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“Effects of Breast Cancer Screening Guidelines: A Retrospective Analysis of breast cancer patients under age 50 in a University Academic center”

In 2009, the U.S. Preventative Services Task Force (USPSTF) released updated breast cancer screening guidelines recommending against routine screening mammography in women aged 40-49. The task force concluded that the decision to start regular, *biennial* screening mammography before age 50 years should be an individual one considering patient context, including the patient's values regarding specific benefits and potential harms. In January 2016, the USPSTF reinforced these guidelines in their Final Recommendation Statement grading screening mammography prior to age 50 as a Grade C, stating there is at least moderate certainty that the net benefit is *small*.

Despite the USPSTF's findings, it has been well-documented through randomized trial data, that mammography saves the most lives with annual screening beginning at age 40. Since the introduction and implementation of widespread screening, breast cancer mortality has decreased substantially, upwards of 30%. It is however acknowledged that the magnitude of this decline in mortality has not been shared equally, with great disparities still existing both across state and color lines. Southern states in the US continue to have higher breast cancer deaths. While nationally for every 100,000 women 20 die of breast cancer, in Louisiana this number is closer to 23 lives lost. Additionally, in Louisiana black women are succumbing to this disease at an alarmingly disproportionate rate averaging 30 deaths per 100,000 compared to closer to 19 deaths per 100,000 in white women.

This retrospective analysis investigates the potential effects of the USPSTF's recommendation, to delay onset of screening mammography to age 50, on our community, a community already disproportionately dying from this disease. We utilized an electronic health record informatics tool (EPIC SlicerDicer) to analyze new cancer diagnoses over the past 5 years at our institution. Cases were stratified by race and age at time of diagnosis. Our results showed that women diagnosed prior to age 50 represented a significant proportion new diagnoses. Additionally, minority women made up majority of these cases potentially being most harmed by the USPSTF's recommendations to delay breast cancer screening to age 50. We hope that these findings may serve to support additional prospective studies to not only optimize screening guidelines that better serve our patient population but also to potentially guide the USPSTF as they embark on recommendation updates.