



New Technology, Information Help Women Learn About Breast Density

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Approximately 40% of women have dense breast tissue that can make it harder to [detect](#) breast cancer with mammography. Yet, many women with dense breast tissue do not fully understand their risk of developing breast cancer. The reason? The information they receive about breast density can be confusing and unclear. But new technologies to assess breast density, coupled with improved efforts to communicate the results, could help more women better understand this health issue and make more informed decisions in the years ahead.

Currently, 27 [states](#) have passed laws requiring that women receive a dense breast notification (DBN) following mammography. DBNs are designed to inform women about breast density and how it may affect the detection of breast cancer, as well as the possible increased risk of developing breast cancer. This may indicate the need for supplemental screening tests. As more states continue to enact these laws, DBNs will be increasingly positioned as an important component of breast cancer screening.

DBNs: Works in Progress

Research related to the impact of DBNs in the U.S. shows variation in both standards and impact. A recent study published in the [Journal of the American College of Radiology](#) shows that New Jersey's DBN law, for example, has been successful in educating women about how dense breast tissue can mask cancer during mammography. The authors also found increased use of supplemental screening ultrasound and MRI examinations, and a reduced number of unnecessary biopsies. Other studies, however, suggest that in some regions, DBNs may be less effective in helping women understand the relationship between breast density and the risk of developing cancer. A [survey](#) of more than 1,000 women ages 35 to 70 in Virginia showed that while DBNs are helping women become more familiar with the term "breast density," only 25% of respondents said they were aware of the relationship between breast density and cancer risk.

According to a recent study published in [JAMA](#), language used to explain breast density in DBNs in many states is often overly complex, clinical, and well above the average reading level for residents of that state. The level of detail can also vary greatly from state to state and in some cases DBNs do not provide clear guidance on next steps for women who might benefit from additional screening following a standard mammogram.

Additionally, the information provided in the DBN will vary; depending on the state they live in. Some states require that women be informed if their breasts are dense and that additional screening might

detect breast cancer while others require only that women be informed about the issue of breast density, without providing context regarding the potential implications.

But the variability in DBNs from state to state is leading many experts in women's health to call for new national standards in communications to women regarding breast density. They further reinforce that these communications are not meant to replace the dialogue between patients and doctors related to breast density, but rather to inspire more accurate, educational discussions on this important topic.

New Technology Offers Advanced Solutions

It's important to note that DBNs can only be effective if breast density assessments are accurate. A recent study published in the [Annals of Internal Medicine](#) showed that breast density assessments can vary significantly from one radiologist to another. The American College of Radiology recommends the use of the BI-RADS lexicon as a standardized system to categorize breast density when reading mammography and instructs radiologists to include this information in the mammography report. But even with a standardized system, there can be significant reader variability among radiologists resulting in interpretation of different density categories for the same patient.

New technologies are available from several companies such as iCAD and Volpara that assist in overcoming the challenges associated with reader variability by providing a more precise breast density assessment. For example, iCAD's *PowerLook Density Assessment* automated breast density solution uses an appearance-based approach (versus volume-based) that categorizes breast density based on the structure, texture, dispersion, and volume of fibroglandular tissue. Automated breast density software technology can help radiologists identify patients who might benefit from additional screening, such as ultrasound or MRI. It can also help streamline workflow for radiologists and medical practices. These technologies can help more women get the additional testing they need, while helping many avoid unnecessary and costly medical procedures.

As new technologies emerge, and as more states work to improve and standardize the information provided in their DBNs, patients and radiologists are gaining a better understanding of breast density and its impact on the risk of developing and identifying breast cancer. Together, these advancements may be able to help us accurately detect many breast cancers earlier, when they might be more easily treated.

