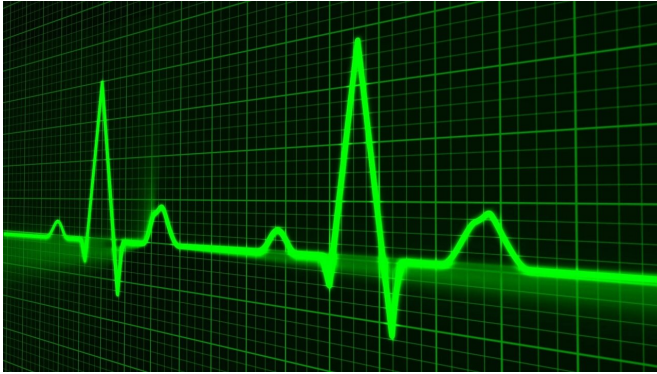


Researchers find race, sex and age disparities in echocardiography

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The existence of age, race and sex disparities in healthcare delivery within the United States is well established, with prior studies identifying inequitable treatment in common cardiovascular diseases such as hypertension, coronary artery disease and heart failure. However, it remains unclear if similar disparities exist in echocardiography a common heart-imaging procedure that nearly one in four Medicare beneficiaries receive during a given year.

In an article published in *Heart*, physician-researchers at Beth Israel Deaconess Medical Center (BIDMC) reviewed medical claims from Medicare beneficiaries who had at least two echocardiograms at BIDMC and four community sites between 2005 and 2017. The team found that, on average, Medicare recipients underwent 0.72 echocardiograms per person per year; however, the team observed that being older, or female, or Black was linked to being less likely to undergo the test, and the highest risk was in those who were female and Black. Additionally, Black women were less likely to receive an echocardiogram than Black men.

"To our knowledge, our study is the first to identify disparities in rates of overall echocardiogram utilization, and our findings align with existing literature on [cardiac testing](#)," said corresponding author Jordan B. Strom, MD, director of echocardiographic research in the Division of Cardiovascular Medicine at BIDMC, and assistant professor of medicine at Harvard Medical School. "Our study suggests the existence of significant age, racial and sex disparities in the receipt of echocardiograms. Identifying these disparities represents the first step towards addressing them."

An echocardiogram uses sound waves to create an image of the beating [heart](#) with no radiation or significant risk. It can be used for detection of multiple different diseases of the heart, valves, and vessels and is extremely important in the management of a variety of cardiac and non-cardiac diseases.

To identify potential race, sex and age disparities among patients who received echocardiography over several decades, Strom and colleagues evaluated more than 63,000 transthoracic echocardiograms (TTE) reports from more than 15,000 individuals. The team looked at patients' demographic information, cardiac health in the two years prior to the echocardiogram and subsequent rate of echocardiogram utilization. After adjusting for patients' relative health, the researchers observed lower use of echocardiogram among female, older-aged and non-white patients.

"Notably, Black women were at uniquely elevated risk for reduced use of echocardiogram, consistent with prior descriptions of disparate care in this population," said Strom, who is also section head of cardiovascular imaging research at the Richard A. and Susan F. Smith Center for Outcomes Research in Cardiology at BIDMC. "While the downstream effects of these disparities are unknown, these results are of particular significance given the medical profession's focus on addressing

healthcare inequities with the explicit goal of providing equal care to all patients."

Strom and colleagues observed that patients with heart failure and chronic obstructive pulmonary disease (COPD) appeared more likely to undergo echocardiogram—a surprising finding given that an echocardiogram is not a routine part of care for individuals with COPD, though possibly related to the association of COPD and prior tobacco smoking.

The researchers were also surprised to observe that advancing age was associated with a reduction in echocardiogram use. Strom and colleagues hypothesize diminished access to care or preferences for less aggressive diagnostic and treatments among the elderly are possible explanations, but further research is needed.

"This is the start of the story, but we need significantly more information to identify the reasons for these disparities and ways to overcome them," Strom said.

More information: Patrick M Hyland et al, Race, sex and age disparities in echocardiography among Medicare beneficiaries in an integrated healthcare system, *Heart* (2021).

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