

Text reminders, digital health workers erase gap in breast cancer screening

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Text reminders and other interventions erased the disparity in the rate of breast cancer screening between economically advantaged and disadvantaged patients, according to an OSF HealthCare study published

in *Population Health Management*.

While screening has been shown to reduce breast cancer deaths, women who are economically disadvantaged are less likely to have [breast cancer screening](#) and more likely to die of the disease, often because breast cancer isn't detected until it reaches a more advanced stage.

Mammography screening rates plummeted during the COVID-19 pandemic, which only increased the disparity between economically advantaged and disadvantaged patients.

OSF HealthCare researchers analyzed the effectiveness of interventions created and supported by the OSF OnCall digital health team to reduce that disparity, with text messages that included a link to schedule a mammogram and information about the importance of breast cancer screening; calls from a digital health worker (DHW) to answer questions, to help schedule mammograms and solve challenges such as transportation; and an invitation to a health fair offering on-site mammograms. Breast cancer screening rates more than doubled among Medicaid patients who received interventions.

The National Comprehensive Cancer Network (NCCN) guidelines recommend annual mammography for most women beginning at 40 and earlier for women at higher risk for breast cancer.

"Previous studies have found that similar interventions help increase the rate of breast cancer screening, but not whether they would reduce disparities among different populations," said Jonathan A. Handler, MD, FACEP, FAMIA, senior author of the study and senior fellow, OSF Innovation at OSF HealthCare.

"Our study found that these simple interventions provide an innovative approach to erase inequities in screening rates between economically disadvantaged and advantaged women, helping us meet our goal of

providing equitable, excellent care to our financially and geographically diverse patient population."

The study included more than 4,000 women in two groups: an economically disadvantaged group (those with Medicaid coverage), and an economically advantaged group (those with private commercial insurance). All were 41 or older, were aligned with an OSF primary care physician and appeared to be overdue for their mammogram—typically by two years or more. All with Medicaid were randomly assigned to one of three intervention arms and compared with a subset of commercially insured women randomized to receive no intervention.

All in the Medicaid group received the first intervention (at least one text message reminder). The moderate intervention arm also received additional educational content, a reminder text after a mammogram was scheduled, and phone outreach by a DHW to answer questions, assist with scheduling a mammogram, and address other issues related to the screening. The third arm had all of those interventions, and also received an invitation to a health fair where attendees could participate in interactive educational activities, schedule a mammogram or a receive a same-day mammogram at the health center after attending the event.

The rate of mammogram screening among Medicaid patients more than doubled, from 5.4% to 11% of eligible patients following some intervention. Before Medicaid patients were provided the interventions, they had 2.6% fewer breast cancer screenings than private insurance patients, whereas after the interventions, the screening rate for the Medicaid patients was 3.7% higher than commercial insurance patients who did not receive the intervention. When commercial patients received interventions, their screening rates also increased.

Researchers determined that text messages alone didn't improve screening rates among Medicaid patients, and that providing education

and assistance from the DHW was vital. The DHWs scheduled mammograms, and in some cases, arranged transportation. Many patients thought [breast cancer](#) screening was expensive, and the DHW explained that it was covered by Medicaid and private insurance. They invited patients to health fairs, where childcare was provided. Because the study took place during the pandemic, [health](#) fair attendance was lower than expected, but nearly all of the women who attended had mammograms while there.

To close the disparity gap moving forward, researchers said Medicaid patients would require more interventions than the commercial patients.

"The goal is equity, not equality, so it's vital to strategically implement interventions among patients who would most benefit," said Sarah Stewart de Ramirez, MD, MPH, lead researcher and medical director for Population Health Services at OSF HealthCare, and associate dean for Population Health Equity Innovation at the University of Illinois College of Medicine Peoria. "For example, we found that simply providing text reminders to the entire patient population might actually widen that disparity, because economically advantaged patients have fewer hurdles to access care and therefore are more likely to act on those reminders."

More information: Sarah Stewart de Ramirez et al, Closing the Gap: A Comparison of Engagement Interventions to Achieve Equitable Breast Cancer Screening in Rural Illinois, *Population Health Management* (2022). [DOI: 10.1089/pop.2021.0382](https://doi.org/10.1089/pop.2021.0382)

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