

FINLAND

Country Cancer Profile

2023



European
Commission



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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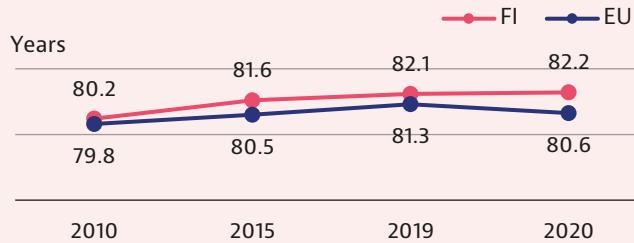
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Summary of the main characteristics of the health system

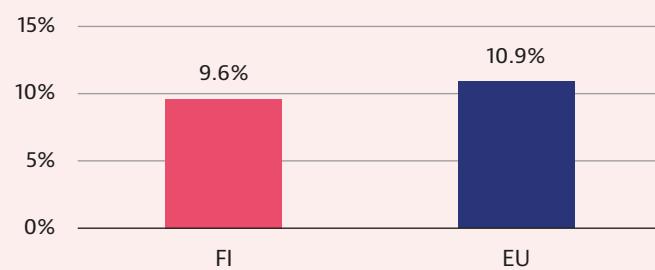
LIFE EXPECTANCY AT BIRTH (YEARS)



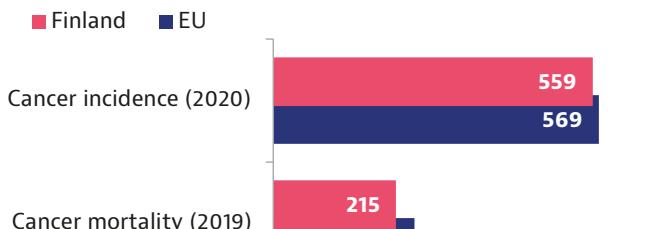
SHARE OF POPULATION AGED 65 AND OVER (2021)



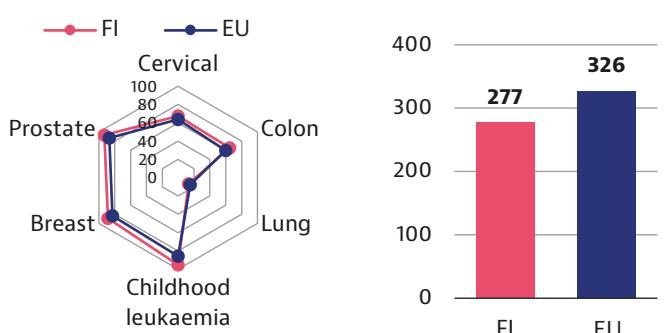
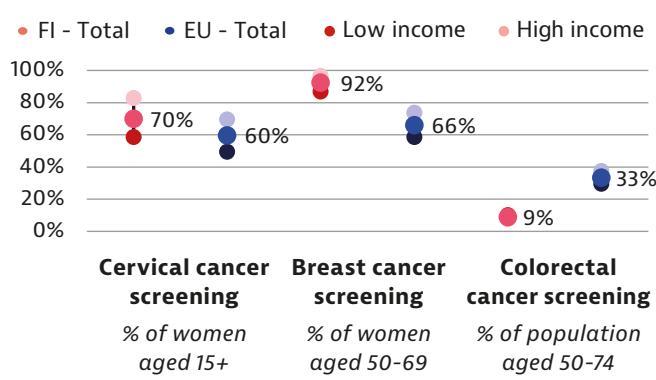
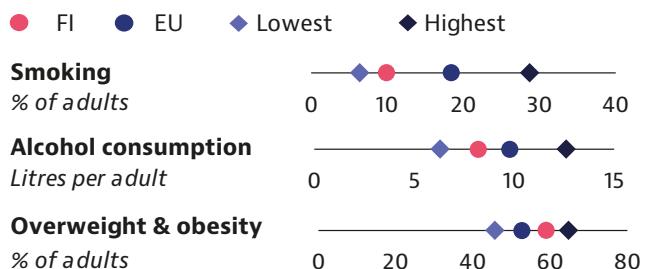
HEALTH EXPENDITURE AS A % OF GDP (2020)



1. Highlights



Age-standardised rate per 100 000 population



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

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

Cancer in Finland

Mortality from cancer in Finland was one of the lowest in the EU in 2019, despite smaller reductions than the EU average since 2011. The reduction in cancer mortality was slightly higher among men (7 %) than women (4 %). Regional differences exist in the burden of lung cancer, particularly among women. Lung, colorectal and pancreas cancer were the top three leading causes of death due to cancer.

Risk factors and prevention policies

Finland performs better on risk factors for cancer than other EU countries. While progress has been made on reducing smoking among the adult population, overall alcohol consumption, HPV vaccination, and exposure to air pollution, prevalence of people with overweight and obesity is still an important public health concern. Social inequalities exist across education and income groups. Current reforms target labelling and restricting availability of harmful products.

Early detection

Finland has national screening programmes for breast, cervical and colorectal cancer. The share of people participating in breast and cervical cancer screening is higher than the EU average, but inequalities across education and income groups are marked, with lower participation among people with low socioeconomic status.

Cancer care performance

Access to health is universal in Finland, but copayments are high and represent financial barriers to accessing cancer care. The Finnish Medicines Agency also reported that the number of medicines in short supply increased from 67 products in 2010 to 696 in 2018. Compared to the EU24 average, Finland performs well, with higher five-year survival rates for the major types of cancer. In 2018, Finland spent EUR 277 per capita on cancer, a cost below the EU average. Costs of outpatient medication nearly doubled between 2004 and 2014, and outpatient care has become the main driver of cost.

2. Cancer in Finland

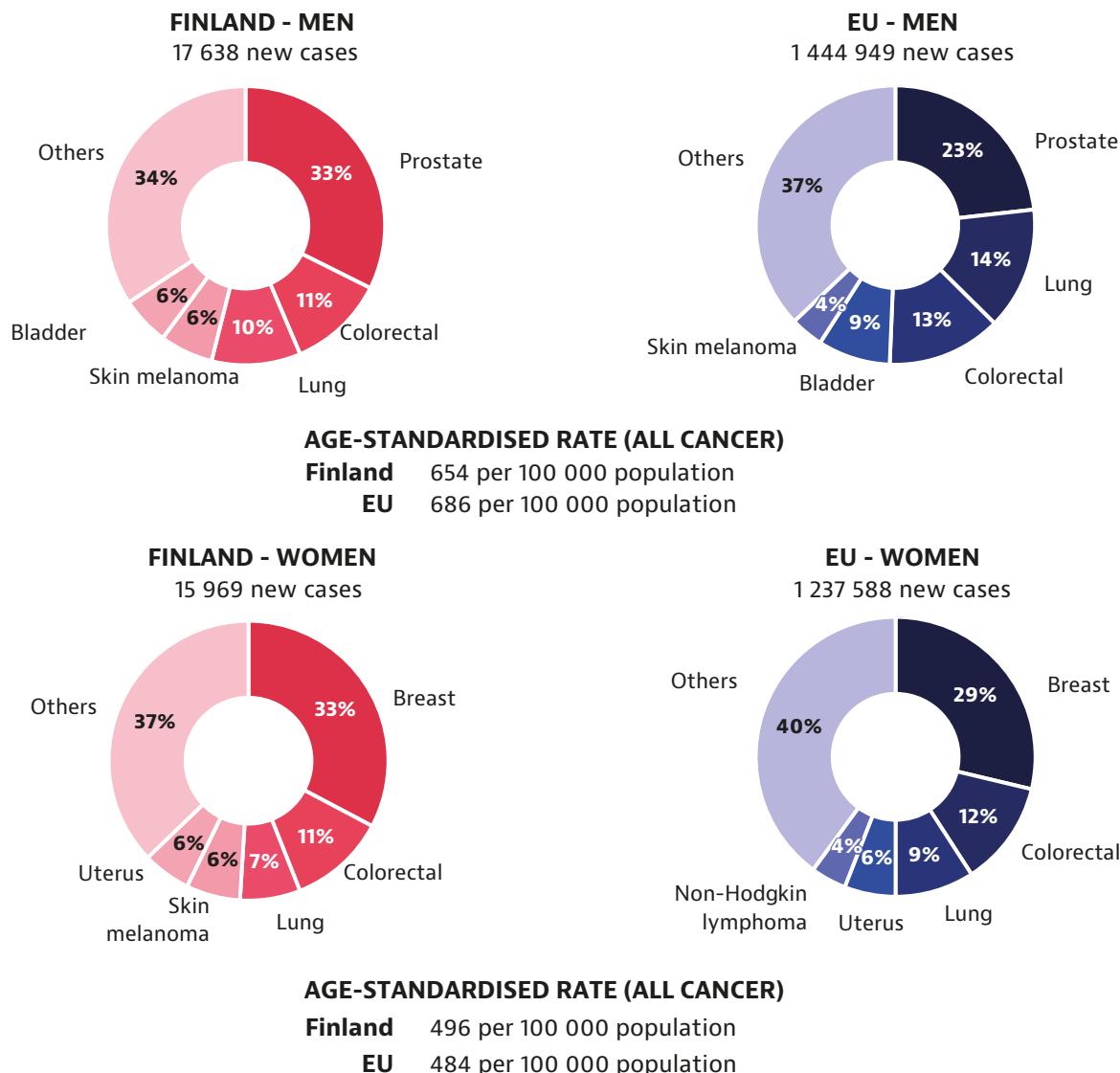
More than 33 000 new cancer cases were expected in Finland in 2020

According to European Cancer Information System (ECIS) of the Joint Research Centre based on incidence trends from pre-pandemic years, more than 33 000 new cancer cases were expected in Finland in 2020 (Figure 1) – equivalent to an incidence rate of 598 cases per 100 000 population. Age-standardised incidence is slightly below the

EU average (559 per 100 000 in Finland vs. 569 in the EU). Among new cases, 17 638 were expected in men and 15 969 in women. Age-standardised rates were expected to be lower than the EU averages among men (654 cases per 100 000 population in Finland vs. 686 across the EU) but slightly higher among women (496 per 100 000 vs. 484).

Figure 1. More than 33 000 new cancer cases were expected in Finland in 2020

Distribution of cancer incidence by sex in Finland 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.

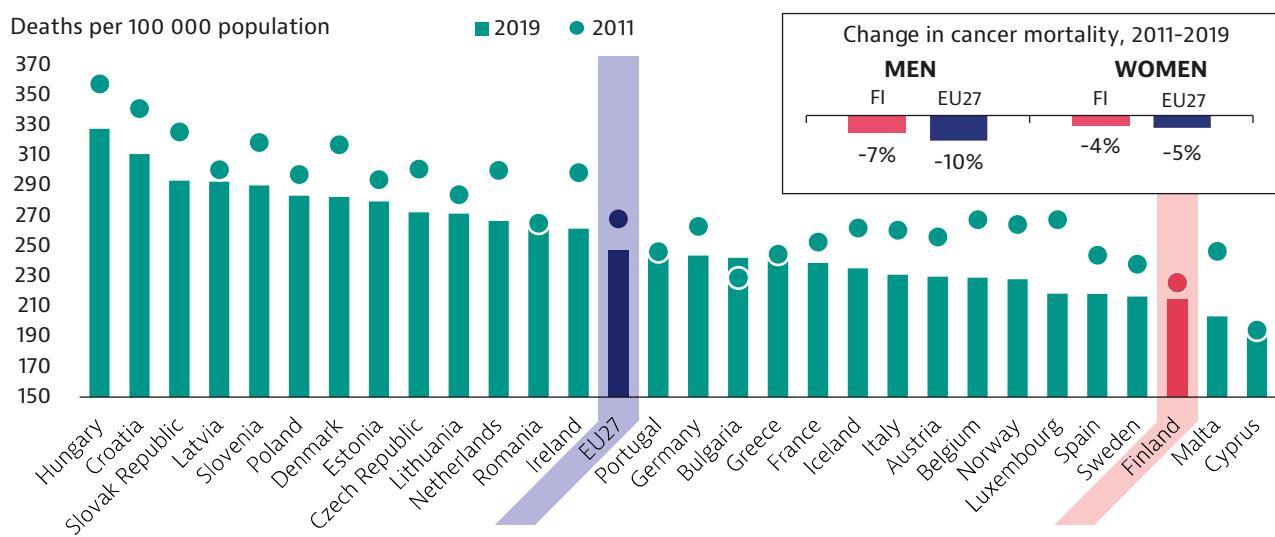
The most frequent cancer types among men were expected to be prostate, colorectal and lung cancer, while among women breast cancer was expected to be the most frequent, followed by colorectal and lung cancer (Figure 1). Unlike the EU averages, skin melanoma was expected to be the fourth most commonly diagnosed cancer among men and women in Finland (6 % of all cancers compared to 4 % across the EU).

Cancer mortality rates in Finland are among the lowest in the EU

Mortality from cancer in Finland was the third lowest in the EU in 2019 (215 deaths per 100 000 population vs. 247 in the EU), although reductions

were smaller than the EU average between 2011 and 2019 (Figure 2). The reduction in cancer mortality was slightly higher among men (7 %) than women (4 %) – a similar pattern to the EU average. According to data from Eurostat, in 2018, deaths from treatable¹ causes in Finland were lower (22 per 100 000 population) than the EU average (29 per 100 000), but the gender gap was large. Rates among men were lower (14 per 100 000 population) than among women (30 per 100 000 population). Similarly, deaths from preventable² causes were lower (41 per 100 000 population) than the EU average (61 per 100 000 population), with a large gender gap.

Figure 2. Cancer mortality has decreased in the last decade in Finland less than in the EU



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

Source: Eurostat Database.

Lung cancer was the leading cause of death by cancer in Finland, despite improvements in the past decade (Figure 3). Colorectal and pancreas cancer were the second and third leading causes, with slightly increasing mortality rates since 2011 (3 % for colorectal and 1 % for pancreas cancer).

Incidence of gastric (stomach) cancers has decreased substantially, from 2000 new cases in the 1950s to 620 new cases in 2020. Mortality has also decreased, with higher relative survival rates (Pitkäniemi et al., 2022). In 2020, mortality due to gastric (stomach) cancer showed some inequalities by education level: it was 43% higher among people with lower than higher education levels in men

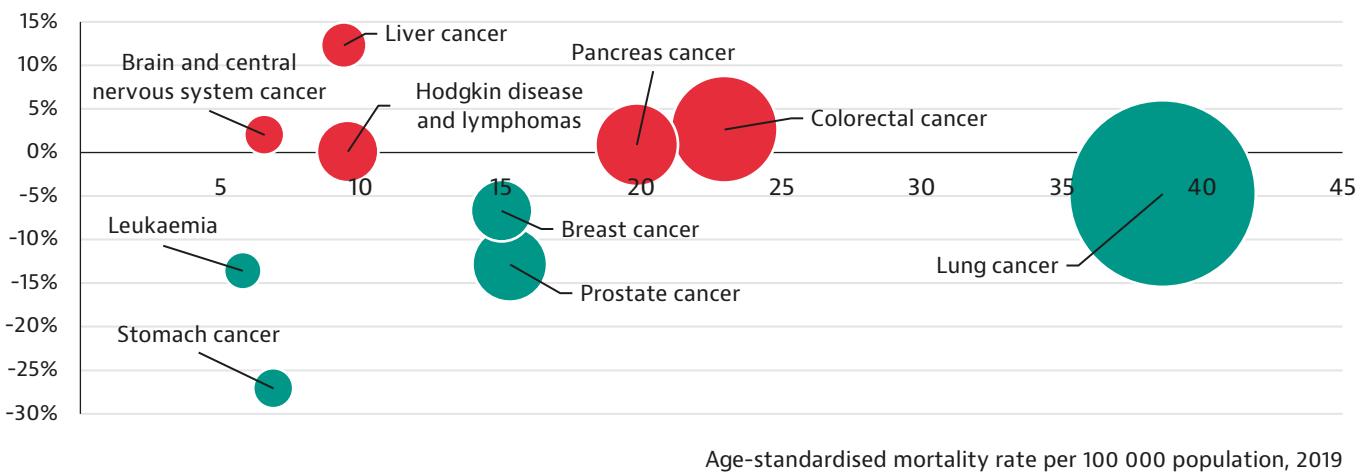
and 61% higher among people with lower than higher education levels in women. The survival rate stayed stable at around 30 % in women and 25 % in men during the 2000s.

¹ Treatable mortality refers to malignant neoplasm of colon and rectum, breast, cervix, uterus, testis and thyroid.

² Preventable mortality refers to malignant neoplasm of lip, oral cavity, pharynx, oesophagus, stomach, liver, trachea, bronchus and lung, cervix and bladder.

Figure 3. Mortality decreased for lung cancer but increased for colorectal and pancreas cancers

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



Age-standardised mortality rate per 100 000 population, 2019

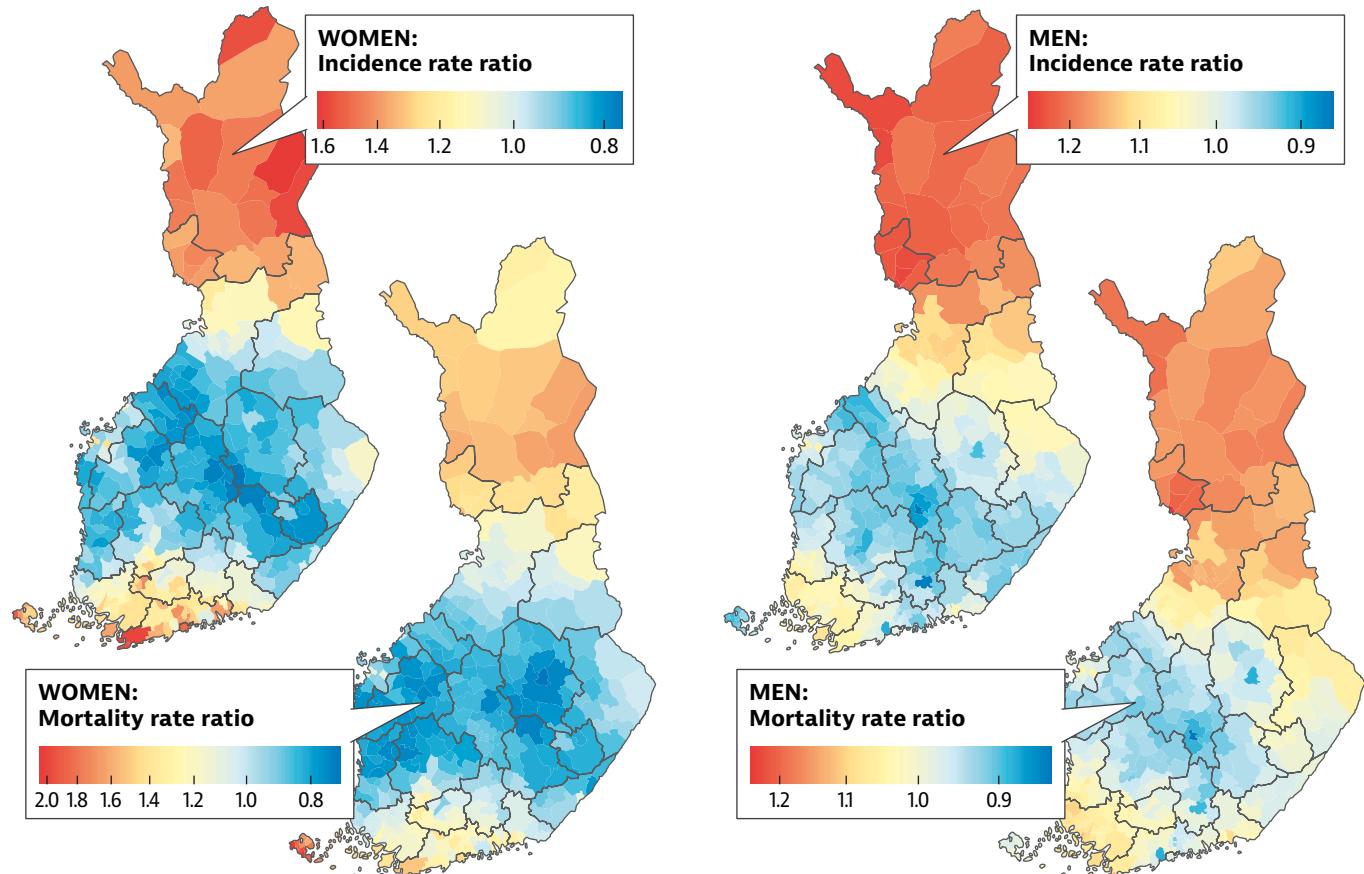
Note: Red bubbles signal an increase in the percentage change in cancer mortality during 2011-2019; green bubbles signal a decrease. The size of the bubbles is proportional to the mortality rates in 2019. The mortality of some of these cancer types is low; hence, the percentage change should be interpreted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

Source: Eurostat Database.

According to a report from the Cancer Society of Finland (Pitkäniemi et al., 2022), among the four commonest cancer types in 2020, the burden of lung cancer showed the largest regional differences, particularly among women (Figure 4). The incidence risk ratio ranged from 0.77 to 1.62;

Helsinki, Lapland and Åland had particularly high incidence. Similarly, the mortality risk ratio varied from 0.72 to 2.05, showing that those affected often die from lung cancer, regardless of region. The variation among men was significantly lower for incidence (0.86-1.26) and mortality (0.84-1.15).

Figure 4. Regional differences in the cancer burden for lung cancer were high among women



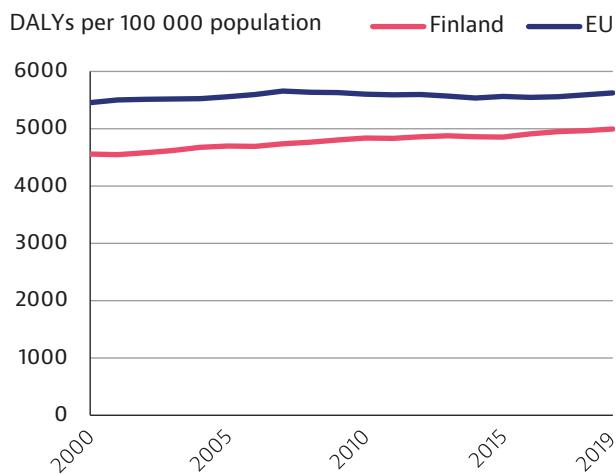
Source: Pitkäniemi et al. (2022).

The Finnish Cancer Registry reported that childhood cancer mortality was almost twice as high among children of foreign background and those born abroad than among children with Finnish backgrounds and those born in Finland (Kyrölähti et al., 2020). Mortality was also higher among those with a mother (2.3 times higher) or a father (1.9 times higher) speaking a foreign language compared to those speaking Finnish or Swedish.

The burden of cancer in Finland increased in 2000-2019 but remains lower than the EU average

The burden of cancer in the population, measured by disability-adjusted life-years (DALYs) per 100 000 population, was lower in Finland (4 995) than in the EU (5 757) in 2019. However, DALYs per 100 000 in Finland increased by 9 % between 2000 and 2019, converging slightly with the EU average (Figure 5).

Figure 5. The cancer burden is below the EU average but increased between 2000 and 2019



Note: Averages are unweighted.

Source: Institute for Health Metrics and Evaluation (IHME).

During 2000 and 2018, potential years of life lost due to malignant neoplasms saw a relative decrease of 26 %, and it accounted for 970 years of life lost among 100 000 people aged up to 75 years in 2018. The relative decrease was similar among men (27 %) and women (26 %), with 1 038 and 909 years of life lost in 2018, respectively.

Survival after childhood cancer is high in Finland but the risk of adverse effects increase

In Finland, about 150 new cancer cases are diagnosed among children annually, including around 70 in girls and 80 in boys. In 2020, the most common childhood cancers were acute lymphoblastic leukaemia and glioma. Childhood

cancer treatment is often curative, and the relative five-year survival rate is over 80 %.

According to estimates from the Cancer Society of Finland, around 7 000 Finns have a history of cancer below the age of 25 years. Among people with a history of cancer, two thirds experience adverse physical and psychological effects later in life, and they have a higher risk of adverse health effects (2.5 times) and mental health problems (1.8 times) than their healthy siblings.

Within the Adult Life after Childhood Cancer in Scandinavia: Socioeconomic Consequences of Long-term Survival Project, the Finnish Cancer Registry is working on designing follow-up for people with a history of cancer. This will help to optimise neurocognitive and social support and will secure education and employment possibilities.

National cancer efforts focus on prevention and screening programmes

While Finland does not have a national cancer plan, over the past decade the country introduced several policies to improve cancer prevention programmes, and invested in reducing risk factors – particularly tobacco and alcohol consumption. A new Act on Screening proposed reforms in 2022 concerning breast, cervical and colorectal cancer screening. It renewed data infrastructure, harmonised data and developed new parameters for the Finnish Cancer Registry. A National Screening Board has been established to develop quality manuals and screening protocols for breast, cervical and colorectal cancer screening.

The Cancer Society of Finland, consisting of its member organisations, the Cancer Foundation and the Finnish Cancer Registry, works under a common constitution and strategy for cancer prevention and research. Its mission is to promote health, prevent cancer, support people with cancer and eliminate the negative impacts of cancer. In its 2021-2025 strategy, the Society aims to develop new forms of volunteering (for example, recruiting Russian volunteers to improve access to cancer care for Russian-speaking patients – see Section 5.2); to foster more consistent communication; to identify new services and availability throughout Finland; and to develop the Cancer Registry's research and expert services.

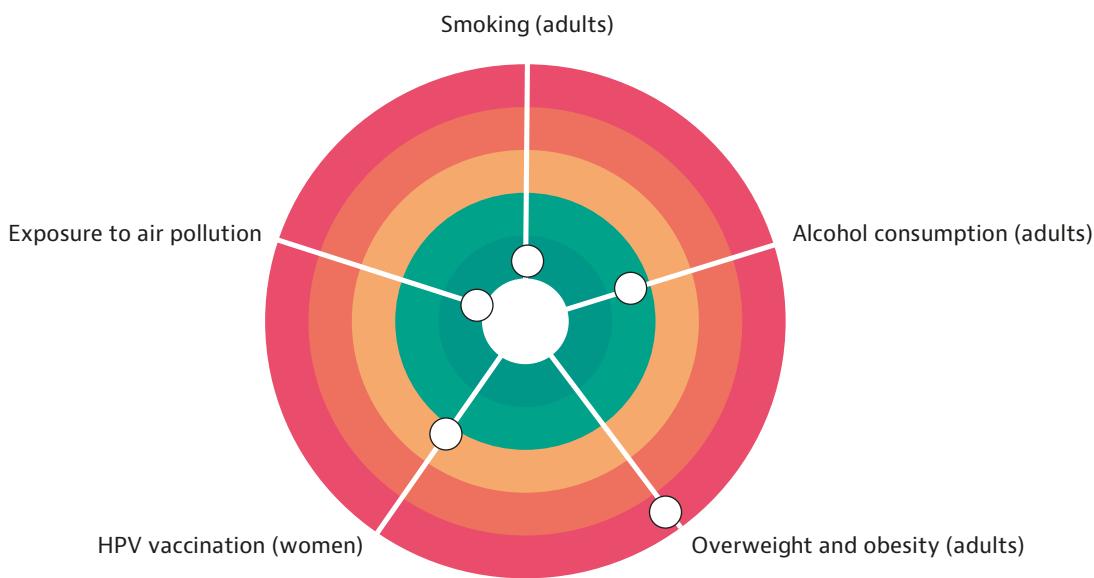
In Finland, prevention represented 4.3% of health spending in 2020 (higher than the EU average of 3.4 %). High-quality and equitable cancer care, research and innovation are the mission of newly established National Cancer Centre (see Section 5.2).

3. Risk factors and prevention policies

In Finland, around 35 % of all deaths can be attributed to behavioural risk factors. Overall, Finland performs better on risk factors for cancer than other EU countries (Figure 6). However, while progress has been made on reducing smoking

among the adult population, overall alcohol drinking, HPV vaccination, and exposure to air pollution, prevalence of people with overweight and obesity is still an important public health concern.

Figure 6. Overweight and obesity are major risk factors for cancer in Finland



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).

Smoking prevalence in Finland is lower than the EU average, but the education gap is large

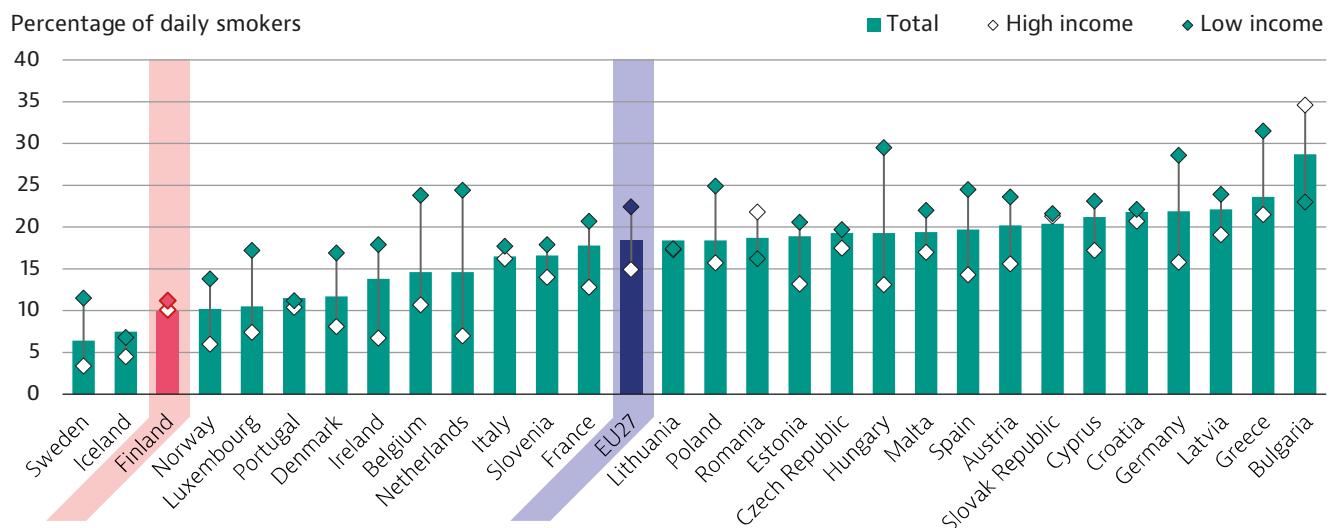
Finland is one of the two EU countries in which the share of adults daily cigarettes smoking (10 %) was lowest in the EU in 2019 (Figure 7). However, the share of daily smokers with lower (11 %) was much higher than the share with higher (5 %) education levels, with an education gap similar to the EU27 average (19 % among those with lower and 13 % among those with higher education levels). The gap was much smaller between people on higher (10 %) and lower (11 %) incomes, unlike the EU average (15 % among those on higher and 22 % among those on lower incomes).

Over the past decade, Finland has prioritised tobacco policies to reduce smoking, implementing smoking cessation programmes, policies on packaging and labelling of tobacco products, public

awareness campaigns and high taxation on tobacco products. The current Tobacco Act (Tobacco-free Finland 2030) aims to decrease the share of tobacco or nicotine smokers below 5 % of the adult population by 2030. Finland has also strictly regulated use of e-cigarettes and use of favours in liquids for e-cigarettes to avoid children becoming dependent on nicotine products.

Alcohol consumption is lower than the EU average, but social inequalities exist

Finns consumed on average 8.2 litres of pure alcohol per capita in 2020, which is lower than the EU average of 9.8 litres. Overall alcohol consumption among adolescents and adults decreased by 18 % between 2007 and 2019. However, disparities by gender, education, income levels and urbanisation in Finland are higher than across the EU.

Figure 7. In Finland, people are less likely to smoke cigarettes than the EU average

Note: The EU average is weighted (calculated by Eurostat).

Source: Eurostat Database (EHIS). Data refer to 2019.

People on lower incomes (7 %) were more likely to drink heavily than those on higher incomes (5.7 %). Although less marked, inequalities by education also exist: hazardous alcohol consumption was higher among people with higher (5 %) than among those with lower (4 %) education levels.

Finland has developed national policies on alcohol taxation to reduce harmful alcohol drinking. The country has regulated advertisements of restrictions, granted a monopoly to a government-owned company for retail sales of alcohol products above 6 % by volume, and limited opening hours for retail sales and sales of alcohol in bars and restaurants.

Overweight and obesity rates are high compared to the EU average

In 2019, Finland had one of the highest shares (59 %) of adults reporting being overweight or obese in the EU. Trends over time show pre-obesity rates increasing at a faster rate between 2014 and 2019 among women (47 % to 56 %) than men (61 % to 63 %). Between 2012 and 2018, a national programme was implemented to tackle obesity, including public awareness campaigns and greater collaboration among different health actors at the national and local levels. The Fit for Life Project encourages people aged over 40 years to integrate physical activity into their daily lives. It is a joint effort of municipal sports and health services, workplaces, occupational health care, sports clubs, various associations and public health organisations.

Around one in five 15-year-olds were overweight or obese in 2018, based on the Health Behaviour in School-Aged Children survey. Among boys aged

2-6 years, 24 % were overweight or obese, while among girls of the same age the share was 15 %. The share of overweight or obese boys were also higher than girls in the age groups 7-12 years and 13-16 years (Finnish Institute for Health and Welfare, 2020).

The share of people who spent at least 150 minutes on health-enhancing aerobic physical activity increased between 2014 and 2019 from 54.5 % in women and 54.8 % in men to 71.7 % in both genders. The gap between people on higher and lower incomes also closed between 2014 and 2019 (from 49 % to 71 % for those on lower and from 60 % to 73 % for those on higher incomes).

To protect Finns from substances that cause cancer, labelling of food products is required, providing specific information on the amount of fat and sodium. Finland has established a Health in All Policies approach to health promotion and primary prevention. Inter-sectoral committees have been established, including a broad range of stakeholders – such as health care professionals, industry, private sector stakeholders, media and civil society representatives. The committees work to address risk factors and serve as advisory bodies on development of policy recommendations and guidelines.

Human papillomavirus vaccination is offered as part of the national programme for girls and boys

In Finland, about 170 new cases of cervical cancer are diagnosed each year, and around one third of cases die annually at present. The numbers of new cervical cancer diagnosis and mortality among

them have decreased to one fifth of that of the 1960s (Figure 8).

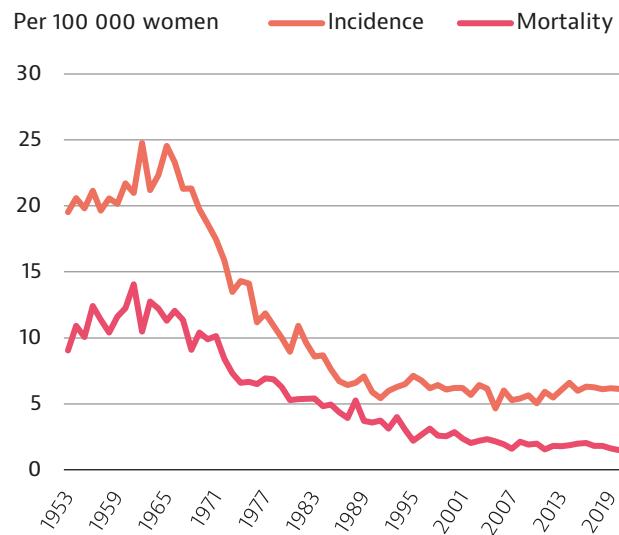
Finland launched a national human papillomavirus (HPV) vaccination programme for girls in 2013. It was expanded for boys in 2020. Following a decision by the Ministry of Social Affairs and Health, the vaccine is included in the national vaccination programme, and girls and boys aged 10-12 years are offered two doses of HPV vaccination free of charge. HPV vaccinations are arranged by municipalities.

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

In 2019, exposure to PM₁₀³ in Finland was 10.2 µg/m³, which is the lowest value among EU countries and less than half the EU average (20.5 µg/m³). Finland also had the second lowest concentration of PM_{2.5} among EU countries (5.1 µg/m³ vs. 12.6 µg/m³ EU average). According to the Institute for Health Metrics and Evaluation, ozone and PM_{2.5} exposure accounted for an estimated 1 % of all

deaths in Finland in 2019, a rate among the lowest across the EU.

Figure 8. Incidence and mortality of cervical cancer fell between 1953 and 2019



Source: Pitkäniemi et al. (2022).

4. Early detection

Finland has national screening programmes for breast, cervical and colorectal cancer

Breast cancer screening has been in place since the 1980s and cervical cancer screening since the 1960s. Women aged 50-69 years are invited to take part in breast cancer screening every two years, while those aged 30-65 years are invited for cervical cancer screening every five years. Colorectal cancer screening is available nationwide from 2022, following an amendment on the Government Decree on Screening in August 2021. Screening with the immunochemical faecal test for colorectal cancer was introduced for men and women aged 60-68 years, and takes place every two years.

Screening is population-based (offered to a specific at-risk target population); enrolment in cancer screening programmes and coordination of screening activities are organised by the Finnish Cancer Registry and the municipalities. The Registry provides a list of eligible people

to municipalities, which implement screening activities in conjunction with other municipalities or via a contracted private company. Screening does not require the involvement of health care providers for either enrolment or screening pathways. Screening pathways are coordinated by the Finnish Cancer Registry: patients identified as eligible receive an invitation letter (available in minority languages on request), attend a screening centre and receive treatment. To do this, the Registry links sociodemographic data with medical records via unique patient identifiers.

The recently launched colorectal cancer screening programme used media campaigns and information leaflets to increase awareness among the population – activities coordinated by the Finnish Cancer Registry. The breast and cervical cancer screening programmes have existed in Finland for more than 30 years and are well known, so they are not among national priorities; thus, public awareness campaigns focus mainly on colorectal cancer screening.

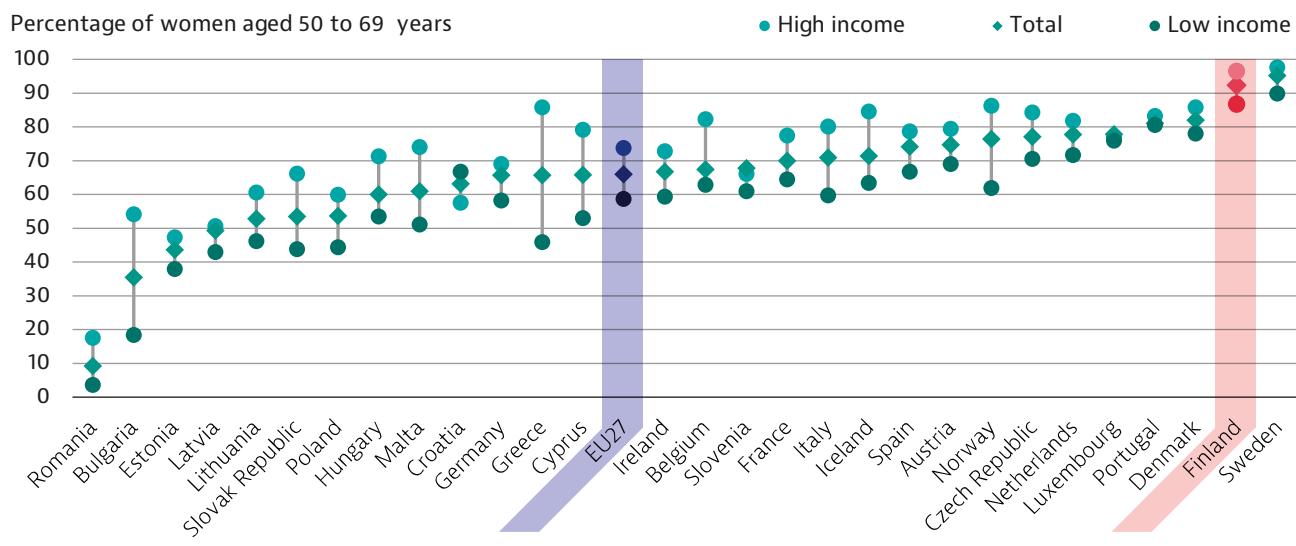
³ Particulate matter (PM) is classified according to size: PM₁₀ refers to particles less than 10 micrometres in diameter; PM_{2.5} to particles less than 2.5 micrometres in diameter.

Breast cancer screening rates are higher than the EU average but social inequalities exist

The share of people receiving breast examinations in Finland is high compared to other EU countries. In 2019, 92.3 % of women aged 50 to 69 years reported having had a breast examination in the last year, compared to 66 % across the EU (Figure 9). The share is unequal across education and income levels. The gap between women on higher (97 %) and lower (87 %) incomes was 10

percentage points in 2019, and the gap between those with higher (93 %) and lower (85 %) education levels was 8 percentage points. The income gap is lower than in the EU averages, where rates were 73.7 % for those on higher and 58.6 % for those on lower income levels. The education gap is similar to the EU averages where rates were 71.5 % for those with higher and 63.9 % for those with lower education levels.

Figure 9. Uptake of breast cancer screening in Finland is the second highest but income gradient exists



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.

The annual report of the Finnish Cancer Registry in 2021 stressed the variation in age-standardised participation rates in breast cancer screening between foreign-language population groups (63 %) and domestic-language population groups (83 %). To address this issue, the Registry developed an initiative to make invitation letters available in minority languages on request.

Uptake of cervical cancer screening is high, but disparities across social groups are marked

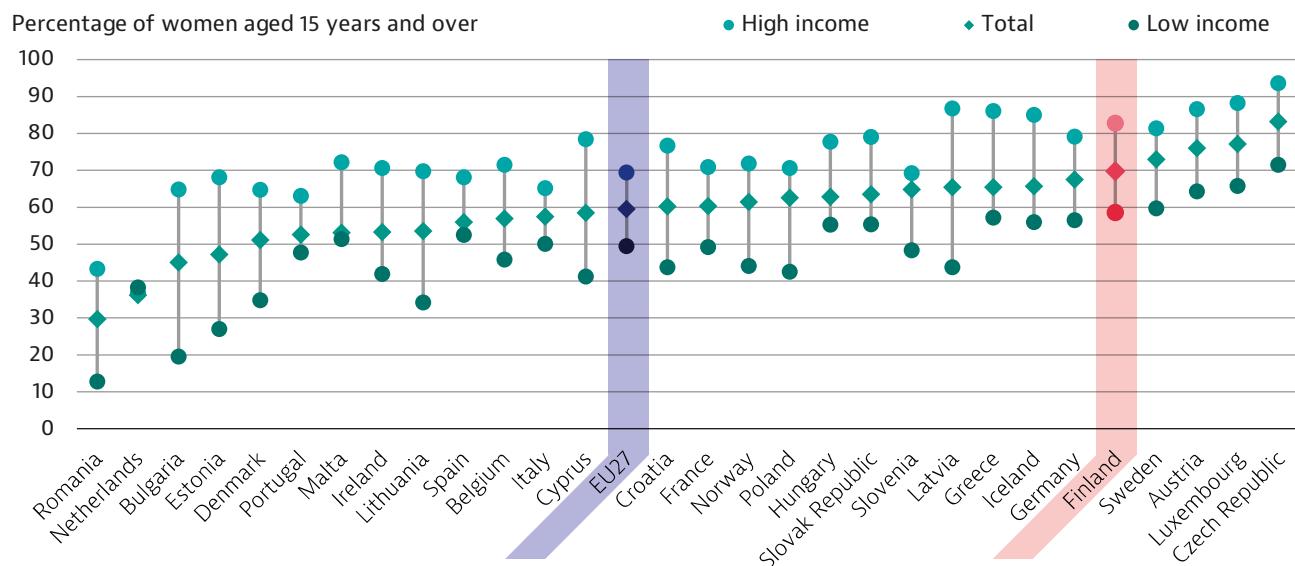
Self-reported cervical screening participation rates in the last year in Finland (70 %) were among the highest in the EU, and 10 percentage points above the EU average of 60 %. However, inequalities across age, education and income groups are marked. Uptake was 83 % among people on higher incomes compared to 59 % among those on lower incomes in 2019 – a gap of 24 percentage points vs. the EU average gap of 20 percentage points (Figure 10). Similarly, uptake was 85 % among those with higher education levels and 40 % among those with lower education levels – a gap of 45 percentage

points, which is much larger than the gap of 34 percentage points across the EU.

Cervical screening rates in Finland also show differences across language categories (Lamminmäki et al., 2022). While screening attendance was highest among native Finnish speakers (69 %) in 2010-14, other language groups participated less actively. For example, participation rates were 66 % among Russian speakers, 63 % among Thai speakers and only 24 % among Somali speakers.

No major changes in participation rates for cervical screening programmes have occurred over the last few decades in Finland (Figure 11). Despite high coverage of invitations to screening showed differences across age groups. Older age groups (55-65 years and 45-50 years) had over 70 % participation in screening activities, while the group aged 35-40 years showed a decrease in attendance over time and attendance of women aged 25-30 years was below 60 % in 2019.

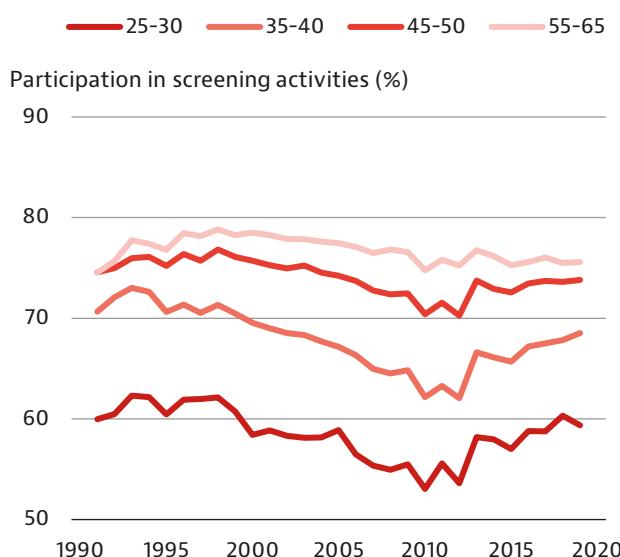
Figure 10. The share of women reporting cervical screening is high in Finland, but the income gap is wide



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.

Figure 11. Cervical screening rates show little change over time, but gaps across age groups persist



Source: Finnish Cancer Registry (2021).

The Finnish Cancer Registry is an important resource for health care policies

The Finnish Cancer Registry, consisting of the national cancer register and national cancer screening registers, receives data from providers and screening units. Reporting is mandatory and based on specific legislation. Mortality and sociodemographic data from Statistics Finland are updated annually, and additional information on time of death, place of residence, emigration and

immigration can be retrieved from the Finnish Population Information System. Finland can link medical data with data from the Digital and Population Data Services Agency and Statistics Finland to examine specific population groups such as native language, socioeconomic status and education level.

The Registry has developed an internal quality assurance system, which facilitates monitoring by municipalities. Additionally, individual's screening data is available for the screener. Most relevant data fields are editable for statistical purposes. Internal and external audits of screening activities are conducted (Lönnberg et al., 2012; Lunkka et al., 2021) to validate the accuracy of the data and assess the effectiveness of the programmes.

The Finnish Cancer Registry studies evidence on prostate cancer, lung cancer and ovarian cancer screening

Finland evaluates the latest scientific evidence on other types of cancer screening, including prostate, lung and ovarian cancer. Despite evidence on the impacts of prostate-specific antigen (PSA) screening in reducing deaths from prostate cancer by one fifth, prostate cancer screening is not recommended in Finland because of issues related to overdiagnosis and overtreatment (Hugosson et al., 2019). The Finnish Randomised Study of Screening for Prostate Cancer studies follow-up of about 80 000 men aged over 25 years to investigate overdiagnosis via PSA screening and assess the

accuracy of prostate palpation as a screening test (Finnish Cancer Registry, 2021).

Similarly, lung cancer screening is currently not recommended in Finland because of challenges

with follow-up (van der Aalst, ten Haaf & de Koning, 2016). Ovarian cancer screening is being evaluated to complete mortality estimates in the next couple of years (Menon et al., 2021).

5. Cancer care performance

5.1 Accessibility

Finland has universal access to health, but copayments are high

In Finland, all permanent residents are covered for municipal health care services which include a broad package of primary and specialist care services. In 2019, out-of-pocket payments accounted for a higher share of current health expenditure in Finland (17 %) than the EU average (15 %). Pharmaceuticals, outpatient medical care, dental care and long-term care are the main sources of out-of-pocket payments.

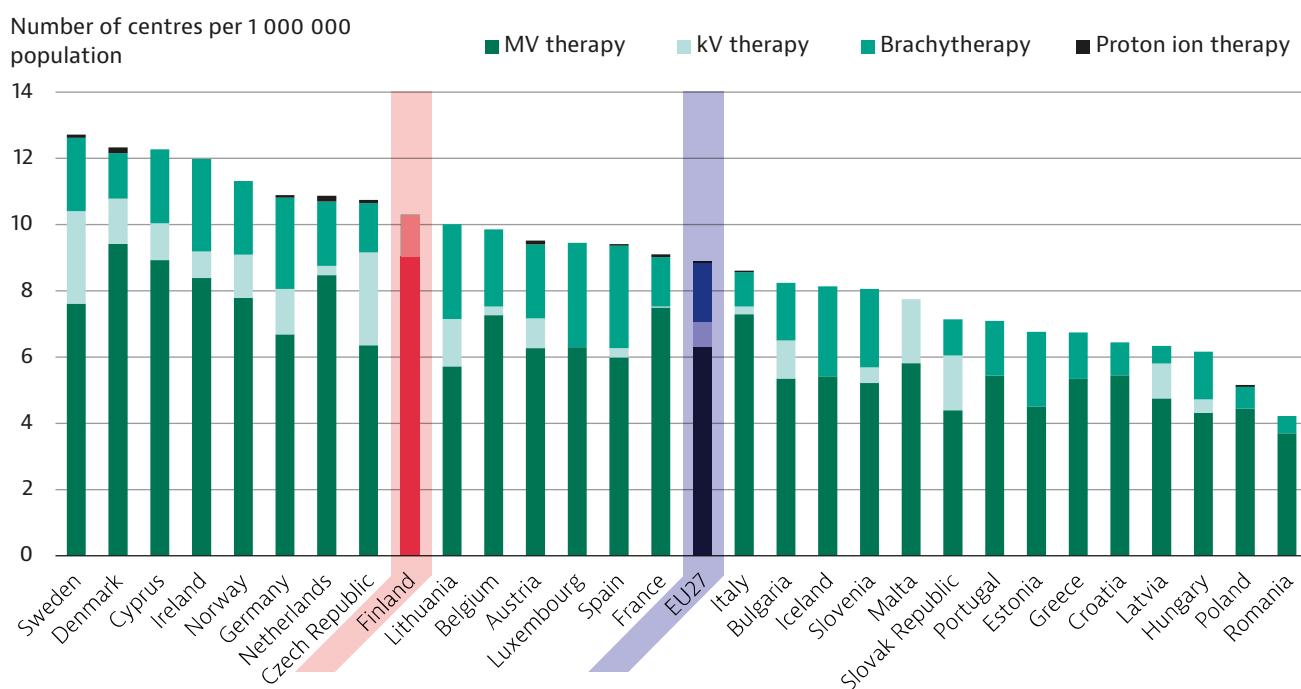
Density of health care professionals varies across regions, but radiation centre density is high

Finland had fewer doctors (3.5 per 1 000) than the EU average (4 per 1 000 population) in 2020, but

the number of nurses was the highest in the EU (14.3 per 1 000 vs. an EU average of 8.9 per 1 000). The number of oncologists per 100 000 population increased from 2.26 in 2006 to 3.17 in 2014 with a smaller increase compared to the EU average (1.93 in 2006 and 3.29 in 2014). However, uneven geographic distribution of health care professionals results in inequalities in access to care. The density of doctors is high in the capital region of Helsinki, but few doctors work in rural and remote areas.

Finland has higher numbers of radiation centres (10.3 per 1 000 000 population) than the EU average (8.9) (Figure 12). While the country has the highest number of megavolt (MV) therapy centres in the EU (9 per 100 000 population), no proton ion or kilovolt (kV) therapy is available.

Figure 12. Availability of radiation therapy centres in Finland is higher than the EU average



Note: the EU27 average is unweighted (calculated by the OECD).

Source: International Atomic Energy Agency.

The number of medicines in short supply has increased ten-fold over the last decade

The Finnish Medicines Agency (Fimea) reported that the number of medicines in short supply increased from 67 products in 2010 to 696 in 2018. A 2018 survey (European Association of Hospital Pharmacists, 2018) showed that cancer medicines were the third most common class of medication to experience shortages, after antimicrobials and vaccines. Shortages of cancer medicines are experienced throughout Finland, without regional variations. Initiatives to tackle medicine shortages focus on improving the flow of timely information between health professionals, patients and pharmacists, and on promoting use of multilingual packages (availability in different languages) similar to the Nordic Co-operation Initiative, involving Denmark, Finland, Iceland, Norway and Sweden.

Finland has begun initiatives to establish personalised medicine

The Genome Centre Act was created to establish a National Genome Centre, which will be hosted by the National Institute of Health and Welfare, to manage needs for personalised medicine. The Centre will register a population genome database and grant access to users for health care, research and innovation purposes. A law imposes anonymisation of results by other users such as non-medical specialists and social welfare institutions.

As part of Business Finland's Personalised Health Programme, Cancer Immuno-oncology (Cancer IO) is a public-private collaborative to advance research and innovation in cancer immunotherapy, coordinated by the University of Helsinki (Cancer IO, 2022). It is a consortium of four university hospitals, one central hospital, small and medium

enterprises, cancer patient organisations and IO-investing pharmaceutical companies.

The Finnish National Study to Facilitate Patient Access to Targeted Anticancer Drugs (FINPROVE)

To determine the efficacy of treatment of advanced cancers with a known molecular profile, a national study is being conducted between 2021 and 2026 by the four comprehensive cancer centres in Finland (Section 5.2). FINPROVE is a prospective non-randomised clinical trial that aims to determine the efficacy and toxicity of targeted anticancer drugs or combinations that are approved or under review by European Medicines Agency, Food and Drug Administration or Pharmaceuticals and Medical Devices Agency, that are used for treatment of patients with advanced cancer. Eligible patients include people aged 18 years and over with an advanced solid tumour without standard treatment options. Patients should have acceptable organ function.

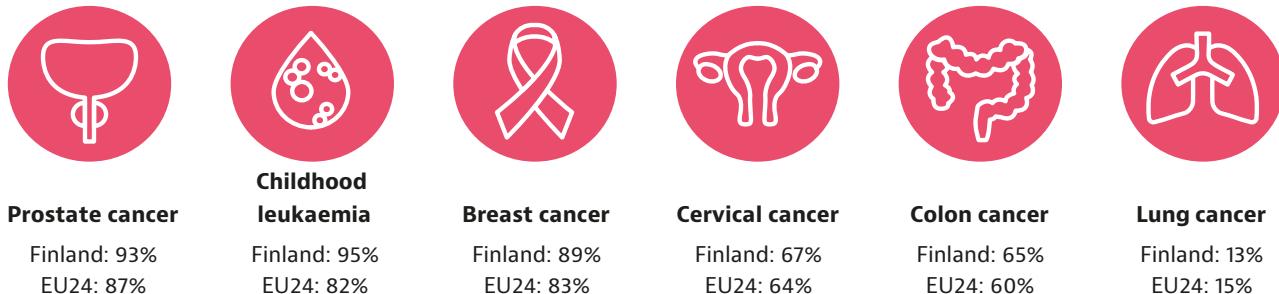
5.2 Quality

Finland has high cancer survival rates compared to the EU averages

In Finland, people diagnosed with prostate cancer, childhood leukaemia, breast cancer, cervical cancer, and colon cancer have higher survival rates than the EU24 average (Figure 13). However, while survival rates for prostate cancer and childhood leukaemia are above 90 %, lung cancer survival rates (13 %) remain below the EU24 average (15 %).

Five-year survival for colon cancer increased from 32 % in 1967-1971 to 65 % in 2012-2016 among men, and from 35 % to 67 % among women (Hemminki, Försti and Hemminki, 2021). Overall, survival gains were smallest in the last decade, and the difference between one-year and five-year survival over the 50-year period was unchanged.

Figure 13. Cancer survival rates are higher than the EU average for most cancers



*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.*

The Finnish Cancer Registry reported that childhood cancer survival showed disparities across people with foreign and Finnish backgrounds (Kyrönlähti et al., 2020). Five-year survival following diagnosis of a childhood cancer was 83 % if the mother or the father had a Finnish background, 68 % if the mother had foreign background, and 70 % if the father had foreign background.

One of the projects of the Cancer Society of Finland in 2022 involves working with Russian volunteers to support Russian-speaking cancer patients and people around them to access cancer care services and other related activities. Training was provided for 17 new Russian-speaking volunteers in 2021, in co-operation with the Central Organisation of Russian Speakers in Finland and two member associations.

Finland invests in undergraduate and special education in palliative care

According to a European report using 2018 data, Finland had 0.7 specialised palliative care services per 100 000 inhabitants (Arias et al., 2019), which is below the EU average of 1.1 services per 100 000 inhabitants. In Finland, average opioid consumption per capita in morphine equivalent (excluding methadone) was 126.9 mg in 2017, which is higher than the EU average of 107 mg. Palliative care training is a mandatory element in 40 % of medical schools, but the report also stressed that only 10 % of nursing schools provide mandatory training; this is one of the lowest levels across the EU.

The Finnish Ministry of Education and Culture set up the EduPal Project in 2018-2021 to develop palliative nursing and medical education through multi-disciplinary co-operation and working life collaboration. Its aim was to evaluate best practice in palliative nursing and medicine education; to create a competency description for palliative nursing and medicine; to develop national recommendations on including palliative care in undergraduate studies and providing specialist education in palliative nursing and medicine; and to advance research and development activities related to palliative care.

The National Cancer Centre serves as a centre of expertise for the cancer sector

On 31 December 2019, the Ministry of Social Affairs and Health founded the National Cancer Centre, consisting of five regional units and a coordinating unit, to oversee clinical cancer research and use of service resources in cancer treatment at the

national level. The Centre's mission is to promote equal care, research and development.

Four comprehensive cancer centres – located in Helsinki, Tampere, Turku and Kuopio – are certified by the Organisation of European Cancer Institutes. The centres are committed to advancing cancer research and supporting clinical studies.

Psychosocial support for cancer patient remains an important issue in Finland

Specific objectives, actions and measures for general psycho-oncological support are described in the cancer plan. Nevertheless, psychosocial support for cancer patients and those around them following a cancer diagnosis remains limited (Tiirala et al., 2021).

In 2021, the Cancer Society of Finland – the national umbrella organisation of patients, professionals and other volunteers – provided advice services and psychosocial support to people living with cancer, people around them and others concerned about cancer. The services were available by telephone and online in three main languages: Finnish, Swedish and English. The objective was to provide help according to patients' needs and to facilitate the transition to everyday life after cancer.

The new Socioeconomic Consequences in Adult Life after Childhood Cancer in Scandinavia Project, in collaboration with Denmark and Sweden, aims to identify patients who are at risk of psychosocial challenges in later life. It focuses on education and employment after cancer, ability to carry out military service, mental illness, risk behaviours and the need for social benefits and other assistance. Around 8 500 patients who were diagnosed at ages 0-19 years with cancer from 1971 to 2009 are enrolled in the study.

The Finnish MyKanta platform ensures patient data flow across sectors

MyKanta is a patient health record platform, which facilitates data sharing as patients move across sectors. Health care professionals can access patients' medical data and share information with other professionals. The MyKanta account is managed by patients themselves, giving them complete control of their data and the option to consent to data sharing.

The Finnish Cancer Registry is part of the joint European RARECARE Project

Approximately 6 700 Finns get a diagnosis of a rare cancer each year. According to a 2016 report of the Finnish Cancer Registry, every year 22 % of newly

diagnosed cancers are rare cancers. The majority of rare cancer types consist of cancers of children and young adult cancers.

Survival among people diagnosed with rare cancer is lower than among those with common cancers. The difference in survival rates is one year after diagnosis and the difference in survival rates increase in time. Between 2007 and 2013, the relative five-year survival rate for rare cancers was 54 % in Finland – 17 percentage points lower than the five-year survival rate for common cancers (71 %).

5.3 Costs and value for money

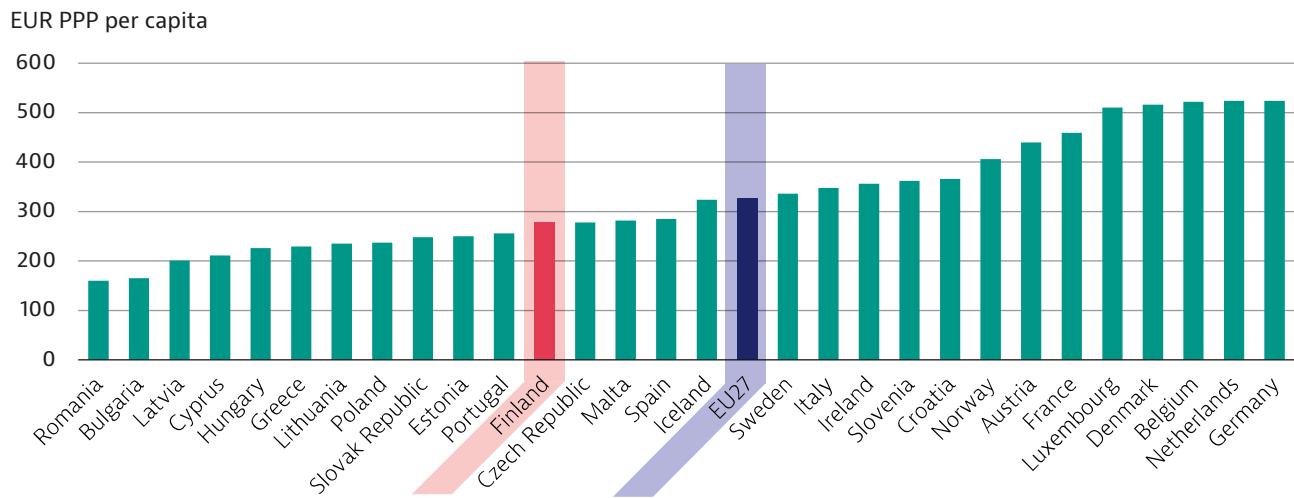
In Finland, one third of cancer costs are indirect costs, which is similar to the EU average

In Finland, 9.6 % of GDP was devoted to health in 2020. Health care expenditure as a share of GDP increased from 9.1 % in 2010 to 9.6 % in

2020. Health expenditure on cancer care was EUR 1 895 million in Finland in 2018 – lower than the EU average of EUR 6 129 million. Of the total cost, EUR 844 million was related to cancer health care (including EUR 331 million to cancer drugs) and EUR 337 million to informal costs. Indirect costs due to productivity loss from premature mortality of EUR 559 million and productivity loss from morbidity of EUR 154 million made up more than one third of total cancer costs, which is similar to the EU average of EUR 2 162 million out of EUR 6 129 million.

Finland spent EUR 277 per capita on cancer, adjusted for purchasing power parity (PPP) in 2018, a cost below the EU average of EUR 326 per capita (Figure 14). Costs of outpatient medication nearly doubled between 2004 and 2014 in Finland, and outpatient care and medications were the main cost drivers (Torkki et al., 2017).

Figure 14. The per capita cost of cancer in Finland is below the EU average



Note: The EU27 average is unweighted (calculated by the OECD).

Source: Hofmarcher et al. (2020).

New hospital medications are assessed nationally, but adoption is decided at the hospital level

To provide information on the therapeutic and economic value of a new cancer medicine in Finland, an assessment is done at the national level by Fimea and the Council for Choices in Health Care (COHERE), which are subordinates of the Ministry of Social Affairs and Health, or by the health technology assessment (HTA) network of university hospitals, coordinated by the Finnish Coordinating Centre for Health Technology assessment (FinCCHTA). Fimea follows the recommendations of the European Commission and the European Medicines Agency. COHERE

provides national recommendations on diagnostics, treatment and integration of the medicines into service delivery in public sector.

The final decision on uptake and adoption of a new cancer medicine is taken at the hospital level. According to the Cancer IO report, hospitals use the following criteria in their decision-making process: European Medicines Agency approval; sufficient patient benefit (survival gain around three months); sufficient cost-effectiveness; finalised phase III clinical trials; COHERE or FinCCHTA recommendation; and suitable patient profile (Cancer IO, 2022).

The financing and regulatory mechanisms may cause inequalities in cancer care

FinCCHTA has only regulatory or recommendation functions for medicines, whereas in other Nordic countries (Sweden, Norway and Denmark) HTA bodies also have responsibility for pricing and reimbursement (Cancer IO, 2022). While other Nordic countries have national procurement processes, Finland has five hospital procurement rings, coordinated by the five university hospital districts. The current decentralised health care financing structure has some limitations in supporting new, innovative and very expensive investment in cancer treatment, which may result in inequalities in access to cancer medicines. Additionally, although assessment of new medicines is done at the national level, more than one regulatory body is involved in the process. Variations in these processes can also lead to inequalities in access to cancer medicines.

5.4 COVID-19 and cancer: building resilience

Unlike most EU countries, the COVID-19 pandemic did not have a major impact on mortality in Finland. In August 2021, the total number of deaths due to COVID-19 was among the lowest across EU countries (19 per 100 000 population).

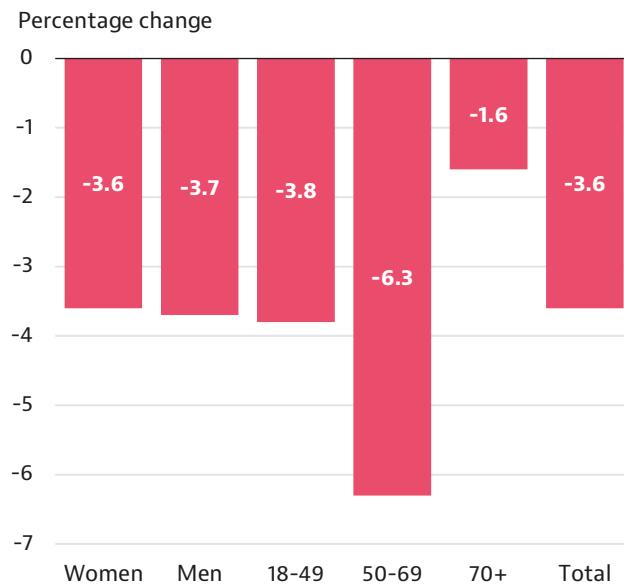
The number of newly diagnosed cancers decreased in Finland in 2020

Around 1 600 (4 %) fewer cancer cases were diagnosed in 2020 in Finland than would have been expected without the pandemic (Pitkäniemi et al., 2022). The reductions in newly diagnosed cancer cases occurred among almost all cancer types, but were particularly notable in melanoma of the skin (around 400 fewer cases, representing a reduction of 21 % on the expected rate). The change was more significant among people aged below 60 years (19 %) than among those aged 60 years and over (12 %).

Between March and June 2020, the number of cancer biopsies decreased by 12 % compared to the same period in 2018 and in 2019 (Fujisawa, 2022). In 2020, there were significant reductions in the number of new malignant cases notified to cancer registries in April (-11 %) and May (-24 %) (Johansson et al., 2022). The cumulative deficit of new malignant cases across 2020 in Finland was the second highest (-4 %) among Nordic countries, with Sweden the highest (-6 %). The cumulative deficit did not show any disparities across gender groups, but variations occurred across age groups. Those aged 50-69 years had the biggest reduction

(-6 %), followed by those aged 18-49 years (-4 %) and those aged 70 years and over (-2 %) (Figure 15).

Figure 15. Access to cancer care was disrupted during COVID-19, mainly among people aged 50-69 years



Source: Johansson et al. (2022)

COVID-19 disrupted screening activities, particularly among older age groups

In Finland, there were no national restrictions of cancer screening activities in 2020, but some municipalities temporarily suspended activities and, even where it was not suspended, participation was lower than in previous years. In 2020, women at screening age (50-69 years) were diagnosed with 8 % fewer cases of breast cancer than in 2019, while younger age group (below 50 years) had 1 % fewer and women aged 70 years and over had 3 % fewer cases (Pitkäniemi et al., 2022).

Invitations to colorectal screening activities were paused in all municipalities during March-April 2020, and until June 2020 in some. Overall, the delay was compensated with extra invitations in the autumn and the backlog was cleared.



6. Spotlight on inequalities

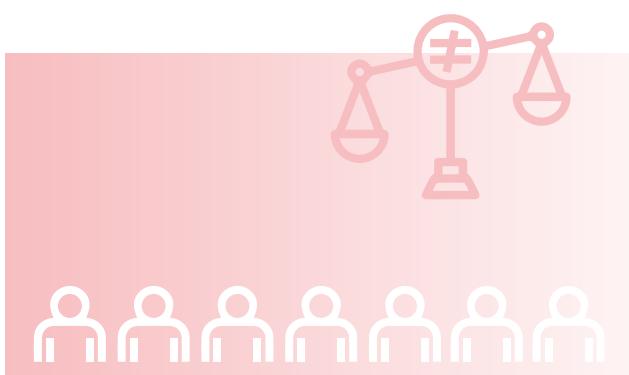
Finland has universal access to health, and all permanent residents are covered for municipal health care services, which cover a broad package of primary and specialist care. Founded by the Ministry of Social Affairs and Health, the National Cancer Centre promotes equal care, research and development. Social inequalities exist in prevention, early diagnosis and cancer outcomes however, particularly in the following areas:

- Men are more likely to be diagnosed with cancer, but treatable and preventable mortality rates are much higher among women than men. Deaths from treatable causes among men were 14 per 100 000 population and 30 per 100 000 population among women.
- Mortality is higher among children of foreign background and those born abroad than among children with Finnish backgrounds and those born in Finland. Mortality was also higher among those with a mother (2.3 times higher) or a father (1.9 times higher) speaking a foreign language compared to those speaking Finnish or Swedish.
- Social inequalities exist in exposure to cancer risk factors such as hazardous alcohol consumption, smoking and obesity, with higher risks among people with lower socioeconomic status. The prevalence of cigarette smoking is more than double among people with lower education levels than higher education levels.
- New cancer diagnoses and deaths due to lung cancer show geographical inequalities, with higher risk in the Helsinki, Lapland and Åland regions.

- Socioeconomic inequalities exist in participation in screening activities. Women who speak foreign language are less likely to attend breast and cervical cancer screening. Similarly for cervical cancer screening, participation rate is 40% higher among people on higher incomes than among those on lower incomes.
- The uneven geographic distribution of health care professionals results in inequalities in access to care. The density of doctors is high in the capital region of Helsinki, but few doctors work in rural and remote areas.

Around 7 000 Finns have a history of cancer below the age of 25 years, and they will have a higher risk of adverse health effects and mental health problems than their healthy siblings. To address this challenge, Finland has developed several initiatives, such as psychosocial support targeting people with a history of cancer.

Finland also introduced new reforms and initiatives to provide equitable cancer care, including the foundation of the National Cancer Centre, development of screening invitation letters in minority languages, and training staff to assist foreign-speaking people living with cancer and those around them.



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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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