Are Notification Laws, Technology Helping Women Learn about Individualized Breast Cancer Risks?

By Rachel Brem on October 25, 2016 Women's Imaging

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How advanced technology can standardize breast density assessments, improve reader experience for radiologists

With 28 states currently requiring that women receive a dense breast notification (DBN) following mammography, these potentially life-saving communications are rapidly becoming a standard component of breast cancer screening and overall patient care.

While most experts agree that this is a positive step in women's health, a recent study published in the Journal of the American College of Radiology suggests women may still require further education about the relationship between breast density and the risk of developing cancer.[1] In a survey of more than 1,000 women ages 35 to 70 in Virginia, one of the states where DBNs are required by law, only 25% of respondents said they were aware of the relationship between breast density and cancer risk.[1]

Another recent study published in the Journal of the American Medical Association indicates that DBNs in many states have a great deal of room for improvement.[2] The authors of this study noted that the content of letters sent to women about their breast density can vary greatly from state to state. In many cases the language is overly complex and clinical. Others do not provide clear guidance on what steps are necessary for patients who might benefit from additional screening.

To further complicate matters, the requirements for who should receive DBNs also vary from state to state. Some require that women be informed if additional screening might detect mammographically occult breast cancer, while others only require women to be informed about their breast density without context regarding the potential implications.

Advanced Screening Techniques: Beneficial for Patients, but a Challenge for Readers

As radiologists, most of us have seen firsthand how breast density can decrease the sensitivity of a mammography, highlighting the need for improved approaches to individualized breast cancer screening. For higher-risk women with dense breasts, research suggests annual mammograms may provide more benefit, while this may not be necessary for average-risk women with low breast density.[3]

A growing body of evidence also supports the use of tomosynthesis, which is rapidly being adopted in clinical practice. Although research suggests 3D mammography may improve cancer detection in women with dense and non-dense breasts,[4] this advanced technology poses another challenge for radiologists: the time required to interpret mammography results.

Much needed CAD technology is being developed to help radiologists manage the increased workflow by helping in the identification of potential mammographic abnormalities without sacrificing reader performance. The implementation of new workflow tools would markedly increase the usability of tomosynthesis in clinical practice and help to detect breast cancer more effectively and efficiently.

Reducing Reader Variability: A Standardized, Objective Approach

Another common challenge radiologists also experience is reader variability during breast density assessments. A recent study in the Annals of Internal Medicine found that density assessments often vary from one radiologist to another.[5] This can result in inaccurate readings, as well as delays in getting patients the additional testing and appropriate treatment they need.

The American College of Radiology recommends the BI-RADS scale as a standardized system to categorize breast density when reading mammography, but ultimately this system is still subjective as each radiologist can interpret the categories differently.

An objective approach to measuring breast density that standardizes assessments can make the process more straightforward for radiologists reading mammography. Luckily, an advanced software program is now available to address this issue and reduce reader variability by providing more consistent, accurate, and reproducible breast density assessments. This technology automates the

same analytical approach used by experienced radiologists. It analyzes digital mammograms, calculates the patient's breast density, and determines the appropriate density category corresponding to BI-RADS standards. The increased use of advanced software can also help streamline workflow for radiologists while more precisely identifying patients who would benefit from additional screening.

As radiologists it is important that we understand our patients' risk of breast cancer should they have dense breast tissue. Patients should also fully understand their risk for developing breast cancer and whether additional screening may be warranted in order to make more informed decisions about their healthcare.

Communications, including DBNs, should become more standardized so patients can better understand their risk for developing breast cancer and whether additional screening may be necessary. If breast density laws were to become federally mandated, perhaps it might be possible for these notifications to become more uniform and equally helpful to all patients. We should also recognize that these notifications should help to initiate a dialogue between patient and doctor, rather than replace it.

With improved DBNs, the increased adoption of advanced technology, improved strategies for efficient and effective determination of breast density, and implementation of adjunct screening protocols in women with dense breast tissue, the radiological community can take steps to further enhance patient care. This can ultimately mean the difference between an accurate diagnosis of early, curable breast cancer as well as detection of breast cancer in more advanced stages, when it is less treatable and higher risk.

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