

Uncovering Inequalities: Breast Cancer Screening in Europe

EUROPEAN CANCER INEQUALITIES REGISTRY

OCTOBER 2023



HIGHLIGHTS

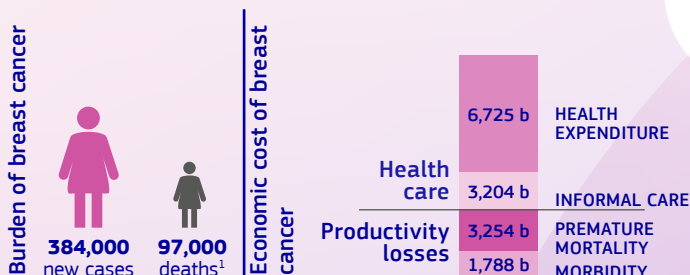
- Breast cancer is the leading cause of cancer deaths among women in Europe
- Population-based breast cancer screening programmes are essential to improve health outcomes
- 24 European countries have national, organised population-based breast cancer screening programmes
- Implementation year, screening coverage and participation rates differ among countries and population groups
- In most countries women with the lowest education and income level, and living in rural areas participate least in breast cancer screening programmes
- The European Commission Initiative on Breast Cancer (ECIBC) helps to ensure equal and safe access to high-quality cancer screening and care services across Europe

CHALLENGES

Breast cancer is the **leading cause of cancer deaths among women in Europe** accounting for nearly 384,000 new cases and over 97,000 deaths¹ annually in 2022. With an estimated cost of €15 billion per year, it represented more than 10 % of the cancer costs in the EU in 2009 (Figure 1)².

A quarter of breast cancer cases are preventable³. Screening programmes are effective in preventing cancer deaths and studies have shown a 34% reduction in breast cancer-specific deaths following their implementation. Recent evidence suggests that if the screening programmes coverage reached 100% of the eligible women, an additional 20-29% of cancer deaths could be averted^{4,5}. Screening appointments also offer an opportunity for other health promotion measures.

Figure 1 - Left: Estimated burden of breast cancer in Europe* in 2022¹, Right: Economic burden of breast cancer in the EU in 2009²



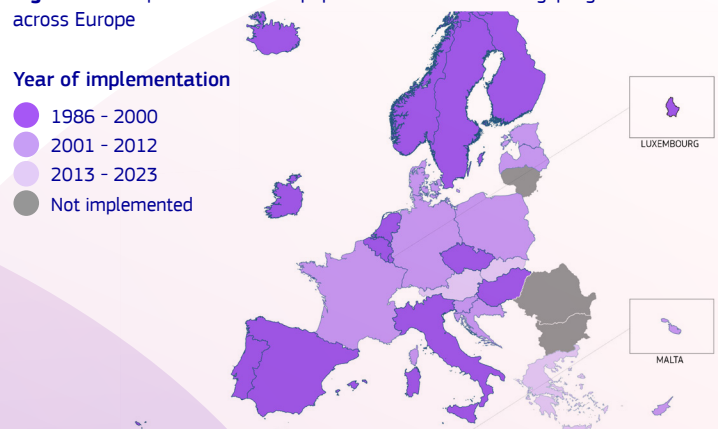
*In this factsheet Europe refers to EU-27+EFTA excluding Liechtenstein

INEQUALITIES

1. Implementation of screening programmes

Despite the implementation of organised population-based screening programmes by most European countries, differences in invitation coverage and screening participation persist among countries and population groups. Early adopters of national screening programmes initiated their first programmes in the late 1980s. The past decade saw a rise in screening initiatives. Yet, some European countries still do not have population-based screening implemented at national level (Figure 2).

Figure 2 - Implementation of population-based screening programmes across Europe

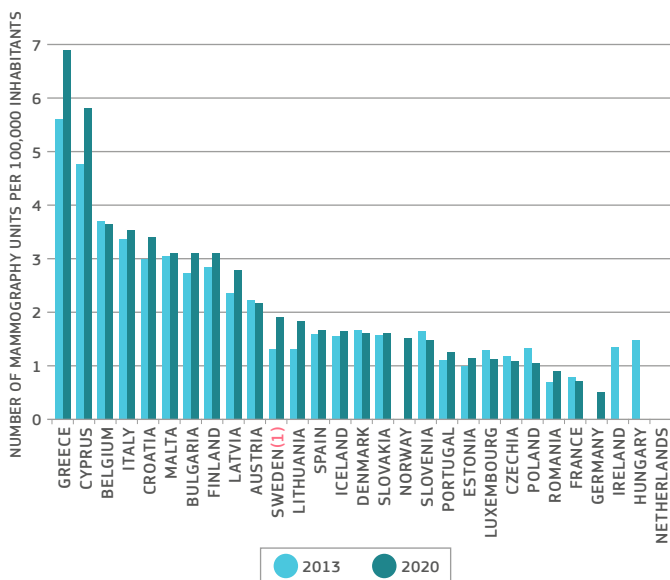


Data source: [EU Country Cancer Profiles \(2023\)](#) and survey^{6,7} updated in 2023 (unpublished)

2. Availability of mammography units

Mammography is an X-ray imaging method used for screening and diagnosis of breast cancer. Between 2013 and 2020, most countries saw a rise in the number of mammography units. Nonetheless, the availability of mammographic equipment varies up to seven-fold across European countries (Figure 3).

Figure 3 – Availability of mammography units in 2013 and 2020 (per 100,000 inhabitants)



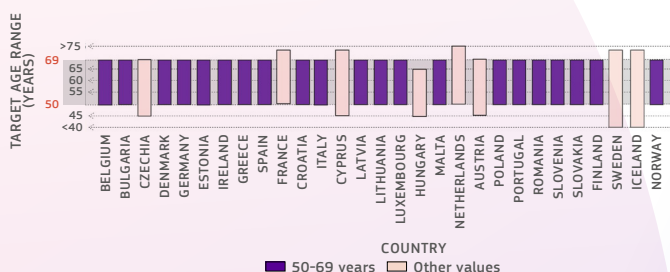
Note: The number of mammography units accounts for the devices made available by hospitals and providers of ambulatory health care. For Germany and France, the number of mammography units accounts solely for the ones made available by hospitals. For The Netherlands, data not available. The figure is ranked on the availability of mammography units per 100,000 inhabitants in 2020 (1) 2015 instead of 2013

Data source: EUROSTAT, available at [ECIR](#)

3. Screening target groups and uptake

ECIBC⁸ strongly recommends mammography screening every two years for women between the ages of 50 and 69, and suggests mammography screening starting at age 45 and continuing to age 74. Consistent with these recommendations, most European countries offer a mammography every two years to women aged 50-69 (Figure 4).

Figure 4 – Breast cancer screening target age group across Europe (for any screening service**)

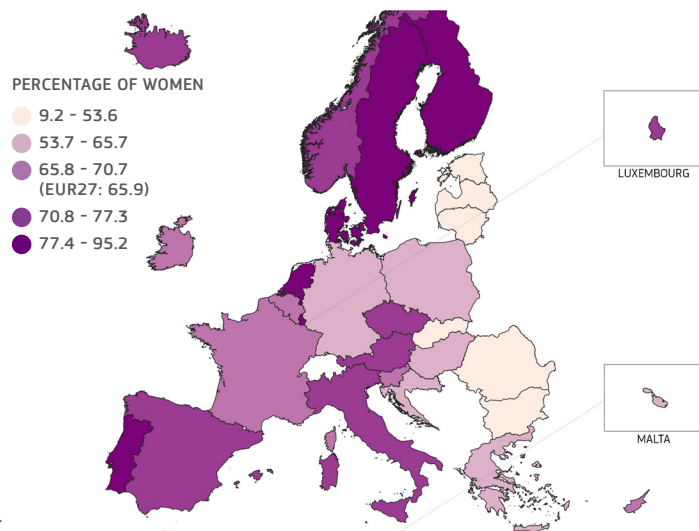


**including population-based and opportunistic screening

Data source: [EU Country Cancer Profiles \(2023\)](#) and 2023 OECD Policy Survey on Cancer Care Performance

In 2019, the self-reported examination rate of eligible women was approximately 66 % in Europe, with participation rates ranging from over 80 % in some countries, to less than 10 % in others, especially for countries in the Eastern European region (Figure 5).

Figure 5 – Percentage (%) of women aged 50-69 that reported to have had a mammography within the last 2 years in 2019

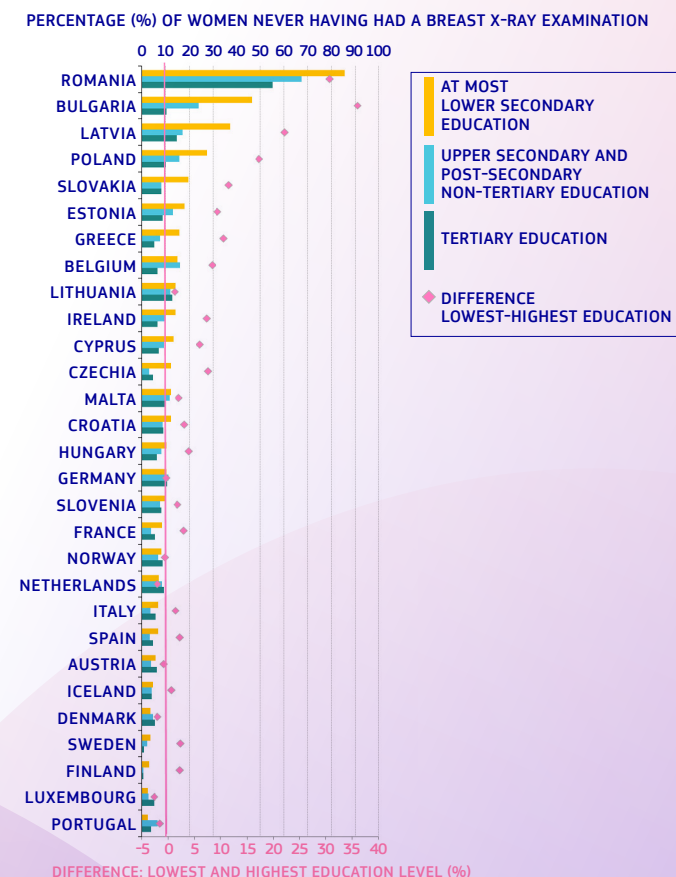


Data source: [EUROSTAT](#)

4. Education inequalities

In Europe, eligible women with a lower level of education reported attending X-ray breast examinations less frequently than eligible women with a higher level of education. In 2019, the gap in self-reported examination between women with the highest and the lowest education was as high as 35 % points in some countries (Figure 6).

Figure 6 - Women aged 50 to 69 years who reported never having had a mammography, by education attainment level (2019)



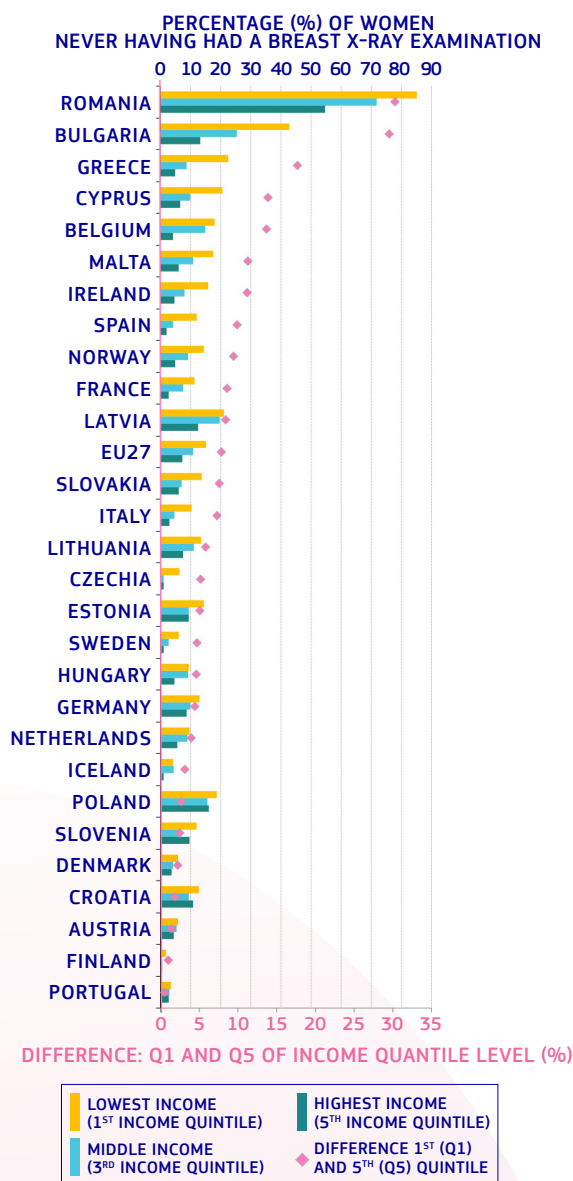
Note: the figure is ranked on the highest screening disparity which measures the greatest difference in the percentage of women aged 50-69 years old never having had a breast X-ray examination. This difference is calculated between the women with the lowest education attainment level and the women with the highest education attainment level.

Data source: EUROSTAT, available at [ECIR](#)

5. Income inequalities

In general, the proportion of women who had never had an X-ray breast examination was higher in women with the lowest income compared to women in the highest income quintile. The largest difference in participation based on income was 30 % points (Figure 7).

Figure 7 - Women aged 50 to 69 years who reported never having had a mammography, by income quintiles (2019)



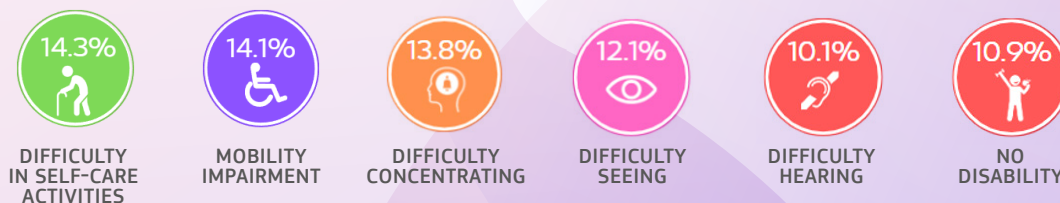
Note: the figure is ranked on the highest screening disparity which measures the greatest difference in the percentage of women aged 50-69 years old never having had a breast X-ray examination. This difference is calculated between the women with the lowest income level and the women with the highest income level.

Data source: EUROSTAT, available at [ECIR](#)

7. Inequalities by disability status

On average across Europe, the percentage of women with severe **disabilities and functional limitations** who have never had an X-ray breast examination was 3% higher compared to women without disabilities (Figure 9). The lowest rates of examination uptake were observed among women with difficulties in performing self-care activities or mobility impairments.

Figure 9 - Percentage (%) of women aged 50-69 years who reported never having had a mammography across the EU27, by disability type (2019)

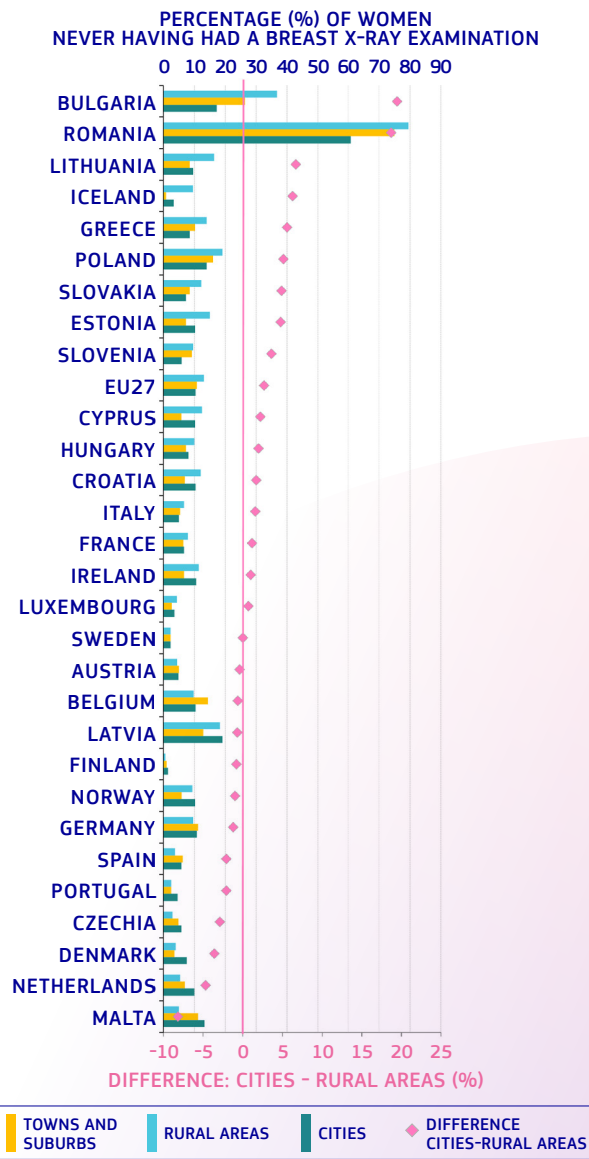


Data source: EUROSTAT, available at [ECIR](#)

6. Urbanisation inequalities

In 17 European countries, the proportion of women living in rural areas who have never had an X-ray breast examination was higher compared to women in urban areas. The largest difference in participation was nearly 20% points. (Figure 8).

Figure 8 - Women aged 50 to 69 years who reported never having had a mammography, by degree of urbanisation (2019)



Note: the figure is ranked on the highest screening disparity which measures the greatest difference in the percentage of women aged 50-69 years old never having had a breast X-ray examination. This difference is calculated between the women residing in rural areas and the women residing in cities.

Data source: EUROSTAT, available at [ECIR](#)

CLOSING THE GAP

European Commission's tools supporting the Member States

[Europe's Beating Cancer Plan](#) supports Member States in lowering cancer deaths and incidence of cancer by improving screening and early detection. As such a revised version of the Council recommendation on cancer screening⁹ will contribute to ensure that '90% of the eligible EU population are offered screening by 2025', referring to six cancer types, including breast cancer.

The European Commission Initiative on Breast Cancer (ECIBC)⁸ has developed person-centred evidence-based guidelines and a quality assurance scheme for breast cancer care services (ECIBC 2020). Its uptake across Europe, ensures that all women have equal access to breast cancer services with an essential level of quality and patient safety.

ECIBC recommendations to close the gaps and increase screening participation:

- **For inviting asymptomatic women aged 50 to 69, use a letter with a General Practitioner's signature, a letter with a fixed appointment or a letter followed by a phone call or SMS notification (if electronic means available) or written reminder**
- **For informing women about the benefits and harms of participating in an organised breast cancer screening programme, use a decision aid with numbers and infographics in addition to plain language**

The [Cancer Mission's](#) specific targets are to optimise and improve the access to existing screening programmes and support research on non-invasive cancer screening methods that can be integrated into the screening programmes.

The [European Cancer Information System \(ECIS\)](#) and the [European Cancer Inequalities Registry \(ECIR\)](#) will support systematic monitoring of the screening programmes and report on observed disparities. The EU-funded [CanScreen-ECIS](#) project aims to develop and pilot a new cancer screening data management system to be integrated into ECIS.

Recommendations to reach vulnerable groups

The 2022 Council Recommendation on strengthening prevention through early detection emphasises equal access to cancer screening across Europe, addressing the needs of different socioeconomic groups, individuals with disabilities, and those in rural or remote areas⁹.

ECIBC recommends using a targeted communication strategy over a general communication strategy for reaching out to women with intellectual disability, disadvantaged and non-native speaking women between the ages of 50 and 69⁸. These recommendations were issued in the context of increasing the participation of vulnerable population groups in screening programmes.

Addressing the inequalities in breast cancer screening in Europe is essential to improve early cancer detection and treatment outcomes, reducing the burden of the disease, and ensuring that all individuals have access to high-quality, evidence-based screening programs.

FOR MORE INFORMATION

- The [European Cancer Inequalities Registry](#) is a flagship initiative of the Europe's Beating Cancer Plan.
- The [European quality assurance scheme](#) includes a set of indicators to monitor the performance of breast cancer screening programmes and ensure continuity of care with the follow-up diagnostic services. Find out more [HERE](#) and consider applying them in your context.

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