New Recommendations for Breast Cancer Screening—In Pursuit of Health Equity

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The US Preventive Services Task Force (USPSTF) last released recommendations on breast cancer screening in 2016, when they recommended that most women be screened every 2 years starting at age 50 years. In their 2024 recommendations,1-3 the USPSTF now recommends initiating screening mammography for all women at age 40 years and screening every 2 years until age 74 years (B recommendation). Similar to the 2016 recommendations, in their updated recommendations,1-3 the USPSTF concludes that evidence is insufficient to assess the balance of benefits and harms of screening mammography in women aged 75 years and older (I statement) and that evidence is insufficient to assess the role of supplemental screening for women with dense breasts (I statement).

Beyond the change in the recommended age to initiate screening, the new recommendations differ from prior recommendations in 2 critical and related ways: a deliberate focus on health equity and greater reliance on evidence from studies other than randomized clinical trials (RCTs).

The 2024 USPSTF recommendations1-3 adopt a deliberate focus on health equity, aligning with the USPSTF’s effort to incorporate health equity, race, and antiracism into their recommendations.4 The 2024 recommendations1-3 explicitly strive to address the persistent inequity in breast cancer mortality experienced by Black women in the US, who—despite having lower lifetime breast cancer incidence—are 40% more likely to die of the disease.5 The reasons for this disparity are thought to be multifactorial and complex but rooted in systemic racism. Black women are more likely than White women to have mammograms of lower quality (despite comparable screening rates), experience longer delays to definitive diagnosis and treatment, and receive less guideline-concordant care.6 Black women have higher breast cancer incidence in their 30s and 40s than White women and are more likely to have aggressive tumor subtypes, such as triple-negative cancers, perhaps related to the effects of environmental exposures and systemic racism.5

Whether and how inequitable breast cancer outcomes should inform breast cancer screening practices is uncertain. Notably, RCTs of mammography screening, and even large observational studies, have included few women of color and thus do not shed light on racial and ethnic differences in the benefits and harms of screening.

To inform its current recommendations,1-3 the USPSTF commissioned a new modeling study assessing the benefits and harms of mammography screening in the average-risk population of US women overall and for Black women specifically. Model inputs included real-world data on treatment, including inferior treatment received by Black women, and higher breast cancer mortality rates among Black women. Across all women, the models estimated that screening every 2 years between ages 50 and 74 years would avert an estimated 6.7 breast cancer deaths per 1000 people screened, while biennial screening starting at age 40 years would avert an additional 1.3 breast cancer deaths. Among Black women, screening every 2 years between ages 50 and 74 would avert an estimated 9.2 breast cancer deaths per 1000 persons screened, while biennial screening starting at age 40 years would avert an additional 1.8 breast cancer deaths. However, screening every 2 years starting at age 40 years also would lead to more false positive tests (1376 false positives per 1000 screened in the general population, and 1253 false positives per 1000 screened in Black women, over a lifetime) and overdiagnosed cancers (ie, cancers that would never become clinically evident in a woman’s lifetime in the absence of screening; 14 cancers per 1000 women screened in the general population, and 18 cancers per 1000 women screened among Black women).1,3 Overall, the models suggest that compared with the general population, Black women would derive more benefit from...
screening, including from starting screening in their 40s, although the additional benefit of screening starting at age 40 years vs age 50 years was small in both groups.

Modeling studies can shed light on questions for which RCT data are not available, and the use of modelling to examine the effects of systemic racism and inform strategies to mitigate these effects is intriguing. However, modeling studies also have important limitations, including their reliance on inputs and assumptions that may or may not be transparent or universally agreed on. For example, the USPSTF model identified a breast cancer mortality reduction from mammography of 30% for screening women aged 40 to 74 years, which is substantially higher than reductions from mammography observed in RCTs (8% for women in their 40s and 14% for women in their 50s). Although the models incorporated recent data suggesting increased incidence of breast cancer among women younger than 50 years, they do not appear to have incorporated updated data on continued declines in breast cancer mortality, which could affect estimates of screening benefit. Additionally, the models relied on racial and ethnic classifications that are inherently limited, without accounting for other important social variables that may affect breast cancer outcomes, including income and insurance coverage.

Based on similar findings from earlier models, some researchers have recommended that Black women start screening at younger ages and more frequently than other groups to reduce breast cancer inequities associated with racism. Indeed, the USPSTF modeling study suggests that only differentiated screening approaches would reduce disparities in outcomes. Self-identified race can be a surrogate marker for experiences of racism and thus a marker for health risks, as described in the USPSTF’s recommendation statement. However, race-based clinical algorithms are increasingly recognized as highly problematic in practice because race is a social, not biological, construct; racial categories identified in many medical research databases are deeply flawed; and clinical decisions based on race run the risk of obscuring or distracting from other causes of inequity. Avoiding race-differentiated screening strategies may explain the USPSTF’s recommendation to screen all individuals at age 40 years as the best approach to address inequitable outcomes for Black women in the US.

Despite greater absolute benefits of screening for Black women, the modeling study and systematic review underscore that mammography’s benefits (ie, breast cancer deaths averted) are modest for both Black women and the general population, particularly for women in their 40s, and the likelihood of false positives and overdiagnosis is high. It was this modest ratio of benefits to harms that prompted the USPSTF’s previous recommendations for an individualized approach to screening for women in their 40s, based on women’s preferences and risk factors. Since the ratio of benefits to harms is more favorable for individuals at higher risk of developing breast cancer, many researchers and clinicians with expertise in breast cancer screening have advocated for risk-stratified screening based on established risk factors, such as family history.

The USPSTF’s current recommendation for screening all women at age 40 years may partly reflect concern that risk-based approaches could disadvantage high-risk women in underserved communities, as well as Black women, who may be less likely to receive appropriate risk assessment and high-quality shared decision-making. Risk stratification has implementation challenges, particularly in primary care where assessment and reassessment of family history and other risk factors are infrequently and unevenly performed. Moreover, risk-stratified approaches are much harder than one-size-fits-all guidelines to measure and monitor. Finally, the risk calculators available in clinical practice do not yet perform well in projecting individuals’ risk of breast cancer and are particularly flawed for non-White populations, such as Black women.

Nonetheless, we believe that there is still a role for individualized risk assessment and shared decision-making in breast cancer screening. Given mammography screening’s modest benefits, we feel that all women—and particularly those aged 40 to 49 years—should be counseled about the benefits and harms of mammography and supported in deciding whether the balance of benefits to harms fits with their priorities and values. Individualized approaches to screening decisions could consider social determinants of health, such as structural racism, that can put can women at higher
risk of breast cancer death and thus may increase the absolute benefit a patient would derive from screening. Rather than discarding individualized approaches to screening, more work is urgently needed to improve the accuracy of strategies for risk assessment (eg, through polygenic risk scores) and support implementation of risk stratification and shared decision-making in clinical practice. Such research ideally would also inform more nuanced, patient-centered strategies to consider and address social determinants of health, including race and ethnicity.

Advancing equity should be at the center of breast cancer control policy and practice in the United States, where tremendous advances in breast cancer treatment have led to fewer women dying of breast cancer, but the advantages are not experienced equally by all. However, it is not yet clear that increased screening in the general population of women in their 40s will help “reverse the negative impacts of systemic and structural racism” as the USPSTF envisions. Close monitoring of the impact of the USPSTF’s recommendations on screening rates and follow-up of abnormal results among minoritized groups, such as Black women and groups who vary by income and education, will be essential. Decreasing the screening age for all women could have unintended adverse effects on equity. For example, in centers with radiology staff shortages, increased demand for screening could disproportionately decrease access to timely screening and follow-up of abnormal results for individuals of color, those with limited English proficiency, and those experiencing poverty who may face barriers to high-quality health care. Moreover, as the USPSTF notes, expanded screening should not distract from addressing other well-documented gaps in breast cancer evaluation and treatment, which are far more likely to impact inequities in outcomes. Investment in workforce diversity, language-concordant care and interpretation, patient navigation and education, and addressing social determinants of health may be more valuable uses of health care resources, with fewer potential harms.

The USPSTF’s 2024 recommendations are likely to lead health systems and payers to establish screening starting at age 40 years as a quality metric. We suggest that health systems should instead measure receipt of high-quality shared decision-making about breast cancer screening starting at age 40 years. They should also measure equity in breast cancer evaluation, treatment, and outcomes. The USPSTF’s 2024 recommendations also highlight the need for stronger evidence to inform health equity interventions overall, both within and beyond the health care system—not only to improve the quality of breast cancer screening, but to ensure high-quality and timely evaluation and care of individuals with breast symptoms or abnormal mammogram findings and for those diagnosed with breast cancer.

ARTICLE INFORMATION

Published: April 30, 2024. doi:10.1001/jamanetworkopen.2024.11638

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Conflict of Interest Disclosures: None reported.

REFERENCES


