Adherence Rates to US Preventive Services Breast Cancer Screening Recommendations

2019-2022
Georgia All Payer Claims Database

Georgia Tech Research Institute
Center for Health Analytics and Informatics

Revision 0.1

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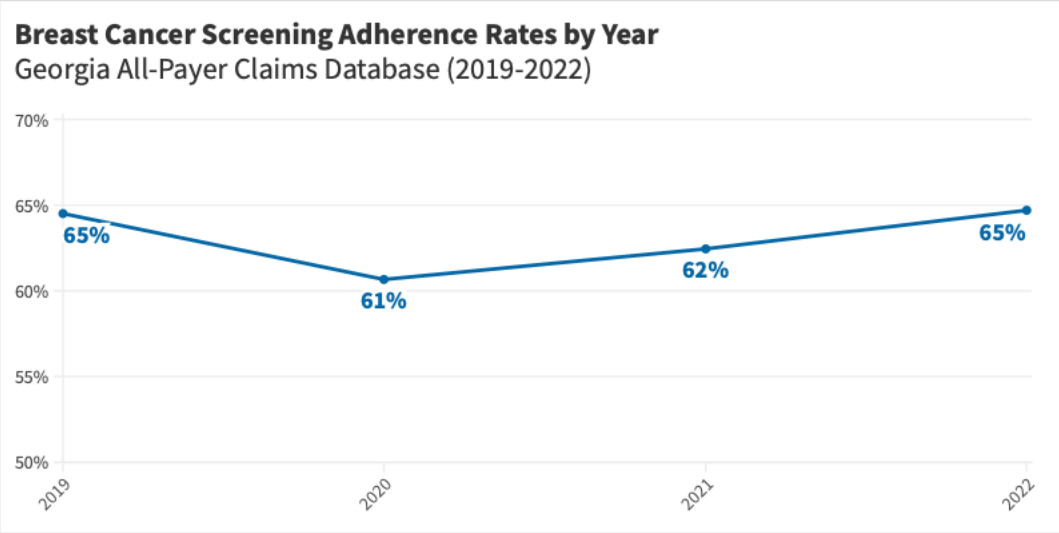
Background

Breast cancer is the second leading cause of cancer death in women, and early detection can be a crucial factor in improving treatment outcomes and survival rates. In 2023, there were an estimated 298,000 new breast cancer cases and 43,000 deaths.[1] Mammography is a type of imaging that uses low-energy x-rays to examine the breast for early detection of cancer. The United States Preventative Services Task Force (USPSTF) recommends screening mammography for all women aged 50-74 every 2 years.[2] This report uses data from the Georgia All-Payer Claims Database (GA APCD) to examine adherence to USPSTF screening guidelines. See the Appendix A for additional details on study design.

Findings

Overall Adherence Rates to USPSTF Breast Cancer Screening Recommendations

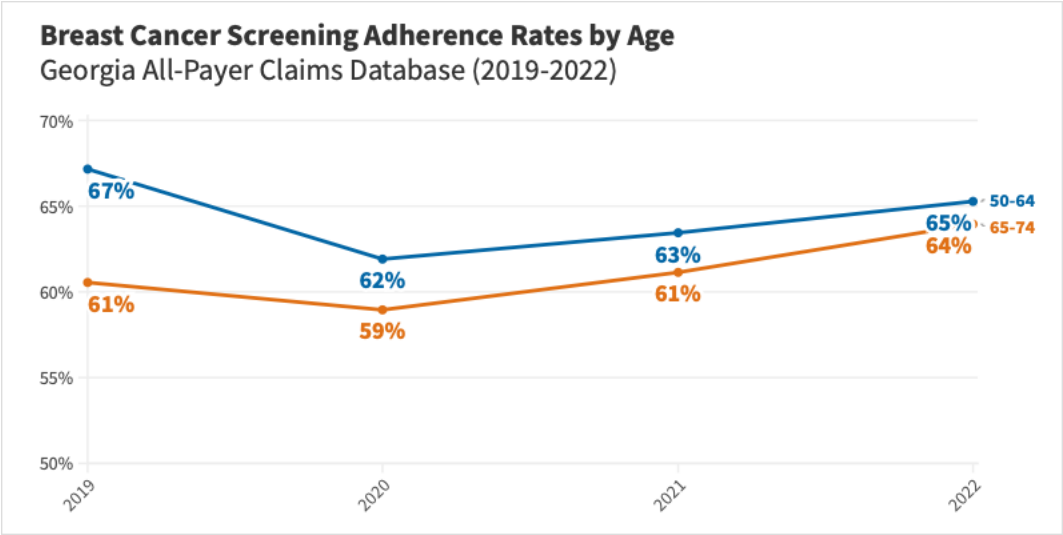
In 2019, 65% of eligible women in the Georgia APCD were adherent to the USPSTF screening recommendations. As shown in the figure below, adherence rates dropped in 2020 and 2021 before returning to baseline levels in 2022. This pandemic-era pattern was observed nationally and associated with a decrease in breast cancer diagnoses during that period.[3]



Breast cancer screening rates in the literature are often based on self-reported sources such as the Behavioral Risk Factor Surveillance Study, which shows adherence rates ranging from 74-81%.[4] The gap between self-reported rates and claims-based rates is well-established, with self-reported rates being up to 20% higher than claims-based findings.[5]

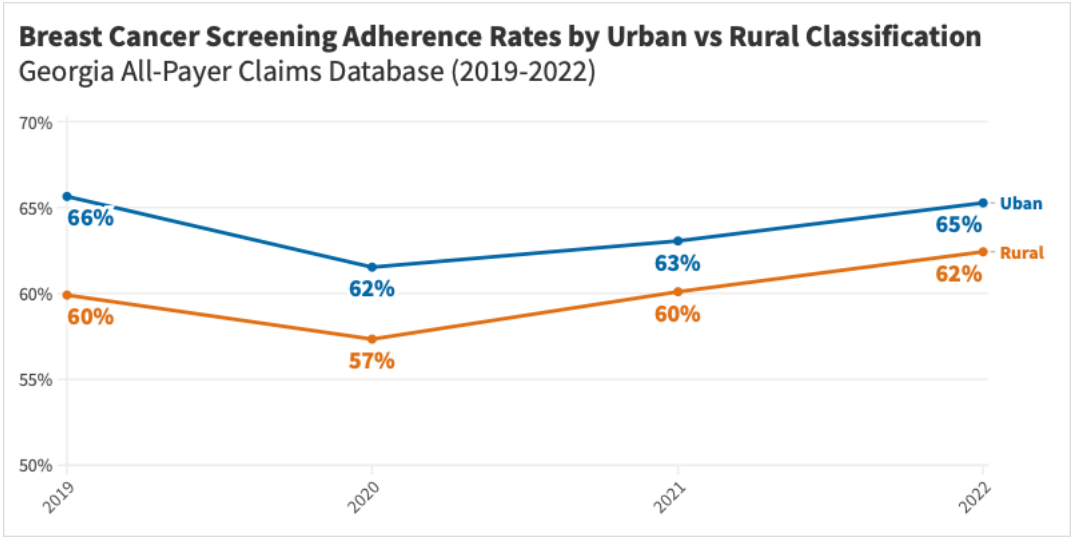
Age Based Differences

Eligible women aged 50-64 in the Georgia APCD had slightly higher adherence rates than those aged 65-74. Age-related factors including mobility and transportation could pose a challenge to obtaining a mammogram, particularly in rural areas.



Geography-Based Differences

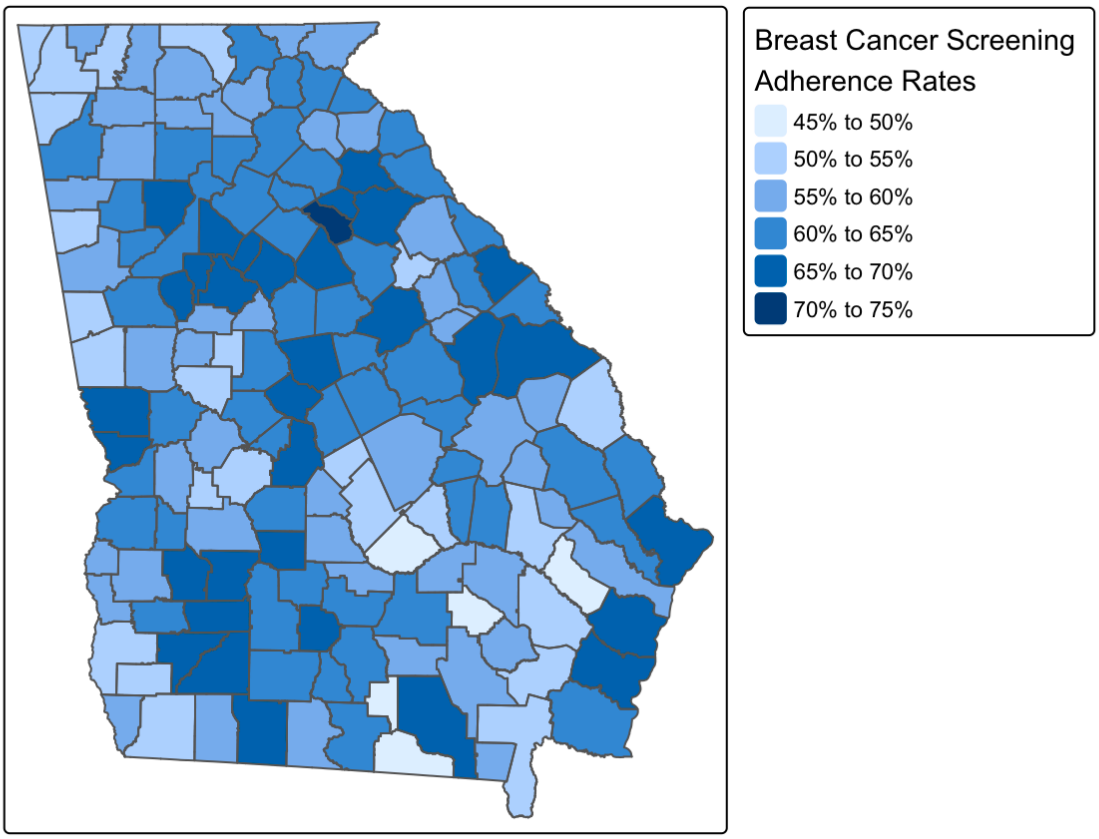
Eligible women in urban areas across Georgia had higher breast screening rates than those in more rural areas. Rural areas face unique challenges in accessing care for screenings, including limited healthcare facilities and specialty care, travel distance to facilities, and transportation barriers.[6]



Mapping by County

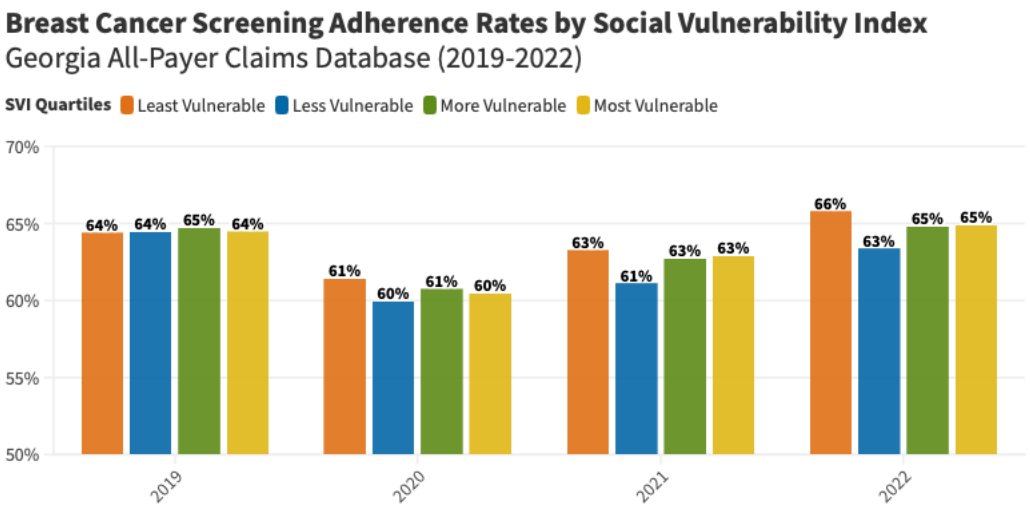
The map on the following page shows rates of breast cancer screening adherence by county. Differences are seen both within and across urban and rural counties. Generally, counties closer to large metropolitan areas like Atlanta, Augusta, Columbus, and Savannah have higher rates of screening. Counties with the lowest rates are found in rural areas in the southeast and northwest parts of the state, where access to care may play a greater role.

Breast Cancer Screening Adherence Rates by County in Georgia



Social Vulnerability

The Centers for Disease Control and Prevention's (CDC) Social Vulnerability Index (SVI) combines various county-level socioeconomic, household composition, racial and ethnic minority status, and housing variables from the American Community Survey to identify communities most likely to need support during public health crises and emergencies.[8] Stratifying counties by quartiles of SVI, there is not a consistent year-over-year pattern differentiating adherence rates in the most vulnerable and least vulnerable counties.



Summary

Rates of adherence to USPSTF breast cancer screening recommendations in the Georgia APCD are consistent with national claims-based studies. Key findings are:

- Screening adherence fell during the pandemic but has since returned to baseline levels
- Younger women (50-64) have slightly higher adherence rates compared with older women
- Women living in urban areas have higher adherence rates compared with those living in rural areas

Future studies using the Georgia APCD will specifically explore aspects of access to care in rural areas and how they may affect breast cancer screening and treatment.

Appendix A: Methods

Adherence rates to breast cancer screening recommendations were calculated as the number of eligible individuals who had a medical claim for a mammography during the year of interest or the preceding year divided by all eligible individuals. Eligible individuals were defined as individuals who were:

- Female
- Aged 50-74
- Residing in Georgia
- Having medical coverage for at least 11 months during both the year of interest and prior year
- Having had no prior procedures or diagnoses indicating history of bilateral mastectomy or both left and right unilateral mastectomies

Urban and Rural classification was constructed using the metropolitan and nonmetropolitan classifications from Centers for Disease Control and Prevention's Urban-Rural Classification Scheme.[7]

Mammography Codes

Below are the CPT codes used for inclusion in the numerator. For this analysis, both screening and diagnostic mammographic studies were included so that those patients undergoing evaluation for breast cancer were included in the numerator as having been adherent to screening guidelines

- 77063
- 77065
- 77066
- 77062
- 77061
- 77049
- 19281
- 19282
- 77047
- 77048
- 77053
- 77046
- 77054
- 77057

Mastectomy Codes

Below are the mastectomy codes used for exclusion in both the numerator and denominator and present in the GA APCD.

- CPT (modifier codes used to confirm laterality of procedure)
    - 19303
    - 19305
    - 19307
- ICD10
    - Z90.13

Caveats and Limitations

This analysis is based on data present in the Georgia All Payer Claims Database as of November 2023. Georgia Medicaid and Traditional Medicare parts are not included in the current data. The APCD has limited or no information on certain key demographic data including race, ethnicity, income, and education status, which hinders analyzing directly for adherence disparities based on these factors.

References

1. Cancer Stat Facts: Female Breast Cancer. Surveillance, Epidemiology, and End Results Program. Accessed March 25, 2024. https://seer.cancer.gov/statfacts/html/breast.html

2. Recommendation: Breast Cancer: Screening. United States Preventive Services Task Force. Accessed March 25, 2024. https://www.uspreventiveservicestaskforce.org/uspstf/recommendation/breast-cancer-screening

3. Li T, Nickel B, Ngo P, et al. A systematic review of the impact of the COVID-19 pandemic on breast cancer screening and diagnosis. Breast. 2023;67:78-88. doi:10.1016/j.breast.2023.01.001

4. BRFSS Prevalence & Trends Data. Centers for Disease Control and Prevention Behavioral Risk Factor Surveillance System. Published July 19, 2023. Accessed March 28, 2024. https://www.cdc.gov/brfss/brfssprevalence/index.html

5. Bonafede M, Miller J, Pohlman S, et al. Breast, Cervical, and Colorectal Cancer Screening: Patterns Among Women With Medicaid and Commercial Insurance. Am J Prev Med. 2019;57(3):394-402. doi:10.1016/j.amepre.2019.04.010

6. Atere-Roberts J, Smith JL, Hall IJ. Interventions to increase breast and cervical cancer screening uptake among rural women: A scoping review. Cancer Causes Control. 2020;31(11):965-977. doi:10.1007/s10552-020-01340-x

7. Urban Rural Classification Scheme for Counties. Centers for Disease Control and Prevention National Center for Health Statistics. Published April 6, 2023. Accessed March 27, 2024. https://www.cdc.gov/nchs/data_access/urban_rural.htm

8. CDC/ATSDR Social Vulnerability Index (SVI). Centers for Disease Control and Prevention Agency for Toxic Substances and Disease Registry. Published February 23, 2024. Accessed March 29, 2024. https://www.atsdr.cdc.gov/placeandhealth/svi/index.html