ORIGINAL ARTICLE

DOI: 10.37047/jos.galenos.2026.2026-7-5

J Oncol Sci

Breast Cancer Screening in Georgia: A Retrospective Evaluation of Participation, Performance Indicators, and Cancer Detection, 2015-2022

Tengiz VERULAVA

Caucasus University, School of Medicine, Tbilisi, Georgia

ABSTRACT

Objective: Breast cancer screening is an important component of early detection and cancer control, yet participation in organized screening programs remains a challenge in many middle-income health systems. This study evaluated Georgia's National Breast Cancer Screening Program by assessing participation and performance indicators, using routinely collected program-level data.

Material and Methods: A retrospective descriptive evaluation was conducted using secondary, aggregated, program-level data obtained from the National Center for Disease Control and Public Health of Georgia. The study covered the period 2015-2022 and included women aged 40-70 years eligible for breast cancer screening. The main indicators included annual screening participation rate, age-specific participation rate, screening positivity rate, number of confirmed breast cancer cases, and cancer detection rate. Information on diagnostic follow-up was reported only when available in aggregated routine program records.

Results: During 2015-2022, the cumulative annual target population of women aged 40-70 years was 1,858,163, and 329,780 mammography screening records were registered within the National Breast Cancer Screening Program. The cumulative record-based participation indicator was 17.7%. Abnormal or suspicious findings were identified in 17,243 screening records, corresponding to a screening positivity rate of 5.2%. A total of 1,680 confirmed breast cancer cases were detected, with an overall cancer detection rate of 5.1 per 1,000 mammography screening records.

Conclusion: Georgia's Breast Cancer Screening Program has contributed to early cancer detection; however, participation has remained low during the study period. Strengthening invitation systems, primary healthcare engagement, regional access, follow-up monitoring, and routine performance evaluation are essential to improving the effectiveness and equity of breast cancer screening in Georgia.

Keywords: Breast cancer; mammography; cancer screening; early detection; screening participation; program evaluation; Georgia

INTRODUCTION

Breast cancer remains the most diagnosed malignancy among women and one of the leading causes of cancer-related mortality worldwide. In 2022, female breast cancer accounted for approximately 2.3 million new cases globally, highlighting the continuing importance of effective early detection and screening policies.[1] The World Health Organization's Global Breast Cancer Initiative emphasizes early detection, timely diagnosis, and comprehensive treatment as central pillars of breast cancer control, with the goal of reducing breast cancer mortality by 2.5% annually.[2]

In Georgia, breast cancer represents a major oncological and public health priority. According to GLOBOCAN 2022 estimates, breast cancer was the most frequently diagnosed cancer in the country, with 1,730 new cases, 861 deaths, and 6,680 prevalent cases at five years.[3] This burden indicates the need not only for adequate oncology treatment capacity but also for stronger preventive measures, early detection, and organized follow-up pathways.

Correspondence: Prof. Tengiz VERULAVA;
Caucasus University, School of Medicine, Tbilisi, Georgia

E-mail: tverulava@cu.edu.ge

ORCID ID: orcid.org/0000-0001-8110-5485

Received: 06.07.2026 **Accepted:** 01.11.2026 **Epub:** 12.11.2026

Cite this article as: Verulava T. Breast cancer screening in Georgia: a retrospective evaluation of participation, performance indicators, and cancer detection, 2015-2022. J Oncol Sci. [Epub Ahead of Print]

Available at journalofoncology.org

©Copyright 2026 The Author(s). Published by Galenos Publishing House on behalf of Turkish Society of Medical Oncology.
Licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 (CC BY-NC-ND) International License.

Georgia has implemented cancer screening services for several major cancers, including breast cancer. The current breast cancer screening strategy is biennial mammographic screening for women aged 40-70 years, combined with clinical breast examination.[4] However, evidence suggests that the existing strategy may be resource-intensive. A recent cost-effectiveness analysis found that the current approach is close to the efficiency frontier but incurs relatively high additional costs; triennial mammography-only screening from age 45 to 66 years may represent a more cost-effective alternative in Georgia.[4]

Despite the availability of screening services, cancer screening uptake in Georgia remains low. Recent evidence from primary healthcare providers indicates that overall cancer screening uptake is only 13%, while recommendation and referral practices remain limited despite providers' strong belief in the value of screening.[5] These findings suggest that low participation may reflect not only individual-level barriers, such as awareness and fear, but also system-level factors, including weak invitation mechanisms, insufficient provider engagement, limited public promotion, and unequal access to screening infrastructure.

International experience shows that evaluation of Breast Cancer Screening Programs should include both participation and performance indicators. Participation indicators assess the extent to which eligible women are reached by the program, while performance indicators assess recall, diagnostic follow-up, cancer detection, interval cancers, and timeliness of treatment initiation.[6] Routine program data can therefore provide a practical basis for identifying gaps in screening coverage, diagnostic follow-up, and cancer detection within national breast cancer control strategies.

A similar evaluation in Georgia would provide important evidence on whether the National Breast Cancer Screening Program is reaching its target population, how participation has changed over time, and where the main gaps exist between screening, referral, diagnostic confirmation, and cancer detection. Such evidence is particularly important in a middle-income health system where screening policy must balance population coverage, diagnostic capacity, financial sustainability, and equity.

Therefore, this study aimed to evaluate Georgia's Breast Cancer Screening Program using routinely collected national program-level data. Specifically, the study assessed annual screening participation, age-specific screening participation, screening positivity, confirmed breast cancer cases, and cancer detection rate. Information on diagnostic follow-up was described only where available in aggregated routine program records. By identifying program achievements and data limitations, the study sought to inform evidence-based improvements in breast cancer screening policy, primary healthcare engagement, and cancer control planning in Georgia.

MATERIAL AND METHODS

Study Design

This study was designed as a retrospective descriptive evaluation of Georgia's Breast Cancer Screening Program using routinely collected program-level data. The study assessed participation and performance indicators for breast cancer screening during a defined period. This design was considered appropriate for evaluating screening program implementation, identifying trends in service utilization, and assessing gaps among screening, diagnostic follow-up, and confirmed cancer detection.

Study Setting

The study was conducted in Georgia, where breast cancer screening is included in the national cancer screening program. The target population for breast cancer screening consisted of women aged 40-70 years. The screening pathway included mammography, with clinical breast examination as part of the existing early detection approach. Women with abnormal or suspicious findings were referred for further diagnostic assessment and confirmation according to the established referral pathway.

During the study period, the Breast Cancer Screening Program targeted women aged 40-70 years and was based on mammography in accordance with the national program design. Clinical breast examination was part of the existing early-detection pathway; however, this analysis focused on mammography screening records because CBE-specific performance indicators were not available in the aggregated dataset. Women with abnormal or suspicious mammography findings were referred for further diagnostic assessment through the established screening pathway. The available aggregated dataset did not include individual-level information on invitation methods, adherence to the recommended screening interval, detailed mammography classification, diagnostic procedures, or time intervals from screening to diagnostic confirmation.

Data Sources

The study used secondary data obtained from routinely collected Breast Cancer Screening Program records. Data were obtained from the National Center for Disease Control and Public Health of Georgia and included information, when available, on eligible women; women screened by mammography; abnormal or suspicious screening findings; referrals for diagnostic assessment; completed diagnostic

follow-up; and confirmed breast cancer cases during the study period.

Population denominator data for women aged 40-70 years were obtained from official demographic statistics and used to calculate annual screening participation rates.

The dataset was aggregated at the program level. Therefore, individual women could not be linked across years, and repeated screening episodes for the same woman could not be identified.

Study Population

The study population included women aged 40-70 years who were eligible for breast cancer screening in Georgia during the study period. Women who underwent breast cancer screening within the program were included in the analysis of screening participation and performance indicators.

Women who were screened outside the official program, who had incomplete key screening records, and who were outside the target age group were excluded from the main analysis. Where data were available, women outside the target age group were described separately to assess possible opportunistic screening patterns.

Study Variables and Indicators

The analysis focused on participation and performance indicators derived from aggregated routine program data.

The main participation indicator was the annual breast cancer screening participation rate, defined as the number of mammography screening records among women aged 40-70 years during a given year, divided by the eligible population of women in that age group and year. For the overall study period indicator, the denominator was defined as the cumulative annual target population, calculated as the sum of eligible women aged 40-70 years across all study years. Because individual women could not be linked across years, the overall participation rate was interpreted as a cumulative, record-based participation indicator rather than the proportion of unique women screened at least once during 2015-2022.

Screening positivity was defined as an abnormal or suspicious mammography finding recorded in the national screening program dataset that required further diagnostic assessment according to the program referral pathway. The aggregated dataset did not include detailed mammographic classification categories; therefore, positive findings could not be further stratified by Breast Imaging Reporting and Data System (BI-RADS) or equivalent categories.

Confirmed breast cancer cases were defined as those recorded in the screening program dataset as diagnostically confirmed after assessment prompted by a positive screening result. The aggregated dataset did not allow separate reporting of invasive breast cancer and ductal carcinoma *in situ* or independent verification of the diagnostic confirmation method.

Performance indicators included screening positivity rate, confirmed breast cancer cases, and the cancer detection rate. The cancer detection rate was calculated as the number of confirmed breast cancer cases detected through the screening program divided by the number of mammography screening records and expressed per 1,000 screening records. Referral and diagnostic follow-up information was described only when available in aggregated routine program records; individual-level verification of follow-up completion, delays, or loss to follow-up was not possible.

Ethical Considerations

This study used secondary, routinely collected program data. No direct contact with participants occurred. Individual identifiers were removed before analysis, and all data were analyzed in aggregated or anonymized form. We received approval from the Research and Ethics Committee of Caucasus University (approval no: CU 37-21.01.24, date: 21.01.2024). Permission to access and analyze the screening program data was obtained from the responsible data-holding institution.

Data Analysis

Data were analyzed descriptively. Annual frequencies and percentages were calculated for all major indicators. Screening participation rates were calculated for each year of the study period and presented as percentages of the eligible target population. Performance indicators, including screening positivity, confirmed breast cancer cases, and cancer detection rate, were calculated using aggregated mammography screening records. Referral and diagnostic follow-up information was reported only when available in routine program records and was not analyzed as an independently verified individual-level outcome.

Trends over time were presented in tables and figures. Where appropriate, indicators were stratified by age group, year, and geographic region. Age groups were categorized into 40-49, 50-59, and 60-70 years based on the structure of the available data. All analyses were performed using IBM SPSS Statistics for Windows, version 26.0 (IBM Corp., Armonk, NY, USA).

RESULTS

Overall Breast Cancer Screening Participation

During 2015-2022, the cumulative annual target population, defined as the sum of eligible women aged 40-70 years across all study years, was 1,858,163. A total of 329,780

mammography screening records were registered within the National Breast Cancer Screening Program. The cumulative record-based participation indicator for the study period was 17.7%. Because the dataset was aggregated, this value should not be interpreted as the proportion of unique women screened at least once during 2015-2022.

Annual participation rates varied across the study period and provided the most interpretable measure of screening participation. The highest annual participation rate was observed in 2017, when 20.1% of eligible women underwent screening. The lowest annual participation rate was recorded in 2020, at 13.8%, coinciding with the COVID-19 pandemic period. Overall, annual participation in breast cancer screening remained limited throughout the study period. Annual breast cancer screening participation and performance indicators are presented in Table 1.

Age-specific Participation

Screening participation differed by age group. Women aged 50-59 years had the highest screening uptake, while the lowest participation was observed among women aged 40-49 years. Across the study period, participation among women aged 40-49 years was 14.2%, compared with 21.5% among women aged 50-59 years and 18.8% among women aged 60-70 years. Age-specific participation and cancer detection indicators are shown in Table 2.

These findings suggest that screening participation was unevenly distributed across the target age groups, with middle-aged women more likely to participate in the program than younger women within the eligible screening population.

Screening Outcomes and Abnormal Findings

Among 329,780 mammography screening records, 17,243 had abnormal or suspicious findings. This corresponded to a screening positivity rate of approximately 5.2%. According to the aggregated routine program records, women with abnormal or suspicious findings had documented diagnostic follow-up. However, referral and follow-up could not be verified at the individual level, and the dataset did not allow assessment of delays, repeated diagnostic visits, incomplete diagnostic pathways, or loss to follow-up.

Confirmed Breast Cancer Cases

During the study period, 1,680 breast cancer cases were confirmed among women screened through the program. The overall cancer detection rate was approximately 5.1 per 1,000 mammography screening records, corresponding to 0.51%.

The number of confirmed breast cancer cases varied by year. The highest number (247 confirmed cases) was observed in 2019, and the lowest (163 confirmed cases) in 2020.

TABLE 1: Breast cancer screening participation indicators by year, 2015-2022.

Year	Eligible population	Screened women/ records	Participation rate (%)	Abnormal findings	Confirmed cancers	Cancer detection rate per 1,000
2015	224,960	36,448	16.2	1,847	165	4.5
2016	224,311	43,595	19.4	2,138	215	4.9
2017	228,499	45,958	20.1	2,429	224	4.9
2018	231,192	44,792	19.4	2,412	225	5.0
2019	234,098	46,241	19.8	2,525	247	5.3
2020	237,358	32,866	13.8	1,777	163	5.0
2021	237,926	36,258	15.2	1,939	206	5.7
2022	239,819	43,622	18.2	2,176	235	5.4
Total	**1,858,163**	**329,780**	**17.7**	**17,243**	**1,680**	**5.1**

Cancer detection rate was calculated per 1,000 mammography screening records.

TABLE 2: Breast cancer screening participation and cancer detection by age group.

Age group	Eligible population	Screened women/records	Participation rate (%)	Confirmed cancers	Detection rate per 1,000
40-49	785,165	111,593	14.2	485	4.3
50-59	610,650	131,290	21.5	768	5.8
60-70	462,348	86,897	18.8	427	4.9
Total	**1,858,163**	**329,780**	**17.7**	**1,680**	**5.1**

The detection rate was calculated as the number of confirmed breast cancer cases per 1,000 screened women/records.

An age-specific analysis showed that confirmed cancer detection was highest among women aged 50-59 years.

Regional Differences

Regional information was available only in aggregated descriptive form, which did not allow the complete calculation of region-specific participation and performance indicators for all regions and years. Descriptive analyses indicated that participation was higher in Tbilisi and lower in Racha-Lechkhumi and Kvemo Svaneti. Because complete region-specific denominators and screening outcomes were not available for detailed analysis, these findings should be interpreted cautiously as indicative of possible geographic variation rather than as a full assessment of regional inequalities.

Summary of Key Findings

Overall, the analysis showed that breast cancer screening participation in Georgia remained limited during 2015-2022. The program identified 17,243 abnormal or suspicious findings and 1,680 confirmed breast cancer cases in the screening records. Participation was highest among women aged 50-59 years and lowest among women aged 40-49 years. Available aggregated regional information suggested possible geographic variation; however, complete region-specific performance indicators were not available for detailed analysis.

DISCUSSION

This study evaluated Georgia's Breast Cancer Screening Program using routinely collected national program-level data for 2015-2022. The main finding was that participation in breast cancer screening remained limited throughout the study period. The cumulative record-based participation indicator was 17.7%, based on 329,780 mammography screening records and a cumulative annual target population of 1,858,163 women aged 40-70 years. Because the dataset was aggregated, this indicator should not be interpreted as the proportion of unique women screened at least once during the study period. The annual participation rates, ranging from 13.8% to 20.1%, provide a more directly interpretable measure of screening uptake.

The low participation rate observed in this study is consistent with recent evidence showing that cancer screening uptake in Georgia remains suboptimal. A 2025 study of primary healthcare providers reported that overall cancer screening uptake in Georgia was only 13%, despite generally positive provider attitudes toward screening.[5] The present findings extend this evidence by showing that low uptake is also evident in routine national breast cancer screening data. This suggests that the main challenge is not only the formal availability of screening services, but also the capacity of the health system to actively invite, refer, motivate, and retain eligible women within the screening pathway.

Compared with international experience, Georgia's Breast Cancer Screening participation remains low. In many OECD and European countries, organized Breast Cancer Screening Programs commonly target women aged 50-69 years, usually at two-year intervals, although age ranges and screening frequencies vary across health systems.[7] Recent OECD evidence shows wide cross-country variation in mammography screening, with high-performing countries reaching more than 80% of the target population, while low-performing countries remain below 25%.[7] Against this background, the 17.7% participation rate observed in Georgia indicates that the program is closer to low-coverage settings than to mature organized screening systems.

The age-specific findings showed that participation was highest among women aged 50-59 years and lowest among those aged 40-49 years. This pattern may reflect differences in perceived risk, provider referral behavior, contact with healthcare services, or awareness of screening recommendations. The higher uptake among women aged 50-59 years is consistent with the international evidence base, as this age group is commonly prioritized in organized mammography screening programs because the balance between benefits and harms is generally more favorable than in younger age groups.[7] However, the relatively low participation among women aged 40-49 years is important in Georgia because the national screening strategy includes women aged 40 and older.[4] If screening coverage in this age group remains insufficient, the effectiveness and equity of the current screening policy may be reduced.

The overall cancer detection rate was 5.1 per 1,000 mammography screening records, corresponding to 0.51% of records. This indicates that the screening program was able to identify clinically relevant cases among participating women. However, cancer detection should not be interpreted as isolation. Contemporary screening evaluation frameworks emphasize that detection rates need to be assessed together with participation, recall, diagnostic follow-up, interval cancers, stage at diagnosis, and timeliness of treatment initiation.[6,8,9] In this regard, the Georgian program would benefit from a stronger monitoring framework linking screening records with diagnostic and pathology data, cancer registry data, and treatment data.

The lowest annual participation rate was observed in 2020, coinciding with the COVID-19 pandemic period. This pattern is consistent with international evidence showing that the

pandemic disrupted cancer screening services through the temporary suspension of programs, reductions in healthcare-seeking behavior, and constraints on health system resources.[10] Although screening activity recovered in many countries after the acute pandemic period, delayed screening may have contributed to missed or later diagnoses. For Georgia, the 2020 decline highlights the need for resilience mechanisms in cancer screening programs, including catch-up strategies, active recall of missed participants, and continuity planning during health system shocks.

Regional data suggested a possible geographic variation in screening participation, with higher participation in Tbilisi and lower participation in Racha-Lechkhumi and Kvemo Svaneti. However, because complete region-specific denominators and performance indicators were not available for detailed analysis, these findings should be interpreted cautiously. International evidence increasingly emphasizes that cancer screening programs should be evaluated not only by average national coverage but also by inequalities in access across regions, socioeconomic groups, and vulnerable populations.[9,11] For Georgia, future monitoring should include systematic region-specific indicators to assess geographic access, service availability, mammography infrastructure, transportation barriers, and the strength of primary healthcare engagement.

The finding that women with abnormal or suspicious results had documented diagnostic follow-up in available aggregated routine program records should be interpreted with caution. The dataset did not allow individual-level verification of referral completion, diagnostic delays, repeated diagnostic visits, incomplete diagnostic pathways, or loss to follow-up. This is important because timely diagnosis is one of the central pillars of the World Health Organization Global Breast Cancer Initiative.[2] Future monitoring should therefore include time intervals from an abnormal screening result to diagnostic confirmation, and from diagnosis to treatment initiation. Such indicators would allow the program to move from measuring screening activity toward measuring the quality and effectiveness of the full care pathway.

The findings also have implications for the design of Georgia's Breast Cancer Screening strategy. A recent cost-effectiveness analysis suggested that the current biennial strategy for women aged 40-70 years, including clinical breast examination, may be resource-intensive, whereas triennial mammography-only screening for women aged 45-66 years may represent a more cost-effective option for Georgia.[4] The present study does not directly compare screening strategies, but the low participation observed supports consideration of whether available resources should be directed toward broader coverage, stronger invitation systems, and improved follow-up, rather than maintaining a program design that may be difficult to implement at scale.

Overall, this study shows that Georgia's Breast Cancer Screening Program has generated measurable screening activity and detected confirmed cases of breast cancer, but participation remains insufficient to achieve strong population-level impact. Strengthening the program will require more than maintaining free screening services. Policy efforts should focus on organized invitation and recall systems, stronger primary healthcare involvement, targeted communication campaigns, improved regional access, systematic follow-up tracking, and regular publication of screening performance indicators. These steps would align Georgia's Breast Cancer Screening Program more closely with contemporary international standards for quality assurance, equity, and cancer control.

Study Limitations

This study had several limitations. First, the analysis was based on routinely collected, aggregated program-level data. Therefore, it was not possible to assess individual-level determinants of screening participation, such as education, income, health insurance status, place of residence, family history, perceived risk, or previous screening behavior. The aggregated dataset did not allow the identification of repeated screening episodes for the same woman across years. Therefore, the overall participation indicator for the study period was based on records and should not be interpreted as the proportion of unique women screened at least once during 2015-2022. In addition, adherence to the recommended biennial screening schedule could not be assessed.

Second, the available data did not allow a detailed assessment of the full diagnostic and treatment pathway. Although documented diagnostic follow-up was available for women with abnormal or suspicious findings in the aggregated routine program records, the dataset did not allow individual-level verification of referral completion, diagnostic delays, repeated visits, incomplete diagnostic pathways, or potential loss to follow-up. Information on stage at diagnosis, time from diagnosis to treatment initiation, treatment outcomes, and survival was also unavailable.

Third, the dataset did not include detailed mammographic classification categories, such as BI-RADS or equivalent. Therefore, abnormal or suspicious findings could not be further stratified by severity or referral category. Similarly, confirmed breast cancer cases could not be separated into invasive breast cancer and ductal carcinoma *in situ*, which limited the ability to provide a more detailed assessment of cancer detection performance.

Fourth, the study focused on screening within the National Breast Cancer Screening Program. Mammography services obtained outside the official program, including private or diagnostic mammography performed for symptomatic women, may not have been fully captured. As a result, the findings should be interpreted as an evaluation of the organized screening pathway, rather than as a complete assessment of all mammography use in Georgia.

Finally, regional comparisons were limited by the availability and completeness of geographic data. Complete region-specific denominators and performance indicators were not available for detailed analysis; therefore, regional findings should be interpreted cautiously as indicating possible geographic variation rather than as a full assessment of regional inequalities. Despite these limitations, the study provides important national evidence on breast cancer screening participation and program performance in Georgia.

CONCLUSION

This study showed that breast cancer screening participation in Georgia remained limited during 2015-2022. The cumulative record-based participation indicator was 17.7%, based on 329,780 mammography screening records and a cumulative annual target population of 1,858,163 women aged 40-70 years. Because the dataset was aggregated, this figure should not be interpreted as representing the proportion of unique women who were screened at least once during the study period. The program detected 1,680 confirmed breast cancer cases, with participation highest among women aged 50-59 years and lowest among women aged 40-49 years.

The findings indicate that Georgia's Breast Cancer Screening Program has established an important platform for early detection; however, its population-level impact is constrained by low annual participation, limited capacity to monitor repeat screening and follow-up pathways, and incomplete region-specific performance data. Strengthening organized invitation and recall systems, increasing the role of primary healthcare providers, improving geographic access, and linking screening data with diagnostic, pathology, cancer registry, and treatment information are essential steps for improving breast cancer control in Georgia. Regular monitoring and publication of standardized screening performance indicators would support more effective, equitable, and evidence-based breast cancer screening policy.

Ethics

Ethics Committee Approval: Before starting the study, we received approval from the Research and Ethics Committee of Caucasus University (approval no: CU 37-21.01.24, date: 21.01.2024).

Informed Consent: This study used aggregated secondary program data without individual identifiers. Permission to use the data was obtained from the responsible data-holding institution.

Footnotes

Conflict of Interest: No conflict of interest was declared by the author.

Financial Disclosure: The author declares that this study received no financial support.

Data Availability: The data that support the findings of this study were obtained from the National Center for Disease Control and Public Health of Georgia and are available upon reasonable request, subject to institutional permission.

REFERENCES

1. Bray F, Laversanne M, Sung H, et al. Global cancer statistics 2022: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. CA Cancer J Clin. 2024;74(3):229-263. [Crossref] [PubMed]
2. World Health Organization (WHO). Global breast cancer initiative implementation framework: assessing, strengthening and scaling-up services for early detection and management of breast cancer [Internet]. Geneva: World Health Organization; 2023. [Crossref]
3. International Agency for Research on Cancer. Global Cancer Observatory: GLOBOCAN 2024, Georgia fact sheet [Internet]. Lyon: International Agency for Research on Cancer; 2024. [Crossref]
4. Irzaldy A, Gvamichava R, Beruchashvili T, et al. Breast cancer screening in Georgia: choosing the most optimal and cost-effective strategy. Value Health Reg Issues. 2024;39:66-73. [Crossref] [PubMed]
5. Topuridze M, Kareli A, Javashvili G, et al. Primary healthcare providers' knowledge, attitudes, and practices regarding cancer screening recommendation and referral in Georgia, 2023. Eur J Gen Pract. 2025;31(1):2582292. [Crossref] [PubMed] [PMC]
6. Muratov S, Canelo-Aybar C, Tarride JE, et al.; ECIBC contributor group. Monitoring and evaluation of breast cancer screening programmes: selecting candidate performance indicators. BMC Cancer. 2020;20(1):795. [Crossref] [PubMed] [PMC]
7. Organisation for Economic Co-operation and Development (OECD). Health at a glance 2025: OECD indicators [Internet]. Paris: OECD Publishing; 2025. [Crossref]
8. Canelo-Aybar C, Alonso-Coello P, Muratov S, et al.; ECIBC contributor group. Evaluation of breast cancer screening programmes: candidate performance indicators and their association with breast cancer mortality. Breast. 2025;84:104621. [Crossref] [PubMed] [PMC]
9. Sheridan B, Irzaldy A, Heijnsdijk EAM, et al. Prioritizing performance and outcome indicators for quality assessment of cancer screening programs in the EU. Public Health. 2025;239:185-192. Erratum in: Public Health. 2025;246:105868. [Crossref] [PubMed]
10. Fujisawa R. Impact of the COVID-19 pandemic on cancer care in OECD countries [Internet]. Paris: OECD Publishing; 2022. [Crossref]
11. Organisation for Economic Co-operation and Development (OECD). Beating cancer inequalities in the EU: spotlight on cancer prevention and early detection [Internet]. Paris: OECD Publishing; 2024. [Crossref]