

## **Transforming Health with Breast Density Insights**

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July 11, 2024

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### **Main Points**

- One independent risk factor for breast cancer is increased breast density (Berg et al., 2021).
- In 2020, there were about 2.3 million new instances of breast cancer and 685,000 deaths (Arnold et al., 2022).
- Due to population growth and aging alone, it is anticipated that by 2040, there will be over three million new cases of breast cancer and one million annual deaths from the disease (Arnold et al., 2022).
- There is a significant knowledge gap among healthcare providers about breast tissue types (Seitzman et al., 2021).
- Implementing standardized training on breast density for healthcare providers is important for the implications of mammogram results (Seitzman et al., 2021).
- Educational interventions for providers can bridge the knowledge gap in understanding high-risk screening guidelines and breast cancer risk models (Seitzman et al., 2023).
- Raising patients' understanding of the many types of breast tissue can help them become more knowledgeable and make well-informed decisions if they have dense breast tissue (Kressin et al., 2022).

### **Background and Purpose**

Introduction: This Quality Improvement (QI) project was developed to address the knowledge gap among healthcare providers regarding different types of breast tissue and the associated risk of breast cancer. When breast tissue is more fibrous and glandular than fatty tissue, it is referred to as dense breast tissue. Understanding the variations in

breast tissue types, particularly dense breast tissue, is vital for the early detection of breast cancer, as dense tissue can obscure tumors on mammograms (Schifferdecker et al., 2019). With 2.3 million new cases reported in 2020 alone, breast cancer is a significant global health concern and accounts for 25% of all cancer diagnoses among women and 11.7% of all cancer cases worldwide (Wilkinson & Gathani, 2022). Educating healthcare providers and patients about these differences allows for personalized screening recommendations and empowers patients to make informed decisions about their health. Improved knowledge can reduce anxiety, increase compliance with screening protocols, enhance shared decision-making, and foster better communication between patients and healthcare providers (Sharkiya, 2023).

**Purpose:** The primary aim of this Quality Improvement (QI) project is to educate healthcare providers about breast tissue density. Additionally, the project seeks to encourage providers to disseminate this information to patients, thereby increasing patient awareness. Understanding breast tissue density can enhance the effectiveness of mammogram interpretations, aid in early detection and intervention, improve clinical outcomes, reduce diagnostic delays, and enhance survival rates for breast cancer patients (Ginsburg et al., 2020).

### **Methodology**

**Approach:** The design involved three main components: a pre-survey to assess baseline breast tissue knowledge, an educational PowerPoint presentation to inform healthcare providers about various breast tissue types and their importance for effective cancer screening, and a patient survey question card. This card reminded providers to educate patients about their breast tissue types during visits, assessed patients' awareness,

and included a QR code linking to [densebreastinfo.org](https://densebreastinfo.org) for further information. The implementation process included presenting the survey card to patients during their healthcare visits, asking, "Do you know your breast tissue type?"

The project employed the Transtheoretical Model (TTM), the Stages of Change Model, to guide healthcare providers through different readiness levels to improve their understanding of breast tissue types and enhance patient education (Tung & Chen, 2023). The TTM comprises pre-contemplation, contemplation, preparation, action, maintenance, and termination stages.

In the pre-contemplation stage, an informational session raised awareness about breast tissue types. During contemplation, evidence-based information highlighted the benefits of increased knowledge. In the preparation stage, providers received resources to integrate this knowledge into practice. The action stage involved educating patients. Ongoing support and follow-up education were provided in the maintenance stage. Finally, these practices became fully integrated and sustained in the termination stage, leading to long-term awareness for both providers and patients.

Analysis: Data collection for the project involved administering pre- and post-intervention surveys to the healthcare provider and distributing patient survey cards. The provider survey assessed the knowledge of breast tissue density before and after the educational intervention. The patient survey cards, which featured a simple yes-or-no response format, inquired whether patients knew their breast tissue type, and the responses contributed to the collected data. Providers collected these responses and then shared the collected data with the project lead during the scheduled weekly site meetings.

## **Results**

**Findings:** The QI project's main findings revealed that the healthcare providers' post-intervention survey showed a notable increase in their knowledge and confidence in educating patients about breast tissue density. The findings also revealed a significant gap in patient awareness about breast tissue types. Out of thirty-three patients surveyed, only 4 (12%) knew their breast tissue type, while 29 (88%) did not. These results underscore the critical need for ongoing educational efforts to improve patient awareness and enhance breast cancer screening outcomes.

### **Strengths and Limitations**

**Strengths:** The key components of a PowerPoint presentation on breast tissue types, presented to healthcare providers at the start of the project, highlighted significant findings of this QI initiative. Data collection methods, including a pre-and post-intervention survey for provider and patient survey cards, allowed for a direct assessment of knowledge gains and patient awareness. Using the survey card revealed that only a limited number of patients knew their breast tissue type. Post-intervention, provider knowledge was increased based on her verbal acknowledgment. From a technological standpoint, incorporating a QR code on the survey cards linked patients to further resources, promoting continuous learning. These methods support the project's success in enhancing provider knowledge and patient awareness, improving breast cancer screening outcomes.

**Limitations:** The QI project limitations included the reduced number of participating providers and the small sample size of only thirty-three patients. The limited period to evaluate feedback from QR scan inquiries further constrained the ability to assess the long-term effectiveness.

## **Implications and Conclusions**

The findings from this QI project have significant implications for healthcare providers and patients. Enhanced knowledge of breast tissue types improves patient education, accurate mammogram interpretation, and tailored follow-up care, leading to better patient outcomes and satisfaction. For patients, understanding their breast tissue type promotes adherence to personalized screening recommendations, potentially resulting in earlier detection of breast abnormalities and improved breast cancer outcomes. At a policy level, the results advocate for standardized education on breast tissue types nationwide, prompting potential policy changes (Aminawung et al., 2020). These findings also pave the way for future studies on male breast tissue and expanding breast health education. The project aligns with Healthy People 2030 goals, promoting health literacy and preventive healthcare practices (Health Literacy in Healthy People 2030 - Healthy People 2030, n.d.).

The QI project concluded that targeted educational interventions significantly enhance healthcare providers' and patients' awareness of breast tissue types. Educated providers can effectively communicate vital information about breast tissue density, empowering patients to engage in informed health discussions and adhere to personalized breast cancer screening protocols. Despite limitations, the results demonstrate that structured educational initiatives can bridge knowledge gaps, promote proactive health behaviors, and potentially improve early detection rates and breast cancer outcomes. Supporting and expanding these advancements through continued education and legislative changes is necessary.

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