

Screening for breast cancer in women with dense and very dense breasts: A survey of primary care practice

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Increased breast density is common and increases breast cancer risk by as much as 3%. The purpose of this survey was to determine breast cancer screening practices of primary care providers in women with dense and very dense breasts.

A 16-question, anonymous REDCap survey was sent to primary care providers at Mayo Clinic Rochester to determine the use of supplemental screening and assess provider knowledge, approach, comfort level and educational preference in discussions with patients. This study was approved by the Institutional Review Board.

Eighty-one of 178 primary care providers responded (46%). The majority (89%) counsel patients some of the time that breast density is a risk factor for breast cancer and 65% of providers reported they receive questions monthly about breast density. Most providers offer supplemental screening to patients, but less than half (48%) are comfortable discussing these options. Most want additional guidance about which patients should be offered supplemental screening. Only three respondents considered themselves extremely knowledgeable and 13 (16%) were not at all comfortable in discussing options. Cited resources regarding supplemental screening were lectures at meetings (42%) and Ask Mayo Expert (58%). Most providers (71%) said they would use a risk-calculation tool that includes breast density.

Primary care providers are aware of the risks of breast density and, in general, are comfortable having discussions with patients regarding risks and ordering supplemental screening tests. The majority, however, would appreciate additional aids for counseling patients with increased breast density on cancer risks and screening options.

Introduction

Mammographic breast density is an independent risk factor for breast cancer. Breast density is most commonly designated using the American College of Radiology's Breast Imaging Reporting and Data System (BI-RADS) four-category scale: a = the breasts are almost entirely fatty; b = there are scattered areas of fibroglandular density; c = the breasts are heterogeneously dense, which may obscure small masses; d = the breasts are extremely dense, which lowers the sensitivity of mammography.¹ Approximately 50 percent of women screened will fall into either category c or d, and are considered to have mammographically dense breasts.

The risk of breast cancer is increased in women who have very dense breasts (category d) compared with women who have predominantly fatty breasts (category a),² although the exact risk may be multifactorial.³ This elevated risk is compounded by the fact that increased density limits the

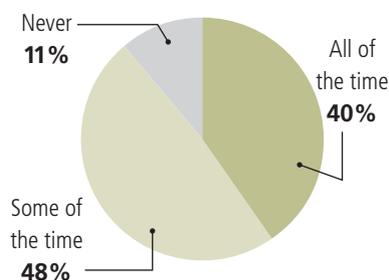
ability of standard mammograms to detect small cancers.⁴

Legislation requiring notification of women with mammographically dense breasts went into effect on August 1, 2014 in Minnesota. The first state to initiate such legislation was Connecticut in 2009. There are now more than 30 states that

have adopted this requirement. At our institution (Mayo Clinic), a woman receives a letter if they have dense breast tissue (classification c or d), which encourages communication with their primary provider regarding the findings on mammogram. It is unclear how often a discussion takes place between primary providers and patients and whether or not this discussion is initiated by patients in response to the communication they receive regarding their breast density. There is a lack of consensus regarding supplemental screening options—and even whether additional screening is warranted. The United States Preventative Services Task Force has not made a recommendation regarding supplemental screening in women with dense and very dense breasts.¹ Decision-making is further complicated because of the potential harms of false positive breast cancer screening and overdiagnosis, which is more prevalent in women with mammographically dense breasts.⁵ These harms

FIGURE 1

When counseling patients, how often do you consider breast density as an independent risk factor for breast cancer?



include the potential of significant anxiety related to the findings on supplemental screening and potential unnecessary procedures, which could result from false positive screening.

The goal of this study was to describe the Employee and Community Health (ECH) practice at Mayo Clinic in Rochester, MN related to breast cancer screening in women with mammographically dense breasts. We sought to determine the provider's knowledge about and comfort with counseling women regarding supplemental screening options for women with dense and very dense breasts. We also wanted to determine who initiated the conversations about supplemental screening, and resources that they used to guide their knowledge and discussions. A final goal was to determine if decision support tools would be useful for their practice.

Methods

We created a 16-question survey designed to assess knowledge, comfortability around having discussions with patients, attitude and practice with regards to supplemental breast cancer screening, and needs/wants regarding further information and decision support (Appendix A). Voluntary anonymous demographic data was also collected.

The survey was administered and data collected using the REDCap Survey tool (REDCap Software - Version 5.0.20—©2017 Vanderbilt University). The survey was emailed to all permanent staff (physicians, nurse practitioners, and physician assistants) in primary care practice in Employee and Community Health (ECH) at Mayo Clinic. This included internal medicine and family medicine providers. Providers were excluded if they provided only acute patient care, but not continuity patient care. Physician residents were excluded from the survey.

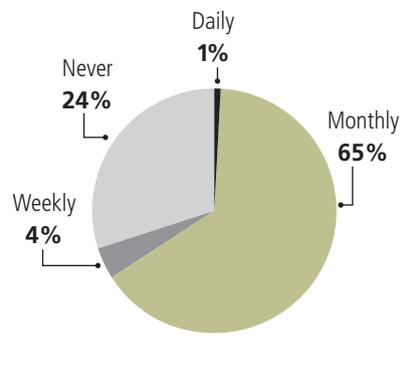
The initial survey was sent in March 2016. Reminders to complete the survey were sent two and three weeks after the initial survey email. The survey was closed after one month. All provider responses were collected anonymously. Survey results were analyzed qualitatively using

JMP software (JMP Pro 10.0.0; ©2012 SAS Institute Inc.).

Results

FIGURE 2

How often do you receive questions about breast density from your patients?



Surveys were sent to 178 ECH primary care providers at Mayo Clinic. Of these, 81 (46%) responded. Fifty of the respondents were female, 30 male and one did not specify gender. Fifty-three identified themselves as physicians (MD/DO) and the remaining 28 were advanced care providers (physician assistants/nurse practitioners). The respondents were from family medicine (51%) and primary care internal medicine (49%). Of those who responded, 38% had been in practice more than 15 years, 14% eleven to fifteen years, 21% five to 10 years, and 18% less than five years.

Most providers reported knowledge of the definition of mammographically dense breasts, and the majority considered breast density as a risk factor for breast cancer (Figure 1). The majority of providers (84%) were aware that their patients receive written notification related to breast density. Seventy percent of providers reported receiving questions regarding breast density from patients one or more times a month (Figure 2).

When asked about knowledge and comfort regarding supplemental screening options for breast cancer in women with dense and very dense breasts, 48% were moderately or completely comfortable having these discussions, but 21% of

providers responded as being “not very knowledgeable” or as “I have no knowledge” (Figures 3 and 4). More than 88% percent of providers offer at least some of their patients supplemental breast cancer screening.

Four out of 81 providers could not name a supplemental screening test. Tomosynthesis was mentioned 46 times, molecular breast imaging 31 times, Magnetic Resonance Imaging 20 times, and ultrasound four times. There were varying answers when asked what influences the choice of supplemental screening test. Ask Mayo Expert (a guideline and expert opinion-based tool developed at Mayo Clinic) was most frequently cited as a resource for management of a woman with mammographically dense breasts. It was also the most influential of the choices. The second most commonly reported resource was lectures at local/regional meetings. A third of providers took patient choice into consideration when choosing which supplemental screening test to order.

Only one provider reported no need for additional educational/resources for managing women with dense breasts. Almost two-thirds of responding providers wanted a breast cancer-risk calculator that includes breast density. Other common reported needs were continuing education and integration of information into Mayo Clinic's Generic Disease Management System, a system integrated with the electronic medical record (EMR) that provides recommendations for preventive services and disease management.

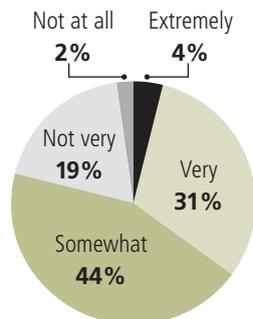
Discussion

Increased recognition of the relationship between breast density and cancer risk has led to a need to better define the options for supplemental screening in women at increased risk of cancer due to breast density. More than half of the states in the United States now require that women be notified if their breasts are dense on mammography. Mammographic density is an independent risk factor for the development of breast cancer and can also make it more difficult to visualize small cancers.⁶ Estimates suggest that if all women in the

United States were screened, more than half would be impacted by this legislation because they have dense or very dense breast tissue (categories c and d).⁷

FIGURE 3

How knowledgeable are you regarding the options for supplemental screening for women with dense or very dense breast tissue on mammogram?



It is unclear how legislation affects primary care practices at this point. A study was recently published looking at the impact of the breast density law on California primary care physicians. In this study, out of the 77 physicians that responded almost half (49 percent) were unaware of the legislation and only a third (32 percent) heard concerns from patients who had received the letters about density. Only six percent felt comfortable having conversations with female patients with dense breasts and answering patient questions. This California study did not address supplemental screening options.⁸

The primary goal of our study was to assess the knowledge of primary care providers and to define the primary care practice at Mayo Clinic in Rochester regarding the approach to patients with mammographically dense breasts. We anticipated the findings would identify opportunities for practice improvement and better support for providers in counseling patients with mammographically dense breasts. While more providers in our survey were comfortable having discussions with patients compared to those in the California study, providers still wanted more resources for

counseling on risk and determining the best, if any, supplemental screening test.

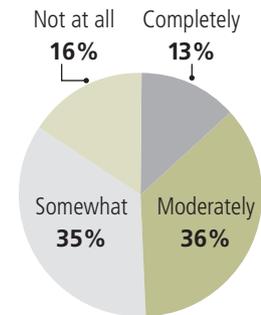
Although there may be benefits to notifying women of breast density and supplemental screening tests for breast cancer, it is not without harms, including the risks of false positives that cause personal stress and more screening and ordering of supplemental screening tests. Radiologists may be inconsistent in mammogram reading and assigning density, which determines who gets notified and who may undergo supplemental breast cancer screening.⁹ Patients and providers must have the opportunity to have conversations regarding the results, patients' history, family history, costs of additional screening, and the personal values and beliefs of their patients; shared decision-making about supplemental screening for dense breasts is essential. We found that few providers reported having patients ask about the letter they received telling them about breast density. Eleven percent indicated they felt completely comfortable having conversations with women about breast density. Recommendations evolving on a national level and more information about breast density highlight an opportunity for education of primary care providers to help counsel patients about whether supplemental breast cancer screening is indicated, what tools are available to help determine risk, and which test should be offered on an individual basis. Having the knowledge and tools available in clinic could help busy clinicians have informed discussions with women.

This study has limitations. First the study only surveyed the ECH practice. Findings may not be generalizable to other primary care practices. Second, our response rate was 46% and we cannot determine if the non-responders were similar to the responders. Given the relatively small numbers of respondents, we cannot assess differences between subgroups based on gender, time in practice, or training. Additionally, we surveyed what clinicians say they would do; this may not be what they do in practice. Our findings are also limited to the impact of breast density, as we did not assess providers' knowledge of

other risk factors such as family history or increased personal risk with additional screening practices. Nor did we ask about conditions that would qualify for MRI

FIGURE 4

How comfortable are you with discussing supplemental screening options with patients for breast cancer detection?



screening. Lastly, we did not ask whether cost was a factor in decision-making for supplemental breast cancer screening.

This study adds to the knowledge regarding the approach of primary care practices to the care of women with increased breast density and the impact of legislation mandating reporting of increased breast density reported on mammograms.

Primary care providers are aware of the risks of breast density, but they would benefit from more education regarding supplemental breast cancer screening and the majority indicated they would appreciate additional aids for counseling patients with increased breast density about cancer risks. **MM**

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Clarification

In a clinical article in the May/June issue of *Minnesota Medicine*, the Methods section should have stated that data were obtained from the Fairview tumor registry as reported to the Minnesota Cancer Surveillance System (MCSS), not directly from the MCSS.