

Mammography facility characteristics associated with accuracy of screening

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Some characteristics of mammography facilities are associated with the accuracy of interpretation of screening mammograms, according to a study published online June 10 in the *Journal of the National Cancer Institute*.

Previous studies have suggested that patient characteristics, such as age, are associated with variations in the accuracy of screening mammograms. Similarly, characteristics of the radiologist who interprets the mammograms, such as his or her reading experience, are associated with variations in accuracy. The impact of the type of facility or its characteristics on mammogram accuracy was unknown, but the information could help identify better practices and better places to obtain a mammogram.

In the current observational study, Stephen Taplin, M.D., of the National Cancer Institute in Bethesda, Md., and colleagues surveyed 53 mammography facilities between 1992 and 2002 to look for associations between facility characteristics and interpretive accuracy. The researchers were able to analyze data from 44 facilities, which altogether performed 484,463 screening mammograms on 237,669 women. Of those, 2,686 women were diagnosed with breast cancer.

On average, the facilities identified cancer when it was present (sensitivity) in 79.6 percent of breast cancer cases that occurred within one year and correctly categorized a mammogram as cancer-free (specificity) 90.2 percent of the time. The likelihood of cancer in

women who were referred for additional imaging or evaluation due to an abnormal mammogram was 4.1 percent. On average, 38.8 percent of the women referred for a biopsy from each facility were found to have cancer. The likelihood of cancer among the women with any additional evaluation, or those referred for biopsy, varied substantially between facilities. The likelihood that a mammogram was accurately read as cancer-free varied by facility but the likelihood that a cancer was identified when it was present did not.

Several facility characteristics were associated with a higher measure of accuracy that combines sensitivity and specificity, including those that offered screening mammograms alone versus those that offered diagnostic and screening mammograms, and those that had a breast imaging specialist reading the mammograms versus those that did not.

If these associations are validated in future prospective studies, the information could help both patients and mammography facilities.

"Understanding how facility characteristics influence interpretive accuracy is important because it could allow women and physicians to choose a mammography facility based on characteristics that are more likely to be associated with higher quality. Radiologists could also change the facilities' structures or processes to include practices that improve interpretive accuracy," the authors write.

Source: Journal of the National Cancer Institute

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