

# Study finds that accurate diagnostic mammography outcomes vary by racial and ethnic groups

June 17 2022

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A multi-institutional study led by UNC Lineberger Comprehensive Cancer Center researchers and colleagues has found that diagnostic

mammography results varied across racial and ethnic groups, with the rate of diagnostic accuracy highest in non-Hispanic white women and lowest in Hispanic women.

The study's results will be published June 17, 2022, in *Cancer Epidemiology, Biomarkers & Prevention*, a journal of the American Association for Cancer Research.

The researchers reviewed 267,868 diagnostic mammograms; women were followed for one year after their mammogram to see if they developed [breast cancer](#). The records came from 98 facilities in the Breast Cancer Surveillance Consortium, a mix of urban and rural locations spanning six states, including the Carolina Mammography Registry, and were based on mammograms performed from 2005 to 2017.

An accurate cancer detection rate was highest in non-Hispanic white women (35.8 per 1,000 mammograms) and lowest among Hispanic women (22.3 per 1,000 mammograms). A recommendation for short interval follow-up, which entails additional imaging after six months, was most common among non-Hispanic Black women (31%).

False-positive biopsy recommendations, where a tissue biopsy was recommended but no breast [cancer](#) was found in the tissue sample, were most common among Asian/Pacific Islander [women](#) (169.2 per 1,000 mammograms).

"Even though we found some differences between racial and [ethnic groups](#) that we evaluated, none of the mammogram practices fell below the minimal acceptable standards for diagnostic interpretation that were published in 2013," said UNC Lineberger's Sarah J. Nyante, Ph.D., MSPH, associate professor of radiology at UNC School of Medicine, adjunct assistant professor of epidemiology at the UNC Gillings School of Global Public Health and corresponding author of the article. "Our

study is documenting differences in outcomes and giving us an understanding of how we can get better in terms of science and particularly, in delivering equitable healthcare."

The researchers determined that a woman's individual characteristics, such as age and other factors, did not explain the racial/ethnic variations found in diagnostic mammography performance. They did conclude, however, that two other factors contributed to some of the disparities: the imaging facility itself and concurrent use of breast ultrasound or MRI during the diagnostic process. These data suggest interventions that target the imaging facility and use of additional imaging modalities could help in reducing some diagnostic disparities.

"If our study showed that a factor was particularly important and impacted disparities, we hope to develop a follow-up study where we can really dig into those details because there are many factors that could affect differences by facility," Nyante said. "There are a lot of things that are within a facility's control, including scheduling and hiring of accredited radiologists."

Currently, many mammograms now utilize detailed three-dimensional imaging whereas, for the timeframe of this study, most mammograms were two-dimensional, making generalizations to [current practice](#) unclear and a factor that the researchers hope to follow up on in future research.

**More information:** Diagnostic Mammography Performance across Racial and Ethnic Groups in a National Network of Community-Based Breast Imaging Facilities, *Cancer Epidemiology Biomarkers & Prevention* (2022). [DOI: 10.1158/1055-9965.EPI-21-1379](https://doi.org/10.1158/1055-9965.EPI-21-1379)

Provided by UNC Lineberger Comprehensive Cancer Center

Citation: Study finds that accurate diagnostic mammography outcomes vary by racial and ethnic groups (2022, June 17) retrieved 19 December 2023 from

<https://medicalxpress.com/news/2022-06-accurate-diagnostic-mammography-outcomes-vary.html>

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