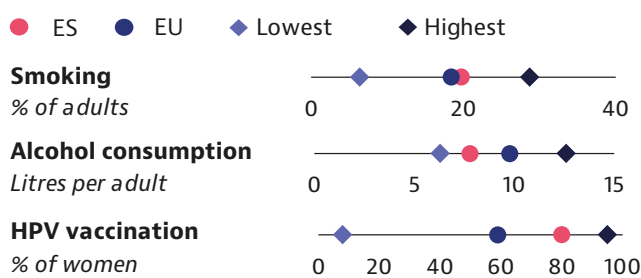
Source: Eurostat Database.

1. Highlights



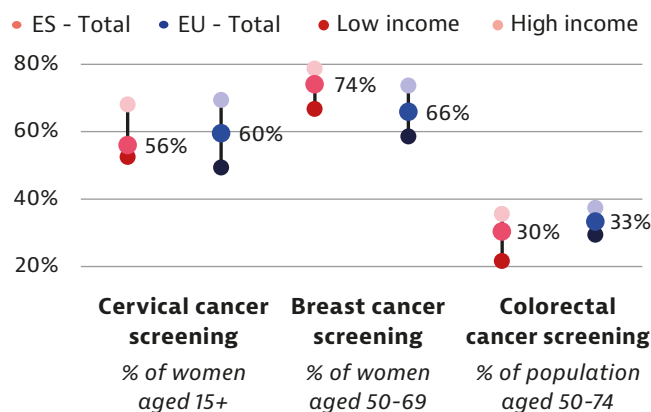
Cancer in Spain

Estimated cancer incidence and mortality rates in Spain are among the lowest in the EU. In 2020, 541 new cancer cases were expected per 100 000 people. In 2019, 218 deaths per 100 000 people were attributed to cancer, lower than the EU average.



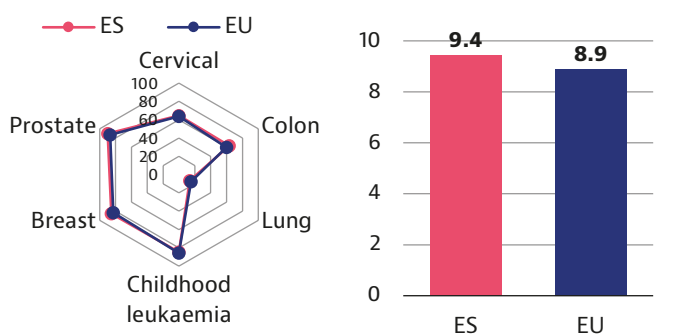
Risk factors and prevention policies

The proportion of daily smokers in 2019 is slightly higher in Spain than the EU average. Alcohol consumption has been reduced since 2000, and was lower than the EU average in 2020. The rate of human papillomavirus (HPV) vaccination among 15-year-old girls has increased by more than 15 % since 2012, and is now among the highest in the EU.



Early detection

In 2019, cervical and colorectal cancer screening participation rates were slightly lower in Spain than in the EU, but breast cancer screening participation rate was higher. Gaps in screening participation exist between education and income groups. Spanish women with higher incomes attended breast cancer screening 18 % more relative to those with lower incomes.



Cancer care performance

Spain's national health system is based on universality, which limits financial barriers in access to care. There are, however, wide variations in health workforce capacity, access to novel oncological treatments and availability of radiotherapy equipment between regions, impairing access to adequate and timely care. Care quality has increased during the past decade, with five-year survival rates above the EU averages for most cancer types. Increasing compliance with minimum quality standards at the regional level; enhancing coverage of cancer registries across the country; and enhancing the concentration of cancer specific treatments and care procedures in reference units with more experience, will improve quality further.

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

Number of radiation therapy centres per 100 000 population, 2007-22

2. Cancer in Spain

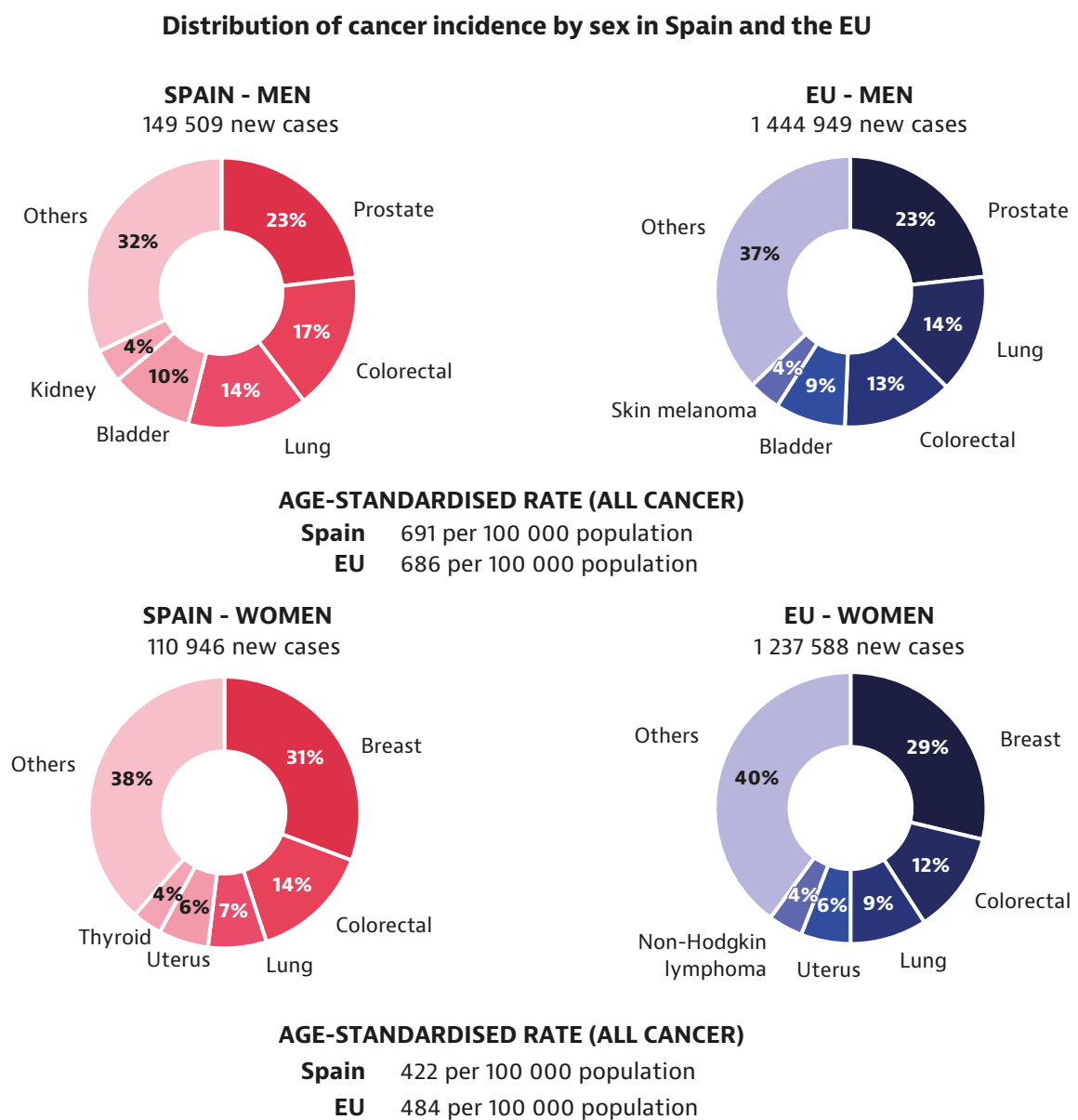
Cancer incidence is lower in Spain than in the rest of the EU

According to European Cancer Information System (ECIS) of the Joint Research Centre based on incidence trends from pre-pandemic years, around 260 000 new cancer cases were expected in Spain in 2020 (Figure 1). The age-standardised incidence rate for cancer was expected to be 15 % lower than the EU average for women, but slightly higher than

the EU average for men. This is mainly driven by relatively high incidence of colorectal, lung, kidney and liver cancer among men compared to women, and relatively low incidence of female cancers, including those of the breast, uterus, ovary and cervix.

The main cancer types among Spanish men were expected to be prostate (23%), colorectal (17%), lung (14%) and bladder (10%) cancer.

Figure 1. The most common cancers in 2020 were expected to be breast, prostate and colorectal cancer



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.

Among Spanish women, breast cancer (31 %) was expected to be the most frequently diagnosed cancer, followed by colorectal (14 %), lung (7 %) and uterus (6 %) cancer (Figure 1). In Spain, the age-standardised incidence rate of cervical cancer was expected to be among the lowest across the EU in 2020 (7.8 per 100 000 women vs. 12.8 in the EU) – equivalent to 1 957 expected new cases among women.

In 2020, gastric (stomach) cancer was expected to constitute 3 % of new cancer cases in men and 2 % in women, and skin melanoma was expected to constitute 2 % of new cancer cases in men and 3 % in women. For paediatric cancer, the age-standardised incidence rate in children under 15 years in 2020 was 15 per 100 000, which is similar to the EU average. In 2013, the estimated

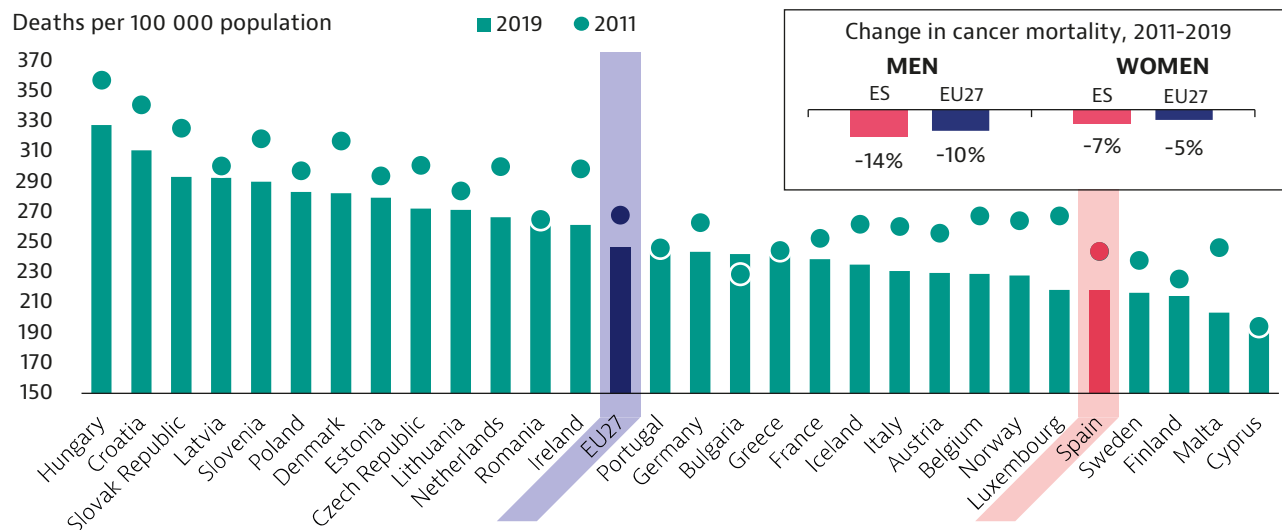
number of new rare cancer cases in Spain was 57 601.

Cancer is one of the leading causes of death in Spain

In 2019, about 218 deaths per 100 000 age-standardised population were attributed to cancer – a higher rate than deaths from diseases of the circulatory system.

Spain has one of the lowest cancer mortality rates in the EU, along with Sweden, Finland, Malta and Cyprus (Figure 2). Since 2011, total cancer mortality has decreased in Spain by 11 %, especially among men (14 %), showing a faster reduction than the EU average of 8 %.

Figure 2. Cancer mortality is among the lowest in the EU and has decreased since 2011



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

Overall, during 2000 and 2017, potential years of life lost due to malignant neoplasms saw a relative decrease of 26 %, and accounted for 1 235 years of life lost among 100 000 people aged up to 75 years in 2017. The relative decrease was much larger among men (33 %) than women (14 %), with 1 487 and 1 000 years of life lost in 2017, respectively.

Lung and colorectal cancers remain the two major causes of death from cancer

In 2019, among all deaths related to cancer in Spain, mortality rates were highest for lung, colorectal and pancreas cancer, followed by breast cancer for women and prostate cancer for men (Figure 3). In 2020, half of deaths from cancer were attributed to one of these main cancer types.

In 2019, gastric (stomach) cancer accounted for an overall mortality rate of 10 per 100 000 population, which is the same as the EU average, while skin

melanoma accounted for an overall mortality rate of 2 per 100 000 population.

Almost all the leading causes of death cancer mortality have experienced reductions since 2011, with the largest for bladder (-28 %), stomach (-23 %), prostate (-20 %), colorectal (-14 %) and breast (-13 %) cancer. Ratification of the objective of 50 % coverage of the target population for colorectal cancer screening as part of the National Cancer Plan revision of 2009, increasing participation rates in breast cancer screening programmes and general reductions in risky behavioural activities may have contributed to these decreases (see Sections 3 and 4).

Conversely, the pancreas cancer mortality rate has increased by almost 10 % since 2011: it caused 7 400 deaths in 2019, which was 7 % of all cancer deaths. Despite the relatively low estimated

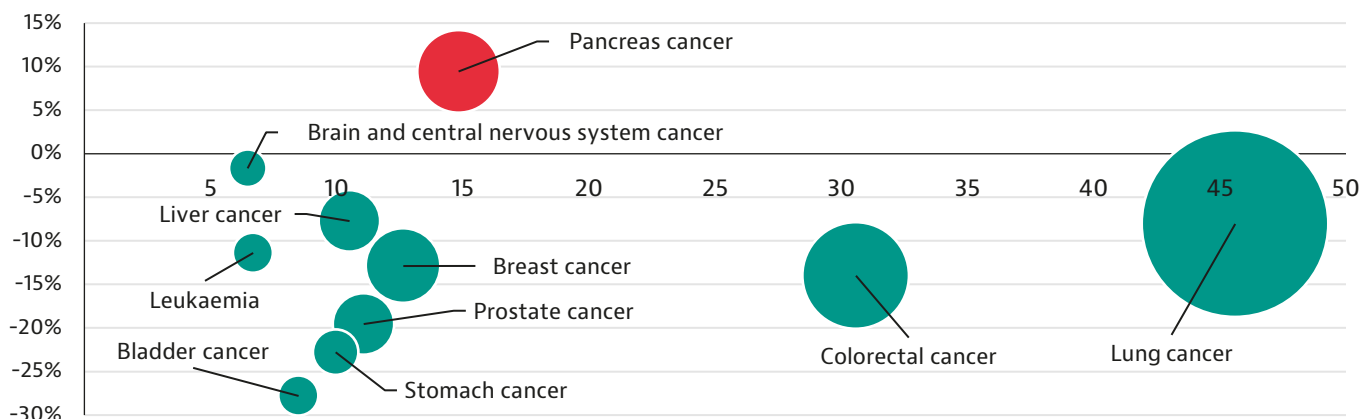
incidence in 2020 (8 200 per 100 000 population), pancreas cancer is among the most lethal, with one of the lowest survival rates due to late diagnosis and ineffective treatment.

From 2011 to 2019, cervical cancer mortality decreased by 13.2 % in Spain (compared to a 9.7 % decrease across the EU), and the rate was

among the lowest in the EU (2.4 % vs. 3.9 %). Relatively low incidence of cervical cancer, high coverage of HPV vaccination and the introduction of population-based cervical cancer screening (screening offered to a specific at-risk target population) contribute to low mortality (see Sections 3 and 4).

Figure 3. Cancer mortality decreased for most cancers between 2011 and 2019

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



Age-standardised mortality rate per 100 000 population, 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.

Cancer mortality is higher for men than for women, but the gender gap is narrowing

Overall cancer mortality rates are twice as high for men as for women, reflecting higher incidence among men (particularly for colorectal and lung cancer) and greater exposure to risk factors (see Section 3). However, in recent years the faster reduction in cancer mortality among men (see Figure 2) has narrowed this gender gap. This can be explained in part by higher mortality from lung cancer among women (increasing at an average annual rate of 3 % since 2011), reflecting changes in smoking patterns (see Section 3).

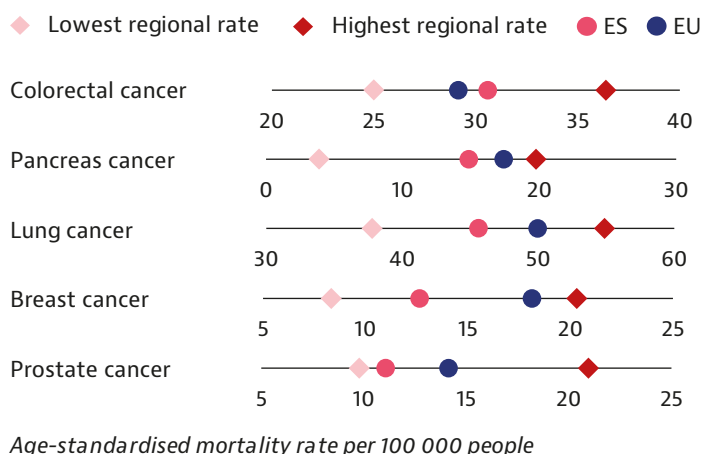
Deaths from cancer vary widely across autonomous regions

Regional differences in cancer mortality rates are important in Spain. While the region reporting the lowest overall cancer mortality rate in 2019 (Madrid, at 199 per 100 000 population) is at the level of the best-performing country in the EU, the region with the highest mortality rate (Asturias, at 248 per 100 000) is close to the EU average.

Such disparities are even larger when observed for individual cancer types: the highest mortality rates

in autonomous regions for colorectal, pancreas, lung and breast cancer were above the EU averages (Figure 4). These geographical variations have been reported consistently in the literature, signalling differences in exposure to risk factors, among other factors.

Figure 4. Cancer mortality rates vary substantially across autonomous regions



Age-standardised mortality rate per 100 000 people

Note: Regions refer to the 17 autonomous regions and the two autonomous cities of Ceuta and Melilla. Source: Eurostat Database.

Prevention is one of the central axis of the updated National Cancer Plan in Spain

In 2006, Spain approved the first version of the National Cancer Plan, the result of a collaborative effort between the scientific community, patient associations, professionals in cancer care and representatives of all autonomous regions. In 2021, the National Cancer Plan was updated in line with the Europe’s Beating Cancer Plan (European Commission, 2021). Some of the key objectives in the updated strategy include health promotion

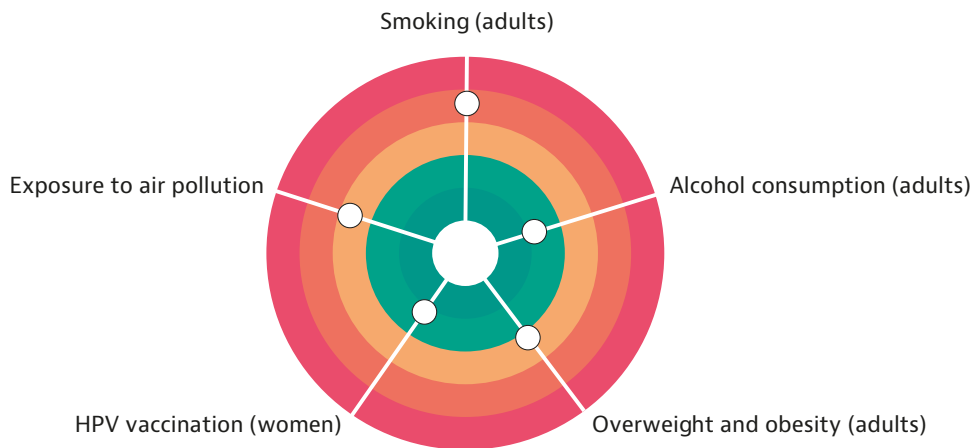
and cancer prevention (see Section 3); definition of an implementation model of precision oncology in the health system; health care centralisation in reference units for rare tumours (including paediatric ones) and highly complex procedures; and a focus on research as an essential tool to improve diagnosis, treatment and quality of life for patients. In 2020, spending on prevention is at 3.2 % of current health spending, lower than the EU average of 3.4 %.

3. Risk factors and prevention policies

Spain fares relatively well compared to most other EU countries for modifiable cancer risk factors, including alcohol consumption, overweight and obesity rates, which are all slightly below the EU

average (Figure 5). However, tobacco consumption remains slightly higher than the EU average, while exposure to air pollution is on par with the EU average.

Figure 5. Smoking and exposure to air pollution are major risk factors associated with cancer in Spain



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).

The proportion of daily cigarette smokers is high in Spain, with substantial socioeconomic inequalities

According to the EHIS, one in five Spanish adults reported daily cigarette smoking in 2019 (Figure 6) – a proportion higher than the EU average despite reductions in the last decade. Some 23 % of adult men reported smoking cigarettes daily compared with 16 % of adult women (EESA, 2020). Differences

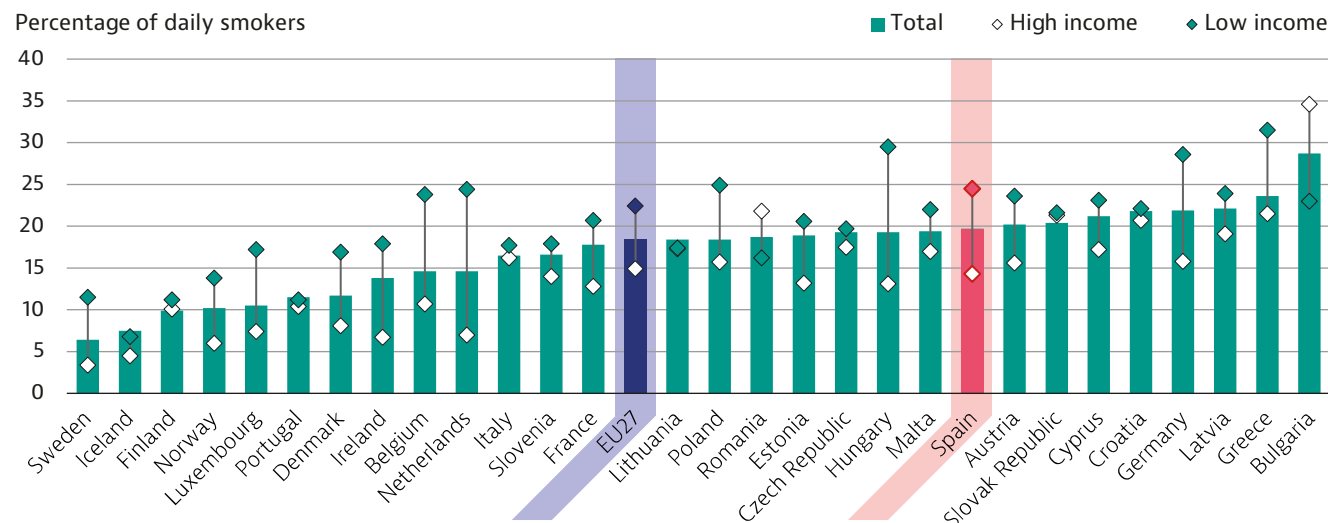
between age groups are also important: the proportion of daily smokers aged 15-65 years (23 %) was three times higher than the proportion of people aged 65 years and over (8 %).

In Spain, socioeconomic factors such as education and income levels are strongly associated with smoking behaviours. In 2019, the proportion of adult daily smokers was almost one third

higher among the least educated (21 %) than the most educated (16 %) groups. The proportion of daily smokers on low incomes was roughly 25 %

(Figure 6), while it was only around 14 % among those at the highest end of the income distribution, and this gap has widened since 2014¹.

Figure 6. The income gap in the proportion of daily smokers is important in Spain



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

Initiatives have been adopted to reduce smoking, but focus on vulnerable groups remains limited

In 2005, Spain passed a first law of health measures against smoking and regulating the sales, distribution, consumption and advertising of tobacco products, which in 2010 facilitated creation of smoke-free public places and promotion of smoking cessation programmes, mainly in primary care. In 2017, a new law was passed to regulate tobacco product sales, distribution, consumption and advertising. Taxes on cigarettes and rolling tobacco have also been raised.

The Spanish Ministry of Health has been working on an updated Tobacco Prevention and Control Plan to reduce tobacco consumption, and related-products consumption for the 2022-2025 period as a first step to reach the main goal targeted by the European Cancer Plan of reduction of daily smokers prevalence to less than 5 % by 2040. The main pillars of this updated strategy are extending smoke-free places, including beaches and terraces in bars and restaurants; introducing neutral tobacco packaging, following positive experiences in other countries; and increasing taxes on tobacco products to match those in neighbouring countries. While the central government has not yet passed this initiative, some autonomous regions have taken initial steps toward implementing more restrictive smoking

regulations. In 2022, Catalonia announced plans to ban smoking on terraces, at bus stops and in areas around schools, and to provide free nicotine replacement therapy for people with incomes lower than EUR 18 000 per year. These changes have been announced but not yet implemented.

Alcohol consumption has increased over the past decade

Alcohol consumption among adults in Spain has been reduced since 2000, and was lower than across other EU countries in 2020 (7.8 litres per capita, compared to the EU average of 9.8 litres). However, in 2020, age-standardised incidence cancer rate per 100 000 population attributable to alcohol were higher than the EU averages for liver, colon and colorectal cancer, according to IARC.

In 2017, the Spanish Government established an increase in taxation on alcoholic beverages (4.7 %). However, beer has a lower tax rate than hard alcohol, and wine is exempted from the tax. The National Plan on Addictions discusses the need to introduce further policies to regulate availability of access to and marketing of alcohol as opportunities to improve prevention, with a focus on the young population, which is identified as one of the main vulnerable groups.

¹ According to EESE (2020), the social gradient of higher smoking prevalence in disfavour of the most disadvantaged population is observed in general population, but also more markedly among men.

The population with overweight or obesity is lower than in many countries but above the EU average

In 2019, more than 50 % of Spanish adults were overweight or obese – a proportion slightly higher than the EU average. This share is higher for men (61 %) than for women (46 %), which could be explained in part by differences in dietary habits. In 2019, higher proportions of women than men reported eating at least one portion of fruit (71 % vs. 64 %) and vegetables (52 % vs. 41 %) a day.

There are also important inequalities in overweight and obesity rates between the least and most educated people, particularly among women. The share of overweight or obese women among the least educated group (59 %) was almost double that among the most educated (32 %) – a larger gap than the EU average. While smaller, an education gap also exists among Spanish men. Poor dietary habits and lower physical activity levels could contribute to these observed inequalities.

In 2021, Spain reached an agreement with the food industry to include voluntary front-of-pack food labelling with the aim of promoting healthy diets. In May 2022, the government launched the National Strategic Plan for the Reduction of Childhood Obesity, with ambitious objectives for 2030. The Plan builds on measures to promote access to adequate diets, dedicated time and facilities for physical activity and sports, and create suitable conditions to rest and encourage emotional well-being among children.

Spain had a high share of 15-year-old girls vaccinated against human papillomavirus in 2020

In Spain, the share of 15-year-old girls with the recommended doses of HPV vaccine grew from 58 % in 2012 to 80 % in 2020². This coverage growth results from a national agreement signed in 2007 by all the autonomous regions, but regional variations exist because of differences in logistics, implementation and the focus age cohorts. Higher coverage has been registered among autonomous regions with vaccination programmes in schools than among those with programmes only in health care centres. HPV vaccination in boys has been introduced through 2022 in some Spanish regions. Subsequently, the Health Ministry and the Regional Governments have recently made an agreement to introduce HPV vaccinations in boys aged 11-12 years in the rest of Spain by 2023.

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

In 2019, exposure to PM₁₀³ in Spain reached 19.4 µg/m³, which is slightly lower than the average across the EU (20.5 µg/m³). Spain also had a lower concentration of PM_{2.5} than in the EU (11.8 µg/m³ vs. 12.6 µg/m³). According to the Institute for Health Metrics and Evaluation (IHME), ozone and PM_{2.5} exposure accounted for an estimated 3 % of all deaths in Spain in 2019, a rate lower than the average across the EU.

4. Early detection

Population-based screening programmes are in place for breast, colorectal and cervical cancer

Screening programmes have been shown to reduce premature cancer morbidity and mortality and to help to improve survival. Population-based cancer screening programmes are crucial to tackle social inequalities; they are efficient when the population to be screened is adequately targeted and participation levels are high. Spain's National Cancer Plan reflects EU recommendations on cancer screening by including population-based

screening for breast, cervical and colorectal cancer in the portfolio of common services of the National Health System. However, implementing these guidelines is a competence of the autonomous regions, leading to differences in coverage and participation across regions.

In 2020, population-based screening programmes were in place in all autonomous regions for which data were available for breast cancer (14 regions) and for colorectal cancer (13 regions). Only six autonomous regions had adopted population-based

² According to official national vaccination coverages, almost 82 % of 15-year-old girls received the recommended doses of HPV vaccine.

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

screening programmes for cervical cancer, many of which were still in pilot or partial implementation phases, except in the Basque Country (Molina-Barceló et al., 2021).

Breast cancer screening rates are above the EU average but socioeconomic inequalities are large

Population-based breast cancer screening is performed in all autonomous regions and both autonomous cities. In 2019, around 74 % of Spanish women aged 50-69 years reported receiving a mammogram in the past two years, compared to 66 % across the EU (Figure 7). Low screening participation rates were concentrated among those groups of women with the lowest education and income. In 2019, significant gaps in reported breast cancer screening rates were found for Spanish women with the lowest (71 %) and highest education levels (77 %) and the lowest (67 %) and highest income levels (79 %). These gaps are lower than in average across EU countries.

In Extremadura, a retrospective study of women who did not attend their screening appointments concluded that the leading causes of non-attendance were a lack of coordination between health care levels, low health literacy, failures in the information systems and accessibility problems (Muñoz-Sanz et al., 2021).

Population-based cervical cancer screening was introduced in 2019

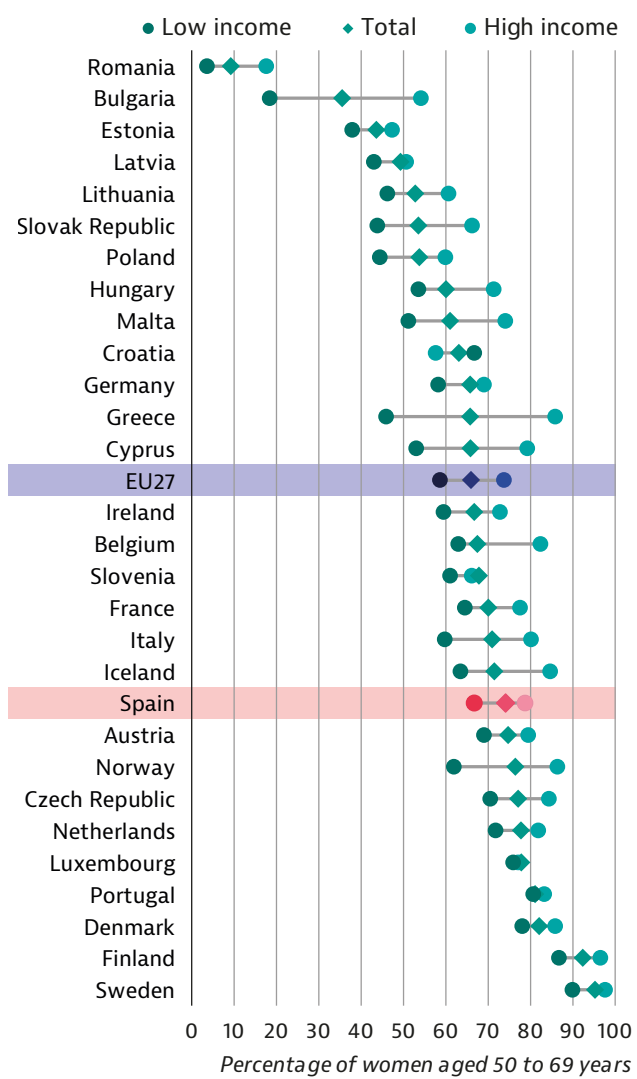
Historically, cervical cancer screening was offered opportunistically to women between the ages of 25 and 65 years, every 3-5 years. In April 2019, population-based cervical cancer screening was incorporated into the national health system portfolio of services, replacing the previous approach. The autonomous regions have a five-year time limit to introduce such screening, focusing on women aged 25-34 years for smear tests and women aged 35-65 years for HPV testing.

In 2019, 56 % of Spanish women aged 15 years and over reported participating in a cervical smear test within the last three years – a proportion lower than in most EU countries (60 %). The rates are considerably higher among women with high educational attainment (74 %) and high income levels (68 %). In contrast, rates were 42 % for women with the lowest education levels and 53 % for those on the lowest incomes.

The share of the population participating in colorectal cancer screening was low

Population-based screening for colorectal cancer was incorporated into the portfolio of common

Figure 7. Income inequalities in breast screening uptake are large in Spain



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.

services of the National Health System in 2014, along with a five-year period for autonomous regions to initiate it, and 10 years to achieve 100 % coverage for the target population. All autonomous regions have begun implementation of the programme, but with important disparities in participation rates.

In 2019, the proportion of the Spanish population aged 50-74 years who reported participating in colorectal cancer screening in the last two years was around 30 %, slightly below the EU average of 33 %. More than 36 % of those in the highest income quintile reported having recent colorectal cancer screening, while the proportion was 22 % among those in the lowest quintile.

Some policies to monitor and address inequalities in access and participation have been implemented

From 2013 to 2020, many autonomous regions identified social groups that were not integrated into the target population for cancer screening programmes. Among 12 autonomous regions that participated in a recent study (Barceló et al., 2021), 12 identified a lack of coverage for colorectal cancer screening programmes; 10 identified a lack of coverage for breast cancer screening and 7 for cervical cancer screening. Some commonly identified excluded groups were irregular migrants and inmates in the penitentiary system.

In 2020, among the autonomous regions with population-based screening programmes, 90 % systematically monitored socioeconomic differences in participation in breast cancer screening, while the shares were lower for colorectal (80 %) and cervical (50 %) cancer screening. Some autonomous regions have carried out interventions to address inequalities in screening participation, either with a broad focus on information and awareness campaigns or specific to vulnerable groups – including translation of material into other languages. In 2020, 10 autonomous regions reported interventions to reduce inequalities in participation rates for breast cancer, 5 for colorectal cancer and only 2 for cervical cancer.

5. Cancer performance

5.1 Accessibility

Spain has a decentralised health system with national coordination

The fundamental principles of the national health system are universality, equity and free access to treatment and health services. It is based on universal coverage and is mainly funded from taxes. While national planning and regulation remain the responsibility of the Ministry of Health, health competences and primary jurisdiction over operational planning at the regional level, resource allocation, purchasing and provision are devolved to the 17 regional health authorities.

Since the introduction of the first National Cancer Plan in 2006, the national health system has recognised the need for multidisciplinary teams to diagnose and treat cancer, given the growing complexity of care. The Plan includes recommendations on the concentration of care, following the EU guidelines on developing comprehensive cancer centres. However, only Catalonia has established specific guidelines on the concentration of care for specific procedures and tumours, linking them to the payment system to ensure enforcement. One of Spain’s major challenges lies in reorganising tertiary hospitals to concentrate expertise on specific cancer treatments.

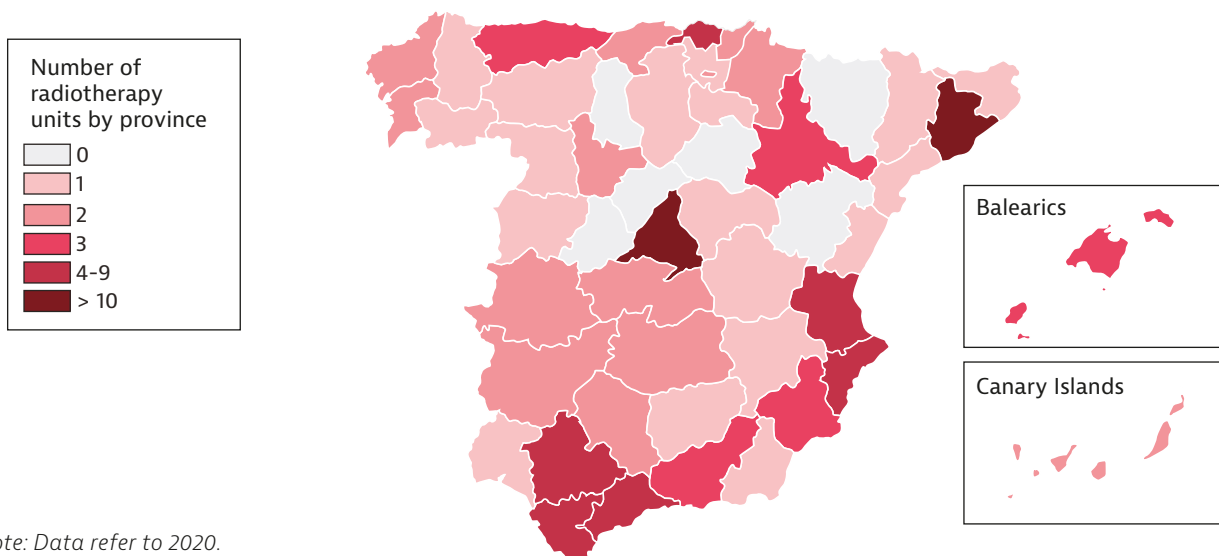
Availability of radiotherapy equipment is high but distribution is uneven

In 2019, Spain had 236 radiation therapy equipment units in hospitals and the ambulatory sector (15 % more than in 2010), the second highest level in the EU after Italy (445). However, six provinces and the two autonomous cities (Ávila, Huesca, Palencia, Segovia, Soria, Teruel, Ceuta and Melilla) do not have radiotherapy units in their territories (Figure 8). In these places, long journeys or accommodation costs to attend health care centres constitute a substantial barrier to access to cancer care among vulnerable groups. These provinces provide support to patients needing to travel outside the region to attend care, but the support varies widely across provinces, adding an extra layer of inequality.

Shortages of human resources impair access to adequate and timely care

In 2020, the number of doctors per 1 000 inhabitants (4.6) was above the EU average (3.9), while the proportion of nurses (excluding nursing assistants) per 1 000 inhabitants (6.1) was much lower than the EU average (8.4). In addition, the distribution of human resources across Spain is imbalanced. For example, while Castilla y León had 1.12 general practitioners per 1 000 population in 2019, the Balearic Islands had 0.62 (CHP ESP 2021).

Figure 8. Some provinces do not have radiotherapy centres on their territories



Note: Data refer to 2020.
Source: Fernández et al. (2020).

Focusing on cancer, in 2015 Spain had 3.9 medical oncologists per 100 000 inhabitants (up from 3.6 in 2010) – a rate higher than for most EU countries for which data were available. However, according to Eurostat Database, the low number of nurses is a limiting factor in delivery of cancer care.

Rates of breast cancer surgery are high but access to reconstruction services is limited

In Spain, rates of surgery to remove breast tumours have doubled since 2004, with a sharp increase since 2015. In 2019, the rate of women undergoing total mastectomy per 100 000 inhabitants was 45 (102 for partial excisions of the mammary gland). These rates were higher than the EU averages. Such trends may be explained by greater service availability and progress in screening.

However, access to post-surgery breast reconstruction is limited. Estimates based on surveys from the Spanish Society of Plastic, Reconstructive and Aesthetic Surgery (SECPRE) suggest that in 2016 about 30 % of Spanish women underwent breast reconstruction procedures after mastectomies, and less than half of them accessed immediately to this service. Lack of patient awareness, low support for immediate breast reconstruction, and reduced number of plastic surgeons in public hospitals promote long waiting times and impair patients’ physical and psychological recovery.

Access to novel oncology treatments can be substantially delayed in some autonomous regions

In Spain, the path from approval of oncology drugs to their effective prescription is complex. Once a drug is centrally approved by the European

Medicines Agency, a national body responsible for establishing pricing and reimbursement conditions, and the drug may eventually be included in the portfolio of common services of the National Health System. The autonomous regions then have to cover the drug expenses from their budgets.

There are important differences across autonomous regions in the time between establishing the pricing and reimbursement conditions for new oncology drugs and approval for their prescription in hospitals, indicating inequalities in access (Figure 9). The median time for all autonomous regions ranges from 5 months for palbociclib (for breast cancer) to 13 months for olaparib (for ovarian cancer). For ribociclib (for breast cancer), the median was 6 months, but the minimum was 3.5 weeks in Valencia and the maximum was 7 months in Murcia and Catalonia. Conversely, for nivolumab (for lung cancer), the median was 17 months, but the minimum was 1 month in Extremadura and the maximum was 33 months in the autonomous city of Ceuta. Overall, no clear and consistent pattern in delays across regions can be identified.

Barriers to access to biomarker testing pose a challenge to consolidation of precision oncology medicine

New practices in cancer diagnosis are emerging with the development of precision medicines and use of biomarker testing for tumour identification and prediction of responses to treatment. In Spain, the medical oncology services of several hospitals, primarily publicly owned, offer the possibility to request the determination of predictive biomarkers for cancer. However, there are essential differences in the procedure

for granting access across autonomous regions and hospitals (Rodríguez-Lescure et al., 2020). Disparities in funding sources, the lack of general clinical guidelines, unclear decision-making mechanisms and variations in the time taken from request to results are barriers to equitable access to biomarker determination.

The latest version of the National Cancer Plan approved in 2021 sets out a definition of a general framework for implementation of precision medicine in the national health system. This focuses on improving equity of access, ensuring service quality and evaluating the results of developments in precision oncology medicine.

Despite advancements in legislation and coordination, access to specialised palliative care remains limited

In 2007, the Ministry of Health presented the National Strategy for Palliative Care, which set out guidelines for autonomous regions to develop more specific action plans. The Strategy has not been updated since 2014, however. A law ensuring and regulating access to palliative care in Spain has been discussed, but its approval was delayed by the COVID-19 pandemic and political focus on passing a law on euthanasia in 2021.

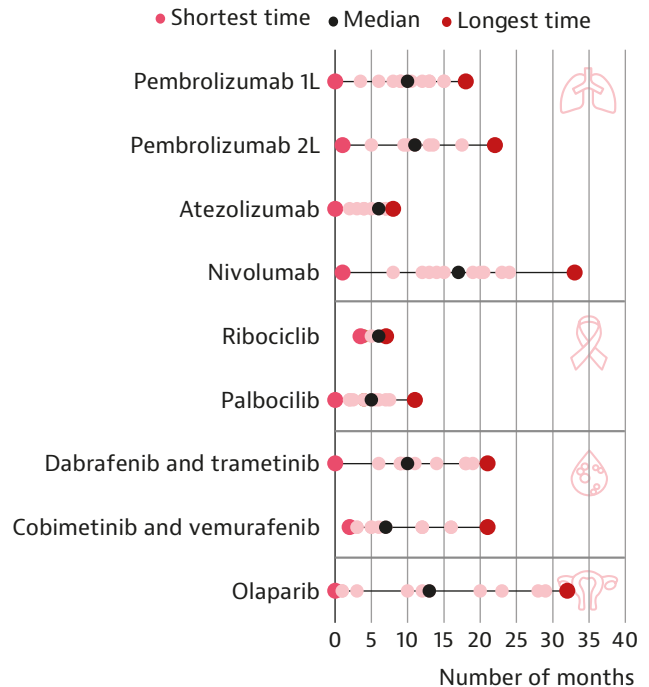
In 2018, Spain had 260 specialised palliative care services for adults, corresponding to 0.6 per 100 000 inhabitants. This rate is below the EU average of 1.1 and far below the European Association for Palliative Care recommendation of 2 per 100 000 inhabitants (EAPC, 2019). In 2017, about 130 000 people died with complex needs requiring specialised palliative care, but only 40 % received such care (SECPAL, 2019).

In Spain, to obtain the title of Doctor and Nurses, it is mandatory to receive basic formation in palliative care (100 % medical and nursing schools) in accordance with the current legislation⁴. The continuing education in palliative care for doctor and nurses is developed outside Universities, through accredited activities by regional health services. According to the European Association for Palliative Care, in 2018, only 10 % of medical schools in Spain offered a mandatory course on palliative care, while 43 % offered such a course combined with other disciplines. The share of nursing schools offering mandatory courses specific to palliative care or combined with other fields is 60 % (EAPC, 2019).

Access to prescription opioids in Spain is relatively high, suggesting adequate access for pain and

symptom management among people at the end of life. Fentanyl accounted for 86 % of opioid consumption per capita in morphine equivalent, excluding methadone, in 2017.

Figure 9. Time to access novel oncology treatments varies substantially across autonomous regions



Note: Data are for the 17 autonomous regions and the autonomous city of Ceuta. Data were collected from 58 % of centres contacted during the first quarter of 2019. They include relevant drugs with pricing and reimbursement conditions established between January 2016 and April 2018. The number of autonomous regions with available data varies by drug. Source: Rodríguez-Lescure et al. (2020).

5.2 Quality

Five-year cancer survival rates have increased during the past decade

In the last decade, survival of cancer patients after diagnosis has increased for most cancer types in Spain – particularly for colon, prostate and rectum cancer. Five-year survival rates are slightly higher than the average across EU countries, except for lung cancer (Figure 10). The National Cancer Strategy, through its introduction of multidisciplinary teams for cancer care and improvements in national cancer screening programmes, contributes to these results.

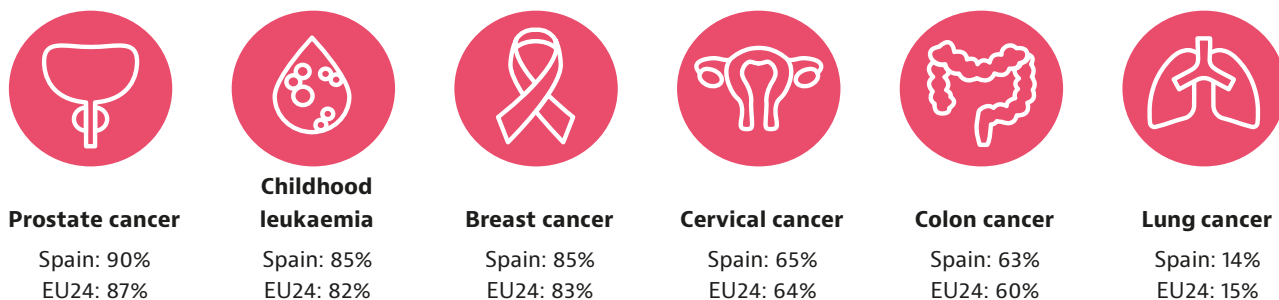
Improvements in overall survival have also mostly been driven by progress made in late stage cancers. For instance, survival has remained steady at high levels for early and intermediate stages of breast

⁴ Ordinance ECI/332/2008 and CIN/2134/2008.

cancer, but there have been significant increases in survival among Spanish women with advanced stage breast cancer – from 36 % in 2001-03 to 43 % in 2010-14. Such improvements may be attributed

in part to the latest developments in oncological drugs and precision medicine, allowing a more informed understanding of when patients could benefit from chemotherapy after surgery.

Figure 10. Five-year cancer net survival rates are higher in Spain than across the EU, except for lung cancer



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.

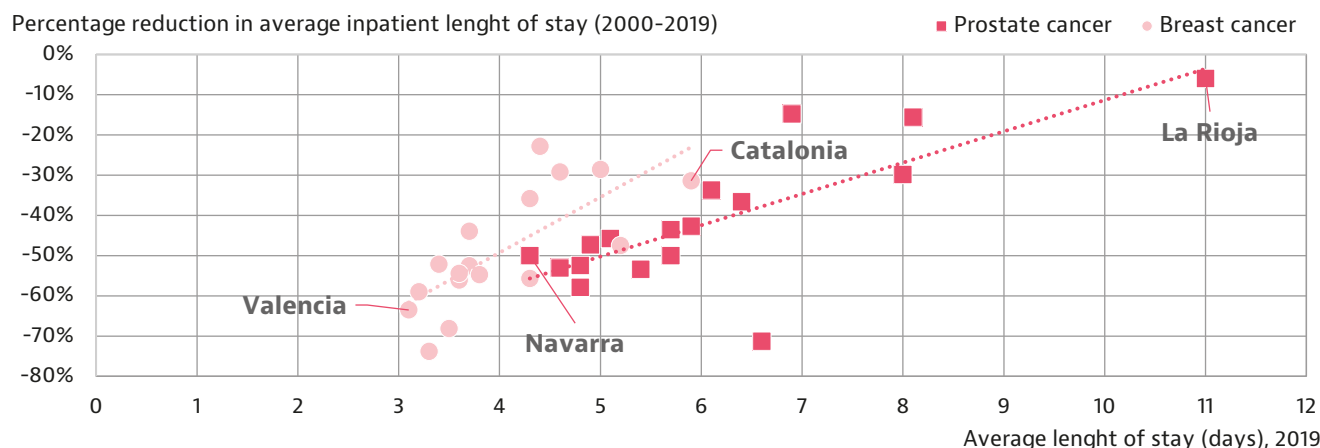
Durations of hospitalisation for cancer have decreased at a faster pace in Spain than in the EU

In 2019, the average lengths of inpatient stay for cancer were lower in Spain than in the EU averages for breast (4 vs. 5.1 days), prostate (5.8 vs. 6.7 days), bladder (5.2 vs. 5.5 days) and uterus (6.2 vs. 6.9 days) cancers. However, Spain had longer average lengths of stay for colorectal (11.5 vs. 8.8 days), lung (10 vs. 8.3 days), ovarian (8.8 vs. 7.6 days) and skin (5.1 vs. 4.6) cancers. Reductions in hospital lengths of stay for cancer since 2000 have been substantial in Spain, with the most important progress made for breast (-52 %) and prostate (-45 %) cancers (Figure 11). For most cancer types (except skin and lung), such reductions were larger than those across the EU, suggesting higher improvement in care quality in Spain.

Important inequalities in lengths of stay for cancer are reported between autonomous regions

Since 2000, all autonomous regions have reduced the average length of stay in hospital for most cancer types, but they have done so at different paces (Figure 11). Such disparities are an indicator of differences in quality of cancer care across the country. In 2019, the average length of stay for a woman with breast cancer in Catalonia was almost 6 days, while it was only 3 days in Valencia. Differences are even more striking for prostate cancer: in 2019, the average length of stay for men with prostate cancer was 11 days in La Rioja but 4 days in Navarra. Similar disparities are observed for other cancers, including bladder, uterus, colorectal, skin, ovarian and lung cancers.

Figure 11. Progress in cancer care delivery is unequal across autonomous regions in Spain



Note: Data do not include the autonomous cities of Ceuta and Melilla. Source: Eurostat Database.

Minimum standards are defined for the provision of cancer care

In 2013, the authorities defined minimum standards for the provision of cancer care, intending to concentrate high-complexity and low-frequency procedures at the regional and supra-regional level. For instance, a multidisciplinary colorectal cancer unit requires a minimum of 12 surgical procedures per year on a reference population of at least 2 million. In cases of associated surgery for liver metastasis, the minimum number of surgical procedures is 11 for the same reference population. Catalonia has been a pioneer region in the development of standards and compliance mechanisms for care concentration, with positive results for colorectal cancer care (Manchon-Walsch et al., 2016; Prades et al., 2016) (Box 1).

Box 1. Concentration of surgeries contributed to improvements in colorectal cancer care in Catalonia

In 2011, the regional health authorities in Catalonia implemented a centralisation strategy for colorectal cancer surgery in hospitals with high surgery volumes. After a complete cycle of clinical audits on patterns of care and clinical outcomes, there is evidence of better performance after implementation of these measures.

Three biennial clinical audits took place in hospitals performing a minimum established number of colorectal cancer surgeries (2005-2007, 2011-2012 and 2015-2016). The number of centres performing relatively few surgeries fell from 25 in the first audit to 5 in the last. The volume of annual surgical interventions in centres with a high concentration of colorectal surgery increased from 37.5 % in the first audit to 54.5 % in the last. One-month (-87 %), three-month (-71 %), one-year (-49 %) and two-year (-38 %) mortality rates after surgery decreased significantly. Three-year overall survival increased from 75 % to 82 % and five-year overall survival from 66 % to 70 %.

While the number of surgical complications and reinterventions remained stable, emergency surgeries and lengths of stay were significantly reduced. In addition, concentration of services in colorectal cancer was related to improvements in quality of clinical documentation and an increase of the share of patients evaluated by multidisciplinary teams (from 73.2 % in 2011-2012 to 91.6 % in 2015-2016).

Reference centres have also been created for rare cancers (adult and paediatric). The criteria applied for designation of these centres include experience (volume of activity, initial and continuous training of team members, training of other professionals and research) and multidisciplinary, specific resources

(staff and equipment). The criteria are verified during the accreditation procedure via onsite audits.

In addition, population-based cancer registries record all new cancer cases diagnosed in a specific location and are essential information systems to monitor the evolution of cancer and to plan and evaluate cancer control policies (Box 2). In 2022, the network of Spanish cancer registries (Redecan) covered about 27 % of the Spanish population (10 million people) – a coverage rate comparable with other Mediterranean countries.

Box 2. Population-based cancer registries in Spain

The Spanish Network of Cancer Registries was created in 2010 to coordinate and ensure the quality and comparability of the data gathered by the 15 existing population-based cancer registries and the Spanish Registry of Childhood Tumours.

The distribution of population-based cancer registries is not random; they are concentrated in relatively small regions and cities for which data collection is more accessible. Inequalities in the distribution of information systems contribute to knowledge gaps about the epidemiological development of cancer in specific regions. This hinders adequate evaluation of targeted policies like cancer screening programmes.

However, the COVID-19 pandemic put financial pressure on the national health system, and resources at national and regional levels were shifted to manage the crisis. The lack of secure financing for population-based cancer registries jeopardises the timeliness of data.

A national guide for paediatric cancer care is in place

In 2018, the Spanish Ministry of Health and the autonomous regions agreed on the need to adopt specific measures to be implemented at a regional level to improve the results of child and adolescent cancer survival and reduce inequalities. One of the main agreements reached was creation of regional committees for care coordination in each autonomous region. In 2021, quality standards were published to guide the optimal organisation and management of care for children and adolescents with cancer in Spain.

The recommendations are based on general criteria for what care should entail, focusing on safety, patients and their families. Organisational recommendations focus on supply (availability of radiotherapy, patient follow-up after discharge and palliative care), concentration of paediatric care in specialised centres (receiving at least 30 new patients yearly) and use of health care networks and multidisciplinary teams for diagnosis and treatment.

Psychological and social care are key to ensuring quality and equity of care

A diagnosis of cancer and its treatment may result in psychological suffering that could reach levels of emotional distress with clinical consequences. Estimates suggest that a third of cancer patients require specialised psychological support. Based on national and international studies, several Spanish cancer associations proposed inclusion of specialised psychological care for patients and their companions within a multidisciplinary model of cancer care, and measurement of emotional distress as a sixth vital sign (after body temperature, blood pressure, heart rate, respiratory rate and pain). One of the objectives of the National Cancer Plan is to use a standardised tool in oncological care that allows early detection of psychological distress and to develop a protocol for early referral to ensure timely psychological intervention.

The negative physical and psychological consequences of cancer can be intensified by economic and social problems (such as income losses, increases in health-related expenses and development of difficulties with activities of daily living, among others). Social workers should intervene early to provide professional social assistance to cancer patients throughout the care process, according to the patient’s situation. The National Cancer Plan contemplates provision of social assistance to patients and their families through studies of the occupational, psychological and social impact.

While the National Cancer Plan and National Strategy for Palliative Care recognise the need for professional emotional and psychosocial support for patients and their families throughout all stages of cancer, the implementation of these guidelines is

the responsibility of the autonomous regions. The lack of normative status of the national guidelines and the unavailability of information on how psychological and social services are provided in the different autonomous regions may lead to inequalities in the quality and coverage for cancer patients.

5.3 Costs and value for money

In 2018, the cost of cancer in Spain accounted for around 10 % of public expenditure on health care

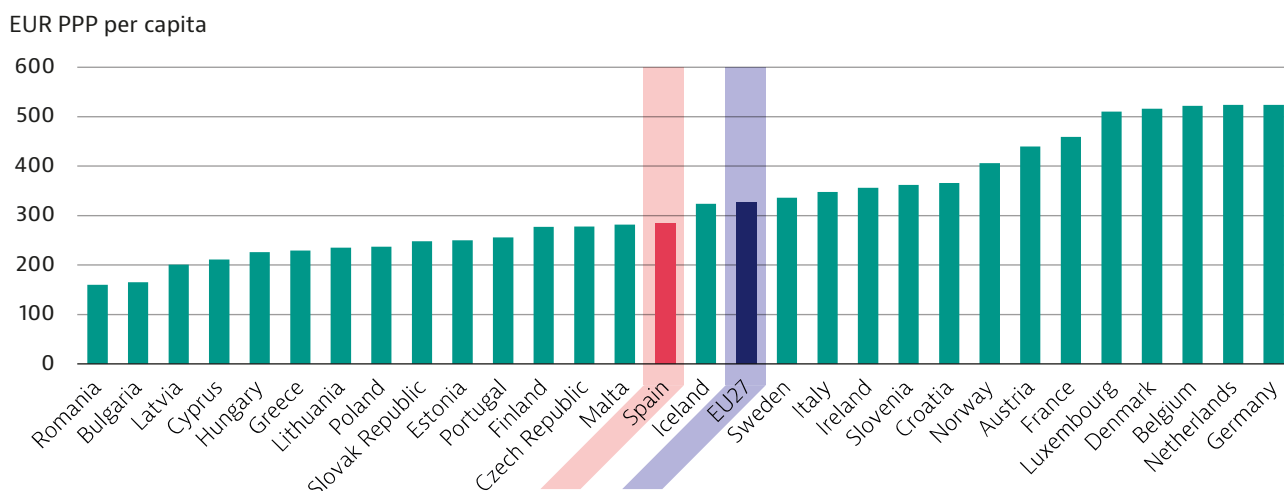
The direct and indirect economic costs of cancer are increasing in all countries. Greater incidence of cancer, improvements in survival rates and availability of more expensive treatments increase the financial toll of cancer on societies and national health systems.

In 2018, the estimated total cost of cancer in Spain was EUR 12.1 billion. About 43 % of this total cost corresponded to direct costs (costs incurred within the health system). Another 21 % was opportunity costs of time caused by provision of unpaid care by relatives. The remaining 36 % resulted from productivity losses attributed to morbidity and premature mortality. Overall, the economic cost of cancer accounted for EUR 285 per capita in Spain after adjusting for purchasing power parity (PPP), which was lower than the EU average of EUR 326 (Figure 12).

Ensuring sustainable uptake of new oncology drugs is a major challenge for the Spanish health system

In Spain, public financing of oncological drugs is high and rising. The Ministry of Health reported that in 2021 nine out of 10 oncological drugs that went through national evaluations for pricing

Figure 12. Per capita expenditure on cancer care in Spain is close to the EU average



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

and reimbursement were financed via public resources (7.5 % more than in 2019). Spanish pricing and reimbursement processes are complex, and lack transparent criteria to justify decisions. The financially sustainable integration of new medicines depends, among other factors, on consolidation of adequate, efficient and transparent procedures for health technology assessments of cancer drugs. Additionally, pressures are increasing for creation of broader consensus among Spanish society about the cost-effectiveness of cancer treatment and how to maintain equitable access.

5.4 COVID-19 and cancer: building resilience

Responses to the COVID-19 pandemic reduced resources available for cancer patients

The COVID-19 pandemic put massive pressure on the national health system and its workforce. This unexpected disruption affected every aspect of the cancer care path, from screening programmes to diagnosis and treatment. The emergency mobilised the health workforce to focus on the response to the pandemic, which led to lower availability of specialists, creating delays in care delivery.

At the beginning of the pandemic, cancer patients were considered an at-risk group due to their relatively higher age and the immunosuppressed condition of some patients under treatment. In addition, the confinement and social distancing measures to reduce the spread of the COVID-19 put pressure on the mental health of cancer patients, who were already at higher risk of developing mental health problems like anxiety or depression.

For this reason, in February 2021, all regions signed an agreement to guarantee health care for cancer patients during the pandemic, establishing priority actions to be carried out.

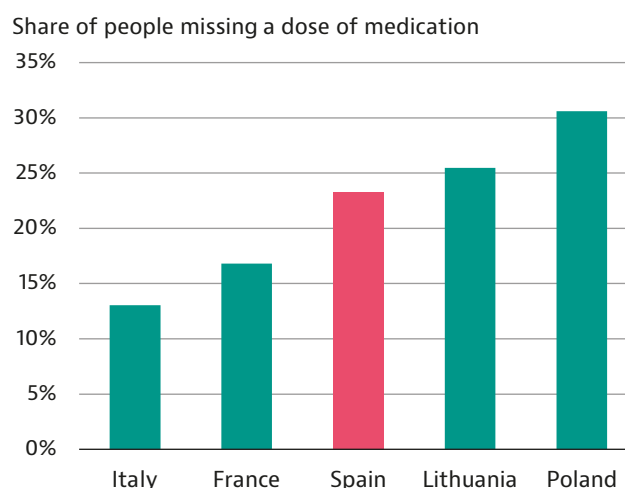
Reductions in early detection and treatment of cancer were recorded during the pandemic

Results from the Onco-barometer population survey in Spain show an increase in anticipated waiting times to seek help in primary care when developing worrying symptoms for cancer (such as unexpected bleeding or unexplained tiredness) after the first wave of COVID-19 in the first half of 2020. Further, evidence from population-based programmes in Catalonia showed lower participation rates for breast and colorectal screening after the first wave, in line with the temporary suspension of screening activities.

Two years after the beginning of the pandemic in Spain, estimates from Catalonia suggest a 12 % reduction in cancer diagnoses (from January 2019 to January 2022) (Ribes et al., 2022). Overall, drops in diagnosis were more marked during the first wave than in the subsequent ones (-37 % in the first wave vs. -6 % in the sixth). Diagnosis reduction rates were generally higher among men (-14 %) than women (-9 %). Delays in diagnosis may mean that treatment takes place at a more advanced stage of the disease, with the consequent negative implications for survival prognosis and on the health system, as treatment and management of advanced cancer are usually more expensive than in early stages. The National Cancer Plan has carried out a study on the impact of the pandemic on cancer care in the National Health System, which also estimates a 13 % reduction in cancer diagnoses (from March 2019 to February 2021).

According to data from the IHME, from December to February 2020, 23 % of the Spanish population with ongoing cancer medication reported missing at least one dose – a higher disruption rate than in Italy and France (Figure 13). The principal reasons reported by respondents were that health care facilities were closed, and they were turned away from facilities or pharmacies.

Figure 13. The first wave of COVID-19 caused treatment disruption for cancer patients



*Note: Estimates are based on convenience sampling with low number of observations.
Source: IHME (COVID-19 Health Services Disruption Survey 2020).*

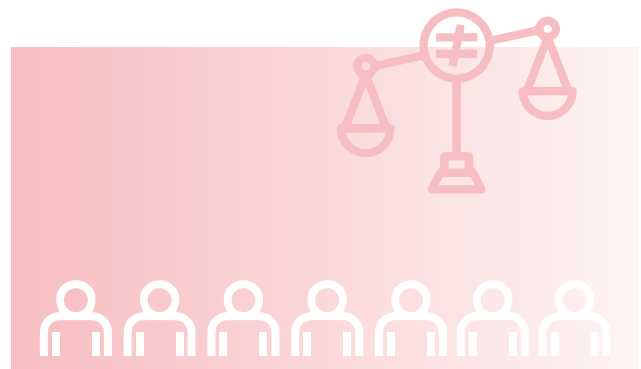
6. Spotlight on inequalities

Spain has a decentralised health system with national coordination. National planning and regulation remain the responsibility of the Ministry of Health, but health competences and operational planning are devolved to the 17 regional health authorities. Cancer mortality in Spain is among the lowest in the EU and rates have fallen for most cancer types thanks to reductions in risk factors and improved screening. However, men are more likely to be diagnosed with cancer and have higher mortality rates. Significant differences in mortality across regions highlight the need to improve cancer performance. There are also significant disparities in cancer prevention, access to early diagnosis and care quality which call for designing targeted policies:

- Socioeconomic factors in Spain are strongly associated with higher prevalence of risky behaviours. People with the lowest education levels and incomes have higher smoking and obesity rates. For example, the proportion of adult daily smokers was almost one third higher among the least educated than the most educated groups. The government has introduced policies to reduce risky behaviours, but there is limited focus on vulnerable groups to reduce inequalities across socioeconomic groups.
- Levels of education and income also play an important role in participation in early detection services. In 2019, Spanish women with higher incomes attended breast cancer screening almost 18 % more relative to those with lower incomes. A larger gap (around 32 percentage points) in participation was registered for cervical cancer screening between the most and least educated women. Regional efforts are under way to monitor and combat inequalities in access and participation in screening programmes.
- The national health system is based on universality and equity. In practice, human resources (general practitioners, nurses and surgeons), access to novel oncological treatments and availability of radiotherapy equipment vary significantly between regions.

- The quality of cancer care delivery has improved, but it is uneven across regions. The average length of stay for a woman with breast cancer in Catalonia is double the length of stay in Valencia. In coordination with regional authorities, the central government provides minimum quality standards for provision of care. However, compliance with these measures is a regional competence, and even if national agreements are reached, implementation times may vary across regions, increasing inequalities.

The COVID-19 pandemic put enormous pressure on the national health system, forcing resource reallocation to contain the emergency. This resulted in delays in cancer screening and care delivery. Given pre-existing socioeconomic inequalities in risk factors, participation in screening programmes, access and quality of care, the COVID-19 pandemic is very likely to have caused increased inequalities in Spain.



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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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