

OECD Health Statistics 2023

Definitions, Sources and Methods

Breast cancer screening (mammography), survey data and programme data

Number of **women aged 50-69 who have received a bilateral mammography** within the past two years (or according to the specific screening frequency recommended in each country) divided by the number of women aged 50-69 answering survey questions on mammography (for survey-based data) or eligible for an organised screening programme (for programme-based data).

Note: Countries are invited to supply both survey data and programme data when these two sources are available.

Sources and Methods

Australia

Survey data not available.

Program data

Source of data:

- **Australian Institute of Health and Welfare.** BreastScreen Australia monitoring report. Available from: <https://www.aihw.gov.au/reports/cancer-screening/breastscreen-australia-monitoring-report-2022/summary>.

- **Australian Institute of Health and Welfare.** Cancer screening programs: quarterly data. Available from: <https://www.aihw.gov.au/reports/cancer-screening/national-cancer-screening-programs-participation/data>.

Reference period: Data cover a 2-year period from 1 January in the first year to 31 December in the following year. Data are reported against the latest year in the time period, for example, 2018-2019 are recorded as 2019.

Coverage:

- National coverage.

- **Numerator:** Number of women aged 50-69 having received a mammogram through national screening programme over a 24-month period.

- **Denominator:** Average number of female residents aged 50-69 between the reporting year and the previous year.

- **Screening programme:** Mammography every two years for women aged 50-69.

Note: COVID-19 pandemic has impacted 2019–2020 participation.

Austria

Survey data

Source of data: **Austrian Health Interview Survey** 2006/2007, 2014 and 2019.

Coverage:

- National representative sample.

- The survey will be repeated every 5 years.

- **Numerator:** Number of women aged 50-69 reporting to have received a mammogram during the past 2 years (exception: 2006/2007: three years).

- **Denominator:** Number of women aged 50-69 answering the survey.

- Covered are all exams not only preventive screening.

Deviation from definition:

- Numerator 2006/2007: Number of women aged 50-69 reporting to have received a mammogram during the past 3 years.

Break in time series:

- 2014: Since 2014 the observation period covers two years (2006/2007: three years).

Programme data

Source of data: **Gesundheit Österreich GmbH**, Austrian Breast Cancer Early Detection Program.

Reference period: Two-year cycles. A two-year cycle refers to the period from 1st January of year t-1 to 31st December of year t.

Coverage:

- Numerator: Number of women aged 50-69 with residence in Austria who have received a bilateral mammography within the past two years (national screening frequency recommended)
- Denominator: Number of women aged 50-69 eligible for an organised screening programme (all women residing in Austria within this age group; average population in the two-year cycle in question).- Women who exclusively underwent mammogram(s) outside the screening program, such as privately paid mammograms or curative/diagnostic mammograms, are not accounted for.

Belgium

Survey data

Source of data: **EUROSTAT**, European Health Interview Survey.

http://epp.eurostat.ec.europa.eu/portal/page/portal/health/public_health/data_public_health/database.

Coverage:

- **Numerator:** Number of women aged 50-69 reporting having received a bilateral mammography in the past two years.
- **Denominator:** Number of women aged 50-69 answering survey questions on mammography.

Programme data

Source of data: **Website of the Intermutualistic Agency ((IMA):** <http://atlas.aim-ima.be/>.

Coverage:

- National coverage.
- **Numerator:** Number of women aged 50-69 having received a mammogram through or outside the organised screening programme during the past two years.
- **Denominator:** Number of female residents aged 50-69 in the past two years.
- **Screening programme:** Mammography every two years for women aged 50-69.

Canada

Survey data

Source of data: **Statistics Canada**, Canadian Community Health Survey (CCHS), 2000/01, 2003, 2005, 2008 and 2012. Data for 2003, 2005 and 2008 can be found in CANSIM table 105-0543 at <http://www.statcan.gc.ca/eng/start>. 2017 data are from Statistics Canada, Catalogue no.82-625-X • Health Fact Sheets, June 2018.

Coverage:

- National representative sample.
- **Numerator:** For all years except for 2017, number of women aged 50-69 reporting having received routine screening mammogram or having received mammogram for other reasons within the last two years. For 2017, women aged 50 to 74 reporting having received a screening mammogram in the past three years.
- **Denominator:** For all years except for 2017, number of women aged 50-69 answering the survey. For 2017, women aged 50 to 74 answering the survey.
- For 2003, 2005, 2008 and 2012, non-response was removed.
- After 2012, the module on mammography has been optional content in the CCHS 2013 to 2016. For example, in the 2016 CCHS only three provinces selected this content.
- In 2017, the module of mammography was a theme content for all provinces and territories.

Deviation from the definition: for 2017, data refer to women aged 50-74.

Break in time series: 2017.

Programme data

Source of data:

- 2000 data: **Health Canada**, Organized Breast Cancer Screening Programs in Canada, 1999 and 2000 Report.

- 2002 data: **Public Health Agency of Canada**, Organized Breast Cancer Screening Programs in Canada, Report on Program Performance in 2001 and 2002.
- 2004 data: **Public Health Agency of Canada**, Organized Breast Cancer Screening Programs in Canada, Report on Performance in 2003 and 2004, available at <http://www.phac-aspc.gc.ca/publicat/2008/obcsp-podcs-03-04/participation-eng.php> and <https://www.canada.ca/content/dam/phac-aspc/migration/phac-aspc/publicat/2008/obcsp-podcs-03-04/pdf/obcsp-podcs-03-04-eng.pdf>.
- 2006 data: **Public Health Agency of Canada**, Organized Breast Cancer Screening Programs in Canada, Report on Program Performance in 2005 and 2006, available at <https://www.canada.ca/content/dam/phac-aspc/migration/phac-aspc/cd-mc/publications/cancer/obcsp-podcs05/pdf/breast-cancer-report-eng.pdf>.
- 2009 data: **Canadian Partnership Against Cancer**. Cancer Screening in Canada: An Overview of Screening Participation for Breast, Cervical and Colorectal Cancer. Toronto: Canadian Partnership Against Cancer; January 2015, available at <http://www.cancerview.ca/preventionandscreening/breastcancerscreening/>.
- 2011 to 2014 data: **Canadian Partnership Against Cancer**. Breast Cancer Screening in Canada: Monitoring and Evaluation of Quality Indicators - Results Report, January 2011 to December 2012. Toronto: Canadian Partnership Against Cancer; March 2017, available at <http://www.cancerview.ca/preventionandscreening/breastcancerscreening/>.
- 2015-2019 data: Estimates based on information published in reports of provincial ministries of health. Also includes mammography screening outside organized breast cancer screening programmes.

Coverage:

- National coverage.

2000, 2002, 2004 and 2006 data:

- **Numerator:** Number of women aged 50-69 having received a mammogram through the organised screening programme during the past two years.
- **Denominator:** Number of asymptomatic women aged 50-69 with no prior diagnosis of breast cancer, in the past two years.

2009 to 2014:

- **Numerator:** Number of women aged 50-69 having received a mammogram through the organised screening programme within a 30-month period (July 1st, 2007 - Dec. 31st, 2009 and July 1st, 2009 - Dec. 31st, 2011).
- **Denominator:** Population of women aged 50-69 (breast cancer prevalent cases excluded).
- Excludes: Yukon and Nunavut since there is no organized screening program in place.

Break in time series: 2009.

Note: Mammography screening can also occur outside of organized breast cancer screening programmes (opportunistic screening), thus the programmatic participation rates reported for the years 2000 to 2014 will underestimate total screening mammography use among Canadian women.

From 2015:

- Data refer to women aged 50-69.

Break in time series: Starting in 2015, also includes mammography screening outside organized breast cancer screening programmes.

Chile

Survey data

Source of data:

- 2011: Data provided for **National Survey of Socioeconomic Characterization 2011 (Encuesta Nacional de Caracterización Socioeconómica - CASEN 2011)**. CASEN is a Household Survey.

<http://www.minsal.cl/portal/url/item/cc345de4c9de0ea7e040010164012de8.pdf>.

- 2013, 2015, 2017: **National Socioeconomic Characterization Survey**. See information at:

http://observatorio.ministeriodesarrollosocial.gob.cl/casen-multidimensional/casen/docs/Resultados_Salud_casen_2017.pdf.

Deviation from the definition: The data refer to women aged 35 and over.

Programme data

Source of data:

- **National Cancer Program. Ministry of Health.**

- The source of these data is the health files of the primary care population.

- From 2011 onwards: The source of these data is the *Breast Cancer Report*, specifically the indicator “number of women with valid mammography in the last 3 years”.

Further information:

http://intradeis.minsal.cl/reportesrem/2012/PBC_MAMOGRAFIA_2/PBC_MAMOGRAFIA_2.aspx.

http://intradeis.minsal.cl/reportesrem/2013/PBC_MAMOGRAFIA_2/PBC_MAMOGRAFIA_2.aspx.

http://intradeis.minsal.cl/reportesrem/2014/PBC_MAMOGRAFIA_2/PBC_MAMOGRAFIA_2.aspx. Coverage:

- From 2011: data include Women aged 50 to 64 who received a bilateral mammography within the past three years through or outside the organized screening programmed in the Public Health System (SNSS).

- In 2016, the data from 2011 were updated in order to cover the population aged 50-64 years old (population beneficiary of FONASA - Public Insurance).

Deviation from definition: Data include only women aged 50 to 64 who are registered in the Public Health System (SNSS) and who have received a bilateral mammography within the past three years.

- In Chile, Preventive Medicine Exams offered from 2005 to 2008 one mammography for women after age 50. Since 2009, one mammogram is offered for free every three years to all women aged 50 to 64. But the recording of mammographies received by women aged 50 to 64 during the last three years started in 2011 only.

Note: The year 2021 is preliminary, so it is subject to modifications.

Colombia

Data not available.

Costa Rica

Source of data:

- *From 2019 onwards:* Área de Estadística en Salud, **Caja Costarricense de Seguro Social** (Health Statistics Unit, National Social Insurance Fund) and Annual Report of private hospitals that sent information.

- *Till 2018:* Área de Estadística en Salud, **Caja Costarricense de Seguro Social** (Health Statistics Unit, National Social Insurance Fund).

Coverage:

- *From 2019 onwards:* It includes data coming from all public hospitals and some private hospitals.

- *Till 2018:* It includes data coming only from public facilities belonging to the Social Insurance.

Break in time series: 2019 (inclusion of some private hospitals).

Czech Republic

Survey data

Source of data: **Institute of Health Information and Statistics of the Czech Republic**, European Health Interview Survey in the Czech Republic (EHIS CR 2019, EHIS CR 2014, EHIS CR 2008).

Coverage:

- National representative sample survey of population aged 15 years old and over.

- **Numerator:** Number of women aged 50-69 reporting having received a bilateral mammography through or outside the organised screening programme in the past two years.

- **Denominator:** Number of women aged 50-69 answering the survey question.

Screening programme: Every two years for women over 45 years old.

Programme data

Source of data:

- Since 2011, the **National Register of Reimbursed Health Services**.

- Till 2010, **Breast Cancer Screening Database** (Institute of Biostatistics and Analyses, Faculty of Medicine and the Faculty of Science, Masaryk University).

Coverage:

- National coverage.

- Till 2010, data were provided by accredited screening centres participating in the National breast cancer screening programme (data included also self-pay patients). Since 2011, the data are provided by public health insurance funds (the data can therefore be considered as more complete).

- **Numerator:** Number of women aged 50-69 having received a mammogram through the organised breast cancer screening programme during the past two years.

- **Denominator:** Number of female residents aged 50-69 years old in the reporting year.

Screening programme: Mammography every two years for women aged 45 and over.

Estimation method: Calculation based on population data from National Register of Reimbursed Health Services

Break in time series: 2011 (change in data source).

Further information: In 2023, the time series was revised since 2011 and further revisions are possible in the future based on continuous validation of source data.

Denmark

Survey data not available.

Programme data

Source of data: **Quality Database Mammography, Annual Report 2021.**

Coverage:

- Data covers all of the five regions in Denmark.
- **Numerator**: Number of women aged 50-69 years old who received a mammography through the organised screening programme in the past two years.
- **Denominator**: Number of women aged 50-69 years old who received an invitation to undergo organised breast cancer screening in the past two years. The denominator excludes those who do not need or decline to participate in the screening because of the prior diagnosis of breast cancer as they are not part of the target population who receive a personal invitation.
- **Screening programme**: Mammography every two years for women aged 50-69 years old.

Estonia

Survey data

Source of data: EUROSTAT, European Health Interview Survey.

https://ec.europa.eu/eurostat/databrowser/view/hlth_ehis_pa7e/.

Reference period: calendar year.

Coverage:

- **Numerator**: Number of women aged 50-69 years old reporting having received a bilateral mammography in the past two years.
- **Denominator**: Number of women aged 50-69 years old answering survey questions on mammography.

Programme data

Source of data: **Estonian Health Insurance Fund database** (www.haigekassa.ee).

National Institute for Health Development, Cancer Screening Registry.

Reference period: calendar year.

Coverage:

- National coverage.
- **Numerator**: Number of women aged 50-69 years old who participated in the national screening programme in a 12-month period (for data since 2018).
- **Denominator**: Number of women aged 50-69 years old who were invited to the screening programme in a 12-month period (for data since 2018).
- **Screening programme**: Mammography every two years for women aged 50-65 years old since 2007. Before 2007, there was no regular rule for sending invitations. From 2018 the target age range was expanded for women aged 50-69 years old.
- Invitations are not sent to women who have a diagnosis of breast cancer, who participated in screening or had mammography in the previous year, who do not have valid health insurance (~10%), or whose address in the population register is incomplete. From 2015, women without a valid health insurance are not excluded because they can still participate in screening even though they must pay for the test.

Deviation from the definition: Age group.

- Data refer to women aged 45-59 years old for 2002 to 2005, women aged 50-59 years old for 2006 and 2007, women aged 50-65 years old for 2008 and 2009, and to women aged 50-62 years old for 2010-2017.

Finland

Survey data not available.

Programme data

Source of data: **National screening programme.**

Coverage:

- National coverage.
 - **Numerator:** Number of women aged 50-69 years old who were invited and received a mammogram through the organised breast cancer screening programme during the year.
 - **Denominator:** Number of women aged 50-69 years old who received issued personal invitations to undergo organised breast cancer screening during the year. Personal invitations are sent to all women who belong to the target age group.
 - **Screening programme:** Mammography every two years (20-26 months) for women aged 50-69 years old. Prior to 2007, for women aged 50-59 years old, and the target population expanded gradually to 50-69 in 2007-2016. Some municipalities have invited women aged 60-64 years old or 65-69 years old already prior to 2007.
- Break in time series: Since 2007, the target age has been 50-69 years old. Earlier, it was 50-59 years old.

France

Survey data

Source of data:

- Survey on health and social protection, IRDES. <http://www.irdes.fr>.
- 2014 data: IRDES - EHS 2014.
- 2019: DREES-IRDES EHS 2019.

<https://drees.solidarites-sante.gouv.fr/sources-outils-et-enquetes/enquete-sante-europeenne-ehis>.

Reference period: date of the survey.

Coverage:

- **Numerator:** Number of women aged 50-69 reporting having received a mammogram during the past two years.
- **Denominator:** Number of women aged 50-69 answering the survey questions.

Programme data

Source of data: **French Institut for public health surveillance.** [Taux de participation au programme de dépistage organisé du cancer du sein 2020-2021 et évolution depuis 2005 \(santepubliquefrance.fr\)](https://www.santepubliquefrance.fr).- For the 2023 update, data have been revised since 2004 with new denominator estimates, based on census data rather than on projection.

Reference period: end of the year.

Coverage:

- Since 2004 there is a countrywide breast cancer screening programme. The French Institut for public health surveillance is in charge of evaluating this programme. The programme is directed to women aged 50-74 but the data have been recalculated in order to match the definition (women aged 50-69 years old).
- The rate is calculated as: number of women aged 50-69 who have been screened against breast cancer within the national screening programme within 24 months before the end of the reference period divided by the population of women aged 50-69. It is not possible to identify only the eligible population, but the difference with the entire population of women aged 50-69 is scarce (less than 5 %).

Germany

Survey data

2012:

Source of data: **Robert Koch Institute (RKI)**, German Health Interview and Examination Survey for Adults (DEGS1); Bundesgesundheitsblatt 2013 56:858-867, "Inanspruchnahme von Krebsfrüherkennungsuntersuchungen - Ergebnisse der Studie zur Gesundheit Erwachsener in Deutschland (DEGS1)".

- See information at <http://www.rki.de> or <http://www.degs-studie.de>.

Coverage:

- **Numerator:** Number of women aged 50-69 reporting having received a bilateral mammography in the past two years.
- **Denominator:** Number of women aged 50-69 answering survey questions on mammography.
- The "German Health Interview and Examination Survey for Adults" (DEGS1) is part of the health monitoring of the Robert Koch Institute (RKI) and is designed as a combined cross-sectional and longitudinal survey. The aim of

the study is to repeatedly provide nationally representative data on the health status of the adult general population (18-79 years) in Germany.

- In order to perform both cross-sectional and longitudinal analyses, a mixed study design was implemented. Therefore, a sample of participants was randomly chosen from local population registries and then supplemented by former participants of the “German National Health Interview and Examination Survey 1998” (BGS98) – a previous nationwide cross-sectional study conducted by the RKI. Representativeness of the collapsed sample for the German general population is ensured by the use of weighting procedures.
- In total 8,152 adults took part in the study. Among them were 4,193 participants who had been invited for the first time as well as 3,959 participants who had already taken part in BGS98.
- A nonresponse analysis and a comparison of several indicators of the study with official statistics show a high representativeness of this net random sample for the German resident population.
- DEGS1 was carried out by the RKI from November 2008 through December 2011.
- Using data from the first wave of the German Health Interview and Examination Survey for Adults (DEGS1), current levels of participation in cancer screening services were determined.
- In DEGS1, persons who were entitled to different cancer screening services were interviewed on their awareness, participation and regular utilisation of cancer screening for different types of cancer.

2009, 2014 and 2019:

Source of data: **EUROSTAT**, European Health Interview Survey (Data extracted in February 2022).

<http://ec.europa.eu/eurostat/data/database>

Reference period:

Coverage:

- **Numerator:** Number of women aged 50-69 reporting having received a bilateral mammography in the past two years.
- **Denominator:** Number of women aged 50-69 answering survey questions on mammography.

Programme data

Source of data: **Kooperationsgemeinschaft Mammographie**, Mammographie-Screening-Programm;

Kooperationsgemeinschaft Mammographie 2009, *Evaluationsbericht 2005-2007*, Köln, p. 40,
Kooperationsgemeinschaft Mammographie 2012, *Evaluationsbericht 2008-2009*, Berlin, p.103,
Kooperationsgemeinschaft Mammographie 2015, *Evaluationsbericht 2005-2012*, Berlin, p.16,
Kooperationsgemeinschaft Mammographie 2016, *Evaluationsbericht 2014*, Berlin, p.11,
Kooperationsgemeinschaft Mammographie 2017, *Evaluationsbericht 2015*, Berlin, p.13,
Kooperationsgemeinschaft Mammographie 2018, *Evaluationsbericht 2016*, Berlin, p.12,
Kooperationsgemeinschaft Mammographie 2019, *Evaluationsbericht 2017*, Berlin, p.12,
Kooperationsgemeinschaft Mammographie 2020, *Evaluationsbericht 2018*, Berlin, p.12,
Kooperationsgemeinschaft Mammographie 2021, *Evaluationsbericht 2019*, Berlin, p.12,
Kooperationsgemeinschaft Mammographie 2022, *Evaluationsbericht 2020*, Berlin, p.12.

See <http://www.mammo-programm.de>.

Reference period: During the year.

Coverage:

- Regional coverage: 2006 and 2007: 77 out of 94 reference regions. From 2008 onwards: 94 out of 94 reference regions.
 - **Screening programme:** Mammography every two years for women aged 50-69. Women are invited to screening based on the inhabitants’ registries. The examination and assessment is free for the women.
- Estimation method: For reporting year 2021, the value from reporting year 2020 has been extrapolated using the 2020/2019 development rate. When the new data is available, the value will be overwritten.

Greece

Survey data

Source of data:

- 2009, 2014, 2019: **Hellenic Statistical Authority, Health Survey**, 2009, 2014 and 2019. See further information at <http://www.statistics.gr/en/statistics/-/publication/SHE12/->.
- 2006, 2008: **Center for Health Services Research, Medical School, University of Athens, “Hellas Health I” and “Hellas Health II” surveys.**

Reference period: calendar year.

Coverage:

- 2009, 2014, 2019: Data refer to women aged 50-69 who have done a mammography within the past two years divided by the number of women aged 50-69 answering survey questions on mammography.
 - 2006, 2008: All women aged 15 and over.
 - **Screening recommendations:** Every one or two years for women aged 40 and over.
- Break in time series: 2009 (change in data source).

Programme data not available.

Hungary

Programme data

Source of data:

- From 2006 onwards: **National Healthcare Service Center** (ÁEEK in Hungarian), www.aeek.hu.
- From 2021, **National Directorate General for Hospitals** (OKFÓ in Hungarian), www.okfo.gov.hu.

Coverage:

- **Numerator:** Number of women aged 50-69 who received a mammogram through the organised breast cancer screening programme during the past two years.
- **Denominator:** The number of women aged 50-69 in a given year.
- **Screening programme in Hungary:** Every two years for women aged 45-65. Organised screenings for breast cancer started in January 2002 in Hungary.

Break in time series: Note for 2020 data: Due to the Covid-19 pandemic, targeted screening for public health purposes, including breast cancer screening, was suspended between March and May 2020 in order to mitigate the health impact of the Covid-19 pandemic.

Survey data

Source of data:

- In 2003: **National Center of Epidemiology** (OEK in Hungarian), **EHIS** (OLEF 2003 in Hungarian). www.oek.hu (in Hungarian).
- In 2009: **Hungarian Central Statistical Office** (KSH in Hungarian), **EHIS** (ELEF 2009 in Hungarian). www.ksh.hu.
- In 2014: **Hungarian Central Statistical Office** (KSH in Hungarian), **EHIS** (ELEF 2014 in Hungarian). www.ksh.hu.
- In 2019: **Hungarian Central Statistical Office** (KSH in Hungarian), **EHIS** (ELEF 2019 in Hungarian). www.ksh.hu.

Coverage:

- **Numerator:** number of women aged 50-69 reporting having a mammography within the last two years.
- **Denominator:** number of women aged 50-69 answering the survey question.

Iceland

Survey data not available.

Programme data

Source of data:

- Before 2021: **Cancer Detection Centre of the Icelandic Cancer Society**.
- As of 2021: **Directorate of Health**.

Coverage:

- National coverage.
- **Numerator:** Number of women aged 40-69 years old who received a mammogram through or outside the organised breast cancer screening programme during the past two years.
- **Denominator:** Number of women aged 40-69 years old who were invited to the organised breast cancer screening programme during the past two years.
- **Screening programme:** Mammography every two years for women aged 40-69 years old.

Deviation from the definition: Age group.

Ireland

Survey data

Source of data: **Irish Health Survey 2015** (<https://www.cso.ie/en/releasesandpublications/ep/p-ih/irishhealthsurvey2015/>).

Reference period: Calendar year, survey occurring every 5 years.

Coverage:

- National coverage.
- Information relates to women surveyed who indicated they had a mammogram (breast X-ray) within the last 2 years.
- More information on the Irish Health Survey can be found in the background notes of the publication: <https://www.cso.ie/en/releasesandpublications/ep/p-ih/irishhealthsurvey2015/bgn/>.

Estimation method: Based on weighted survey data.

Programme data

Source of data: **National Screening Service –BreastCheck** (<https://www.screeningservice.ie/>).

Reference period: Data for 2017 refer to 2017/2018, and so on.

Coverage:

- National coverage.
- **Numerator** is the number of women who were eligible for organised screening programme during the index year.
- **Denominator** is eligible women which refers to the known target population less those women excluded or suspended (e.g. working abroad, women who defer) by the programme based on certain eligibility criteria. BreastCheck is transitioning from screening women in the 50-64 age-range to the 50-69 age group. Roll out of this initiative is gradual and is aimed to be completed by 2021.
- **Screening programme:** BreastCheck reports Annual Uptake (% of women receiving their first invitation (in a round) during the index year who attend for screening in that round). Eligible population is changing year-on-year to fully incorporate women aged 50-69 by 2021. BreastCheck has been a nationwide screening programme since 2007.

Deviation from the definition: Age group.

- More information on cancer screening in Ireland can be found at the following weblink:

<https://www.screeningservice.ie/screening.html>. For reference years 2021 onwards, the age range for BreastCheck is 50-68.

Israel

Survey data

Source of data: **Israel Center for Disease Control (ICDC), Ministry of Health.**

- 2019: **Israeli National Health Interview Survey (INHIS-4), 2018-2020.** The INHIS-4 survey is the fourth in a series of population-based National Health Interview Surveys. The INHIS-4 survey was a telephone survey on a representative sample of 4,135 Israelis aged 21 and above. Since 2016, the samples of the surveys include both land-lines and mobile telephones.
- 2015: **Israeli National Health Interview Survey (INHIS-3), 2013-2015.** The INHIS-3 survey is the third in a series of population-based National Health Interview Surveys. The INHIS-3 survey was a telephone survey on a representative sample of 4,406 Israelis aged 21 and above.
- 2010: **Israeli National Health Interview Survey (INHIS-2), 2007-2010.** The INHIS-2 survey is the second in a series of population-based National Health Interview Surveys. The INHIS-2 survey was a telephone survey on a representative sample of 10,331 Israelis aged 21 and above.
- 2004: **Israel National Health Interview Survey (INHIS-1), 2003-2004.** The INHIS-1 survey is the first in a series of population based National Health Interview Surveys. INHIS was conceived and implemented within the framework of the international EUROHIS project of the WHO. The INHIS-1 survey was a telephone survey on a representative sample of 9,509 Israelis aged 21 and above.

Data coverage:

- Data are based on self-reported mammography screening in the past two years. The screening programme in Israel includes mammography every two years for women aged 50-74, and the present analysis was based on ages 50-69. Methodology:
- **Numerator:** Number of women aged 50-69 reporting undergoing a screening mammography during the past two years.
- **Denominator:** Number of women aged 50-69 who participated in the survey.

Break in time series: 2016. The surveys in previous years were based on samples of land-line telephones only. Since 2016, the samples of the surveys include both land-lines and mobile telephones. This needs to be taken into account when performing comparisons or measuring trends over time.

- For further information regarding INHIS surveys (partial English):

INHIS-1: https://www.health.gov.il/publicationsfiles/inhis_1.pdf

INHIS-2: https://www.health.gov.il/publicationsfiles/inhis_2.pdf

INHIS-3: https://www.health.gov.il/PublicationsFiles/INHIS_3.pdf

Source of data: **Central Bureau of Statistics.**

- 2010: **The Israeli social Survey.** <http://surveys.cbs.gov.il/Survey/surveyE.htm>. National representative sample of non-institutionalised civilian population, excluding nomad population in the southern region (about 0.7% of the population). The result from this survey is similar to the result from the INHIS-2 2007-2010 survey.

- 2000: **Health Surveys** (supplement to Labour Force Survey).

Coverage:

- **Numerator**: Number of women aged 50-69 reporting having received a mammogram during the past two years.

- **Denominator**: Number of women aged 50-69.

- **Screening recommendations**: Mammography every two years for women aged 50-74. Women at high risk are offered annual mammography from 40 and women at very high risk (BRCA carriers) are offered annual MRI.

Programme data

Source of data:

- From 2002 onwards: Data based on The National Program for Quality Indicators in Community Healthcare in Israel, compiled by the **Directorate of the National Program for Quality Indicators in Community Healthcare in Israel**, Braun School of Public Health and Community Medicine, Hebrew University – Hadassah, Jerusalem.

<http://healthindicators.org.il/en/reports/>. This program is funded by the Israel National Institute for Health Policy and Health Services Research (NIHP).

Coverage: Complete.

Deviation from the definition:

- Numerator: Number of women aged 51-74 who have received a bilateral mammography within the past two years.

Note: The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by: the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.

Italy

Survey data

Source of data: **Istituto Superiore di Sanità. Progressi delle Aziende Sanitarie per la Salute in Italia: la sorveglianza Passi.** <http://www.epicentro.iss.it/passi/>.

Reference period: Year.

Coverage: National, with the exclusion of Lombardia region.

- **Numerator**: Number of women aged 50-69 (sampled in the survey) reporting a bilateral mammography during the past two years.

- **Denominator**: Number of resident women aged 50-69 (sampled in the survey).

Deviation from the definition: None

Estimation method: Estimates from a sample survey.

Break in time series: None

Programme data

Source of data: **Ministry of Health - National Centre for Screening Monitoring.**

<https://www.osservatorionazionale screening.it/content/i-rapporti-brevi-dell%E2%80%99ons>.

Reference period: Year.

Coverage: national.

- **Numerator**: Number of women aged 50-69 who received a mammogram through the organised breast cancer screening programme during the reporting year and up to April of the following year.

- **Denominator**: Number of women aged 50-69 who were invited to the organised breast cancer screening

programmes during the reporting year. The denominator does not always exclude those who do not need/decline to participate in the screening because of the prior diagnosis of breast cancer.

- **Screening programme:** Screening mammography every two years for women aged 50-69.

Deviation from the definition: None

Estimation method: None

Break in time series: None

Japan

Survey data

Source of data: **Ministry of Health, Labour and Welfare**, Comprehensive Survey of Living Conditions.

Coverage:

- National representative sample.

- **Numerator:** Number of women aged 50-69 reporting having received a breast cancer screening during the past year (data up to 2007) or the past two years (data since 2010). The numerator includes those women with breast cancer screening other than mammography (e.g., Clinical Breast Examination (CBE) and ultrasonography).

- **Denominator:** Number of women aged 50-69 answering the survey question.

- The survey has been conducted every three years since 2001.

- **Screening recommendation:** Breast cancer screening (including a screening other than mammography) every two years for women aged 40 and over.

Break in time series: 2010. From 2010, number of women reporting having received a screening in the two years before the survey.

Programme data not available.

Korea

Survey data

Source of data: **National Cancer Center**, Korea National Cancer Screening Survey, each year.

Coverage:

- National representative sample.

- **Numerator:** Number of women aged 50-69 reporting having received a mammogram during the past two years.

- **Denominator:** Number of women aged 50-69 answering the survey.

- **Screening programme:** Mammography every two years for women aged 40 and over.

Note: The screening period for cancer in 2020 is extended to June 2021 due to COVID-19. The extension of the screening period is considered to have significantly increased the cancer screening rate in 2021.

Programme data

Source of data: **National Health Insurance Service**, National Health Screening Statistical Yearbook, each year.

Coverage:

- National coverage.

- **Numerator:** Number of women aged 50-69 who were invited to the breast cancer screening programme and had a mammography through the organised breast cancer screening programme during the year.

- **Denominator:** Number of women aged 50-69 who were invited to a mammography organised by the breast cancer screening programme during the year.

- **Screening programme:** Mammography every two years for women aged 40 and over.

Break in time series: Prior to 2008, data refer to women aged 50 and over. From 2008 onwards, data refer to women aged 50 to 69.

Latvia

Survey data not available.

Programme data

Source of data: **National Health Service**.

Coverage:

- Data are collected, dividing number of women who have taken tests in current year by the number of sent invitation letters (letter is valid for two years) in current year.
- Age group for breast cancer screening: 50-69.
- Note: Screening programme in Latvia was launched in 2009. Invitation to breast cancer screening is valid for 2 years.
- In 2011, invitation letters sent to large target population and received in 2009 and 2010 were also valid. Due to the social activities and informative measures, as well as support from professional associations of gynaecologists and general practitioners, population interest in screening grew, therefore also rise in the number of examinations performed basing on the invitation letters was recorded.
- The reasons for the strong increase in 2017 are the following:
 1. In 2016, NHS had technical problems to deliver system generated invitation letters for part of the target population. Hence many invitations (valid for two years) were sent at the end of 2016, and screening was done in 2017. This explains the low rate in 2016 and the high rate in 2017.
 2. In 2017, the government has done several organisational changes in order to increase cancer screening rates.

Lithuania

Survey data.

Source of data: **Statistics Lithuania, European Health Interview Survey, 2014, 2019.**

Coverage: national representative.

Frequency of survey: every 5 years.

Numerator: women aged 50-69, in the past 2 years.

Programme data

Source of data: **Health Information Centre of Institute of Hygiene**, data from Compulsory Health Insurance Database. Available on Official Statistics Portal of Statistics Lithuania <http://osp.stat.gov.lt/en>.

Coverage: National breast cancer screening programme covers women aged 50-69 every 2 years. Programme was started in 2005.

- During the COVID-19 pandemic in 2020 the screening rate have dropped and in 2021 did not reach pre-pandemic level.

Luxembourg

Survey data

Source of data: **EHIS Wave 2 (2014) and Wave 3 (2019).**

Programme data

Source of data: **Direction de la santé**, Mammography programme.

Reference period: data as of December 31.

Coverage:

- Inclusion: Invitations are sent to resident women aged 50-69 years covered by the statutory health insurance scheme. Screening is also offered on request to non-resident women covered by the statutory health insurance scheme who commute from neighbouring countries.

- Exclusion: Women who report a previous bilateral mastectomy.

- **Numerator:** Number of women aged 50-69 who have had a mammography through the organised screening programme within the past two years

- **Denominator:** Number of invitations sent to resident women aged 50-69 years old covered by the national health insurance during the reporting year (X) and non-resident women covered by the national health insurance during the reporting year and who have requested an invitation for the screening programme.

Deviation from the definition: as mentioned in the coverage, some non-residents are included in the numerator and until now it is not possible to exclude them. However, this proportion had been estimated to <1%.

Break in time series: 2001.

- Target age group is 50-69 years old since 2001, but it was 50-64 years old prior to 2001.

Note:

- Data for years 2000-2014 have been revised in order to better match the OECD definition.

- The rate for 2021 is preliminary.

Mexico

Survey data

Source of data: **National Survey on Health and Nutrition 2006. Ministry of Health. National Institute of Public Health.**

Coverage:

- National representative data.
- **Numerator:** Number of women aged 50-69 who attended the preventive medicine module for detection of breast cancer (mammography) during the last 12 months.
- **Denominator:** Number of women aged 50-69 answering the survey question.
- **Screening programme:** Every year for women aged 50-69.

Programme data

Source of data:

- **Programa de Cáncer de Mama** (Breast Cancer Programme). **Women's Cancer Information System (SICAM)**, 2007-2020.
- **National Population Council** (CONAPO), Mexico 2019: Population projections 2016-2050.

Coverage:

- The data only refer to public institutions.
- **Numerator:** Number of women aged 40 to 69 who attended the preventive medicine module for detection of breast cancer (mammography) in the public institutions during the past two years.
- **Denominator:** Total of women aged from 40 to 69 years old at the middle of the year. Denominator includes women with prior diagnosis of breast cancer.
- **Screening programme:** The data reported refer to women aged 40-69 who have received bilateral mammography within the past two years.

Deviation from the definition: Age group.

Note:

- In 2014, there was a strategy to increase the number of screening for breast cancer at the national level.
- In 2020 there is a significant drop due to the COVID-19 pandemic causing the number of mammography performed per year to decrease.

Netherlands

Survey data

Source of data:

- 2020 and later: no longer included in survey.
- 2005-2019: Data from the **Health Interview Survey**.
- 2000-2004: **Integrated System of Social Surveys (POLS)**.

Coverage:

- National representative sample.
- **Numerator:** Number of women aged 50-69 years old reporting having received a mammogram during the past two years.
- **Denominator:** Number of women aged 50-69 years old answering the survey question. The denominator excludes those who answered 'don't know'.
- 2000 data refer to women aged 50-69 years old who had ever had a mammography.
- **Screening programme:** Mammography every two years for women aged 50-75 years old.

Break in time series: 2010 and 2014. Questionnaire and setup of survey changed in 2010 and 2014.

Programme data

Source of data:

- 2016 and later: **Monitor Population survey Breastcancer** (Monitor Bevolkingsonderzoek Borstkanker), www.iknl.nl/borstkankermonitor Integraal kankercentrum Nederland.
- Up to 2016: National Evaluation Team for Breast cancer screening, administration of the breast cancer screening organisations.

Coverage:

- National coverage.
 - **Numerator:** Number of women aged 50-69 years old who received a mammogram through the organised breast cancer screening programme during the specific period. The numerator includes the women who were invited to the screening in the reporting year and had a mammogram just before the reporting year or a few months after the end of the reporting year.
 - **Denominator:** Number of women aged 50-69 years old who were invited to the organised breast cancer screening during the reporting year. The denominator does not include women not in the Population Registration. Women who declared not wanting an invitation anymore (definite refusers) and women with an interval or carcinoma screening generally do not receive an invitation for subsequent screens, so they are not included in the denominator.
 - **Screening programme:** Mammography every two years for women aged 50-75 years old.
- Deviation from the definition: (2020, 2021): Age group. Age specific data could not be obtained; data refer to ages 49-69 years.

New Zealand

Survey data

Source of data: **New Zealand Health Survey, Ministry of Health.**

Coverage:

- **2007:** National representative sample.
- **Numerator:** Number of women aged 50-69 reporting having received a mammogram within the past two years.
- **Denominator:** Number of women aged 50-69 answering the survey question.
- New Zealand Health Survey usually shows a greater screening coverage than the BreastScreen Aotearoa (BSA) programme figures because the survey includes women who have screening mammography outside the national screening programme. However, BSA's data sources are considered a more accurate record of screening events than the national survey for calculating total population coverage. This data source is no longer available as the question is no longer asked as part of the NZ Health Survey.

Programme data

Source of data: **BreastScreen Aotearoa (BSA)** a screening programme of the National Screening Unit.

Coverage:

- National coverage.
- **Numerator:** Number of women aged 50-69 who underwent mammography screening through an organised screening programme within the public health system during the two year period prior to the annual reporting period ending on 31 December. The numerator excludes those screened privately such as opportunistic screenings and high-risk women in the age group screened annually outside the programme (in diagnostic services). Both women with first screening events (women newly enrolled in the programme) and those with subsequent screening events (women already enrolled) are included.
- **Denominator:** The BSA coverage denominator is the number of eligible women aged 50-69 years in New Zealand at the mid-point of the 24-month screening period, as derived from Statistics New Zealand's district health board (DHB) population projections update 2019 for the December 2020 data. 2013-2019 coverage uses the 2018 update of the 2013 Census based projections. Earlier coverage estimates use the 2011 update of the 2006 Census based projections.
- **Screening programme:** Mammography every two years for women aged 45-69. Between 1999 and July 2004, for women aged 50-64.
- **From 2006,** data refer to women aged 50-69 years, but 2002-2005 data refer to women aged 50-64.

Norway

Survey data not available.

Programme data

Source of data: **Norwegian Breast Cancer Screening Programme.**

Coverage:

- National coverage.
- **Numerator:** Number of women aged 50-69 years old who received a mammography through the organised breast cancer screening programme during the past two years.

- **Denominator:** Number of women aged 50-69 years old who were invited to the organised breast cancer screening programme during the past two years. The denominator excludes those who do not need/decline to participate in the screening because of the prior diagnosis of breast cancer.
- **Screening programme:** Mammography every two years for women aged 50-69 years old.

Poland

Survey data

Source of data: **Statistics Poland.**

- 2009, 2014, 2019: European Health Interview Survey.
- 2004: Health Interview Survey.

Coverage:

- **Numerator:** Number of women aged 50-69 years old reporting having received their last mammography in the past two years.
- **Denominator:** Number of women aged 50-69 years old answering the survey question.

Programme data

Source of data: **National Health Fund.**

Reference period: 2019,2020,2021,2022 as of February 1 of the following year.

Coverage:

- **Numerator:** Number of women understood as the number of women aged 50-69 examined and treated under the breast cancer prevention program.
- **Denominator:** Number of women qualified for testing in a given age group according to the interval.

Portugal

Survey data

Source of data:

- National Health Survey 2005/2006, developed in partnership by **National Health Institute Doutor Ricardo Jorge (INSA)** and **Statistics Portugal.**
- National Health Survey 2014, developed in partnership by **National Health Institute Doutor Ricardo Jorge (INSA)** and **Statistics Portugal.**
- National Health Survey 2019, developed in partnership by **National Health Institute Doutor Ricardo Jorge (INSA)** and **Statistics Portugal.**

Coverage:

- National coverage.
- Data collection of the National Health Survey 2005/2006 took place between February 2005 and February 2006. Results regarding the percentage of females that undertook breast cancer screening were reported to a single year (2005), having in mind that the data collection took place mostly during that year.
- Data collection of National Health Survey 2014 took place between October and December 2014. Data regarding the proportion of female resident population aged between 50 and 69 years old who reported having a mammography in the 2 years preceding the interview.
- Data collection of National Health Survey 2019 took place between September 2019 and January 2020. Data regarding the proportion of female resident population aged between 50 and 69 years old who reported having a mammography in the 2 years preceding the interview.

Programme data

Data not available.

Slovak Republic

Survey data

Source of data: **EUROSTAT**, European Health Interview Survey 2009 (data extracted in March 2012), European Health Interview Survey 2014 (data extracted in April 2017) and European Health Interview Survey 2019 (data extracted in August 2020).

http://epp.eurostat.ec.europa.eu/portal/page/portal/health/public_health/data_public_health/database.

Coverage:

- **Numerator:** Number of women aged 50-69 reporting having received a bilateral mammography in the past two years.
- **Denominator:** Number of women aged 50-69 answering survey questions on mammography.

Programme data

Source of data: **National health Information Center (NHIC)**, Annual report on activity of radiology. Data for years 2006 – 2016 were revised and recalculated in 2018.

Coverage:

- In the SR the mammography screening programme is for women aged 40 – 69, and mammography screening programme received only women who participated in the gynaecological preventive care programme examination.

Calculation for reporting year X:

- **Numerator:** Number of women aged 40-69 who received preventive mammography in year X plus Number of women aged 40-69 who received preventive mammography in year (X - 1).
- **Denominator:** Average number of women aged 40-69 within the women population in the years X and (X - 1).
- **Screening programme:** Every two years for women aged 40-69.

Deviation from the definition: Age group.

Slovenia

Survey data

Source of data:

- 2019: National Institute of Public Health, Nacionalna raziskava o zdravju in zdravstvenem varstvu 2019 (Questionnaire of the European Health Interview Survey, 3rd round).
- 2014: National Institute of Public Health, Anketa o zdravju in zdravstvenem varstvu 2014 (Questionnaire of the European Health Interview Survey, 2nd round).
- 2007: National Institute of Public Health, Slovenia, *Anketa o zdravju in zdravstvenem varstvu 2007* (Questionnaire of the European Health Interview Survey (EHIS), 1st round).

Coverage:

- National representative sample, population living in private households (persons living in institutions are excluded).
- National representative data.
- The percentage of women aged 50-69 years old who reported having had the last mammography during the past two years.
- **Screening recommendation:** Mammography every two years for women aged 50-69 years old.

Programme data

Source of data: **Breast cancer screening registry DORA, Epidemiology and Cancer Registries, Institute of Oncology Ljubljana.**

Coverage:

- Geographic coverage is complete; programme is currently covering all eligible population. Pilot programme, which started in April 2008, has been expanding ever since and in 2019 it has covered by invitations 100 % of eligible Slovenian women population.
- **Numerator:** Number of women aged 50-69 years old who had a mammogram through the organised breast cancer screening from invited in the specified time period.
- **Denominator:** Number of women who were invited to the organised breast cancer screening in the specified time period.
- **Screening recommendation:** Mammography every two years for women aged 50-69 years.
- Screening data and data from Central Population Registry, Slovenian Cancer Registry and Registry of Spatial Units is collected in the central database of the Breast Cancer Screening Registry DORA on a daily basis.

Spain

Survey data

Source of data: **Ministerio de Sanidad** (Ministry of Health) and **Instituto Nacional de Estadística - INE** (National Statistics Institute).

- **2011 and 2017:** data Encuesta Nacional de Salud (ENSE) (National Health Survey).
<https://www.sanidad.gob.es/estadEstudios/estadisticas/encuestaNacional/home.htm>.
 - **2014 and 2020:** Encuesta Europea de Salud en España (European Health Interview Survey (EHIS)).
<http://www.ine.es>.
http://www.sanidad.gob.es/estadEstudios/estadisticas/EncuestaEuropea/Enc_Eur_Salud_en_Esp_2014.htm.
<http://www.sanidad.gob.es/estadEstudios/estadisticas/EncuestaEuropea/home.htm>.
 - **2009:** EUROSTAT, European Health Interview Survey 2009 (data extracted in March 2012).
http://epp.eurostat.ec.europa.eu/portal/page/portal/health/public_health/data_public_health/database.
- Coverage:
- **Numerator:** Number of women aged 50-69 reporting having received a bilateral mammography in the past two years.
 - **Denominator:** Number of women aged 50-69 answering survey questions on mammography
- Note: The 2020 Health interview survey was carried out from July 2019 to July 2020, so the decrease in 2020 data compared with previous years may be explained by the pandemic period.

Programme data are not available.

Screening programme: Every two years for women aged 50-69.

Sweden

Survey data

Source of data: Source of 2014 and 2019 data: EUROSTAT, European Health Interview Survey.

https://ec.europa.eu/eurostat/databrowser/view/hlth_ehis_pa7e/default/table?lang=en.

Coverage:

- **Numerator:** Number of women aged 50-69 reporting having received a bilateral mammography in the past two years.
- **Denominator:** Number of women aged 50-69 answering survey questions on mammography.

Programme data

Source of data:

- Programme data from the Regions and procured private providers of breast cancer screening until the National Quality Registry for Mammography (*Nationellt kvalitetsregister för mammografiscreening*, NKM) can deliver data:
 - o Compiled data by the National Board of Health and Welfare (NBHW); [Nationell utvärdering bröstcancer med mammografi](#), year 2017-2020, [Indikatorer- screening för bröstcancer med mammografi](#), indicator 3.
 - o Compiled data by data collection via the National working group for mammography (NAM) reference year 2021 with data from 2020-2021.

Reference period: Yearly.

Coverage:

- Screening programme: The Swedish population-based breast cancer screening programme started in the mid-1980s. Today, all women aged 40-74 years are included in the programme, with a recommended screening interval of 18-24 months. Breast cancer screening is free of charge, and participation in the programme is high.
- Difficult to get women to attend their screening, as well as other problems at the clinics related to the COVID-19 pandemic throughout year 2020, and therefore the mammography units have been drawn with an extended interval that has been difficult to retrieve.
- 4 of 21 regions are not included in the data for year 2017 (Kronoberg, Kalmar, Gotland and Västmanland).
- 3 of 21 regions are not included in the data for year 2018 (Kronoberg, Kalmar and Västmanland).
- 1 of 21 regions are not included in the data for year 2019 (Gotland).
- 2 of 21 regions are not included in the data for year 2020 (Gotland and Västmanland).
- 1 of 21 regions are not included in the data for reference year 2021 (Kronoberg) with data from 2020-2021.

Deviation from the definition:

- The data includes women aged 40-74, which is according to the screening programme in Sweden.
- The screening interval of 18-24 months varies between regions in Sweden.

Estimation method:

2021

- **Numerator:** number of women who were examined by mammography after being invited to screening for breast cancer during a two-year period.

- **Denominator:** total number of women called for a mammography examination during a two-year period. **2017-2020**
 - **Numerator:** number of women who were examined by mammography after being invited to screening for breast cancer during a one-year period.
 - **Denominator:** total number of women called for a mammography examination during a one-year period.
- Break in time series: The period changed from a one-year period to a two-year period for reference year 2021.

Switzerland

Survey data

Source of data: **Federal Statistical Office (FSO)**, Neuchâtel, Swiss Health Survey, 2007, 2012 and 2017.

Coverage:

- **Numerator:** Number of women (aged 50-69) reporting having undergone a breast cancer screening test, i.e. mammography, within the past two years.
- **Denominator:** Number of women aged 50-69 answering the survey questions on mammography.
- **Screening programme:** mammography every two years for women aged 50-70.

Programme data

Programme data do not exist, as there is no breast cancer screening programme in Switzerland.

Türkiye

Programme data

Source of data: **Cancer Control Department, The Ministry of Health of Türkiye.**

Reference period: Annual.

Coverage:

- Throughout the entire country.
 - **Numerator:** Number of women aged 40-69 screened in the past two years taken into account (incl. mammography screenings on biennially basis of public based screening (by invitation) and opportunistic screenings in KETEMs) and number of mammographies performed for women with no age limitation on a year basis as opportunistic screenings in other health institutions.
 - **Denominator:** Number of women aged 40-69 in current year has been used as denominator.
 - **Screening Programme:** Women over 40 have biennial mammography screenings. Screening ends at the age of 69. Screenings performed by invitation are made at the KETEMs (Cancer Early Diagnosis, Screening and Education Centers). Opportunistic screenings are performed among the women aged 40-69 (from 2013 onwards) in KETEMs and among women with no age limitation in other health institutions.
- Deviation from the definition: Target population for breast cancer screening in Türkiye is 40-69.

United Kingdom

Survey data

Source of data: **European Health Interview Survey 2014** (extraction from Eurostat database in May 2017).

Coverage: Percentage of women aged 50-69 who reported to have had a breast examination by X-ray within the past two years.

Programme data

Source of data:

Calculated by the **NHS Digital** (<http://content.digital.nhs.uk/>) using coverage data from:

- *England:* **NHS Digital.**
- *Wales:* **Public Health Wales.**
- *Northern Ireland:* **HSCNI.**
- *Scotland:* does not hold this data, but has provided standard uptake though, details below.

Coverage:

- England only for 2002.
- England & Wales national coverage between 2003-2013.
- England, Wales & Northern Ireland from 2014 to 2018.
- England only for 2019.

- Scotland: uptake % for women aged 50-64 for financial years 2000/01-2003/04. Uptake % women aged 50-70 for financial years 2004/05-2019/20.
- The time series has been revised in 2015. Coverage is measured over a three year period, which is different to uptake which is measured over a one year period. The other key difference between coverage and uptake is that uptake only looks at women who have been invited for screening whereas coverage looks at those who have been screened through any means (i.e. following an invitation or GP/self-referral). Coverage is defined as the percentage of women in the population who are eligible for screening at a particular point in time, who have had a test with a recorded result within the last three years. Uptake is the percentage of women invited for screening in the year, who were screened adequately within 6 months of invitation.

Numerator:

- 2002-2009: Number of women aged 53-64 in England and Wales screened within the last three years.
- 2010: Number of women aged 53-64 in England and 53-70 in Wales screened within the last three years.
- 2010-2013: Number of women aged 53-69 in England and 53-70 in Wales screened within the last three years.
- 2014 onwards: Number of women aged 53-69 in England, 53-70 in Wales and 53-70 in Northern Ireland screened within the last three years.
- 2000/01-2003/04: Number of women aged 50-64 in Scotland screened within that year.
- 2004/05-2019/20: Number of women aged 50-70 in Scotland screened within that year.

Denominator:

- 2002-2009: Number of women aged 53-64 in England and Wales who have not had a bilateral mastectomy.
- 20010: Number of women aged 53-64 in England and 53-70 in Wales who have not had a bilateral mastectomy.
- 2010-2013: Number of women aged 53-69 in England and 53-70 in Wales who have not had a bilateral mastectomy.
- 2014 onwards: Number of women aged 53-69 in England, 53-70 in Wales and 53-70 in Northern Ireland who have not had a bilateral mastectomy.
- 2000/01-2003/04: Number of women aged 50-64 in Scotland invited for a mammography.
- 2004/05-2019/20: Number of women aged 50-70 in Scotland invited for a mammography.

Deviation from the definition: Age group. Currently coverage in England is best assessed from 53 years as women may be first called at any time between their 50th and 53rd birthdays.

United States

Survey data

Source of data: **Centers for Disease Control and Prevention/National Center for Health Statistics:** 2000, 2003, 2005, 2008, 2010, 2013, 2015, 2018, 2019 and 2021 National Health Interview Survey Sample Adult Data file (unpublished data). <http://www.cdc.gov/nchs/nhis.htm>.

Coverage:

- Nationally Representative Sample of the U.S. Civilian Non-Institutionalised Population, females aged 50-69 years.
- **Numerator:** Number of women aged 50-69 reporting having received a mammogram within the past two years.
- **Denominator:** The denominator excludes respondents (females aged 50-69) who reported “Refused”, , or “Don’t know” or a response was not ascertained to the question “Have you ever had a mammogram?”, and “About how long has it been since your most recent mammogram?”.
- **Screening recommendation:** Mammography every one or two years for women in target age groups. The lowest age for the target group varies from around 40 to 50.
- The reference period was increased from one year to two years to improve comparability with the majority of other OECD countries (7 out of 13 countries that use survey data use a two-year reference period).

Estimation method:

- Data have been estimated based on Method B from 2005. http://www.cdc.gov/nchs/nhis/nhis_2005_data_release.htm.
- Method B was formulated by the National Cancer Institute (NCI) to provide the analyst a protocol to study trends overtime based on a common methodology of cancer screening. This method is consistent with the methods used in 2000 and 2003 by the National Cancer Institute and the Office of Analysis and Epidemiology as well as the National Center for Health Statistics. More information can be found at http://www.cdc.gov/NCHS/nhis/nhis_2008_data_release.htm.

Break in time series: 2019.

- In 2019, the NHIS questionnaire was redesigned to better meet the needs of data users. Due to changes in weighting and design methodology, direct comparisons between estimates for 2019 and earlier years should be made with caution, as the impact of these changes has not been fully evaluated at this time.

https://www.cdc.gov/nchs/nhis/2019_quest_redesign.htm.

Programme data not available.

NON-OECD ECONOMIES

Bulgaria

Survey data

Source of data: **National Statistical Institute**, European Health Interview Survey 2008, 2014 and 2019, harmonised questionnaire was used.

Reference period:

November – December 2008.

October – December 2014 – EHIS wave 2.

2019 – EHIS wave 3.

Coverage: All persons aged 15 and over within the selected non-institutionalised households are surveyed. In accordance with the EHIS methodology people that live in institutionalised households (residencies for students or workers, medical or social institutions, prisons) are excluded from the target population.

Data refer to women aged 50-69.

Programme data

Source of data: **Ministry of Health**, National screening register.

Reference period: 2013 – 2015.

2015 data are screening programme data for the reference period 2013-2015 (programme: “Stop and check yourselves”).

Programmes:

“Stop and check yourselves” – 2013-2014.

National programme for prevention of chronic non-communicable diseases (2014-2020).

Coverage: Data refer to women aged 50-69.

- National coverage.

- **Numerator:** Number of women aged 50-69 who received a mammography through the organised breast cancer screening programme.

- **Denominator:** Number of women aged 50-69 who were invited to the organised breast cancer screening during the reporting period (2013 – 2015). In order to define the target group additional administrative data sources were used – the National Civil Registration System, the National Health Insurance Fund, and the National Cancer Registry. The denominator does not include women already registered in the National Cancer Registry with the relevant cancer and those who have undergone prophylactic check in the last 12 months.

The data does not include women who have had a mammography elsewhere, outside the screening programme.

Reference period: 2016, 2017.

National programme for prevention of chronic non-communicable diseases (2014-2020)

2016 and 2017 data.

Coverage: Data refer to women aged 50-69.

- National coverage.

- **Numerator:** Number of women aged 50-69 who received a mammography through the National programme for prevention of chronic non-communicable diseases (2014-2020).

- **Denominator:** Number of women aged 50-69 who were invited to the organised breast cancer screening during the reporting year.

The data does not include women who have had a mammography elsewhere, outside the programme.

Deviation from the definition: From 2016 in Bulgaria does not have a specialized program for screening. To ensure the sustainability of the "Stop and Check Yourself" project, part of the screening program activities are included in the National Program for the Prevention of Non-Communicable Chronic Diseases 2014-2020 (not a screening program). Specific screening activities are partial - a small target group or individual regions of the country.

Break in time series: From 2016 in Bulgaria does not have a program for screening. This is the reason for the flag B.
Note: Bulgaria does not have a program for screening. These activities are part of the prevention activities performed by GPs or specialists.

Croatia

Survey data

Source of data: **European Health Interview Survey**, wave 2 (for 2014), European Health Interview Survey, wave 3 (for 2019).

Coverage:

- Percentage of women aged 50-69 who answered positively to the question about whether they had a mammogram during the past 3 years (for wave 3).
- In wave 2 the question was for the last 2 years.

Programme data

Source of data: **Croatian Institute of Public Health**, Epidemiology Service, National Breast Cancer Screening Programme.

Reference period: Screening program cycle.

Coverage: Entire population of women aged 50-69 years residing in Croatia is covered by National Breast Cancer Screening Programme.

Deviation from the definition: This percentage is available only for each cycle of the Screening Programme and not for each year. As Screening programme had six completed cycles so far (2006-2009, 2009-2011, 2011-2014, 2015-2017, 2016-2018, 2019-2021), data for these six cycles are available and we included them in the table as percentages for those years.

Romania

Survey data

Source of data: **2008, 2014, 2019: National Institute of Statistics** (EHIS wave 1, reference year 2008, EHIS wave 2, reference year 2014, EHIS wave 3, reference year 2019).

Coverage:

- Includes all mammography, not only bilateral mammography.
- EHIS data include women aged 50 to 69 years that had a mammography in the last 2 years from the reference year.
- Survey data was revised to represent percentage of females, 50-69 years old that received a screening in the last 2 years.

Programme data

Source of data: **The Ministry of Health.**

Coverage:

- For the years 2014 and 2015 were reported data on mammograms through regional projects (in the North-West) carried out by Ministry of Health.
- Since 2016, no breast cancer screening (mammography) was conducted through nationwide organised programs.