Breast Density Notification: A Primary Care Summary

BREAST DENSITY NOTIFICATION: A PRIMARY CARE SUMMARY

NOTIFCATION LAW

Breast density notification laws have stemmed from patient advocacy and allow for patients to be aware of their breast density so that they can make future screening decisions. In VT, Senate Bill 157 was signed into law on May 25, 2016. The law took effect on January 15th, 2017 and states that healthcare facilities that perform mammography will be required to provide patients information that identifies their individual breast tissue classification. If the facility determines that a patient has heterogeneously dense or extremely dense breast, the summary of the mammography report must include a notice that is "substantially similar" to the following:

"Your mammogram indicates that you have dense breast tissue. Dense breast tissue is a normal finding that is present in about 40 percent of women. Dense breast tissue can make it more difficult to detect cancer on a mammogram and may be associated with a slightly increased risk for breast cancer. This information is provided to raise your awareness of the impact of breast density on cancer detection and to encourage you to discuss this issue, as well as other breast cancer risk factors, with your health care provider as you decide together which screening options may be right for you."[1]

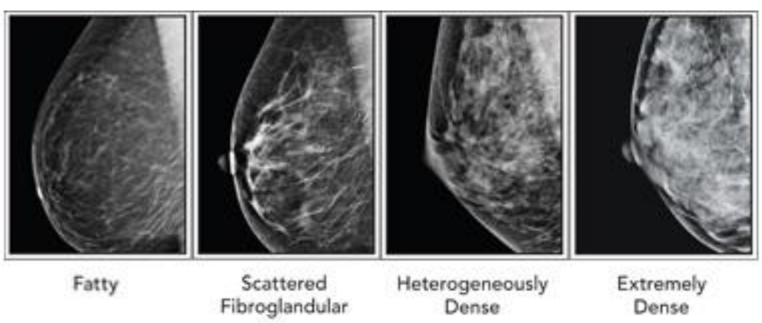


Figure 1. 3D automated whole breast ultrasound. Santa Fe Imaging. http://santafeimaging.com/for-patients/services/womens-imaging/abus-2/

Current VT laws do not mandate insurance coverage for supplemental screening.

Breast density notification legislation across the United States:

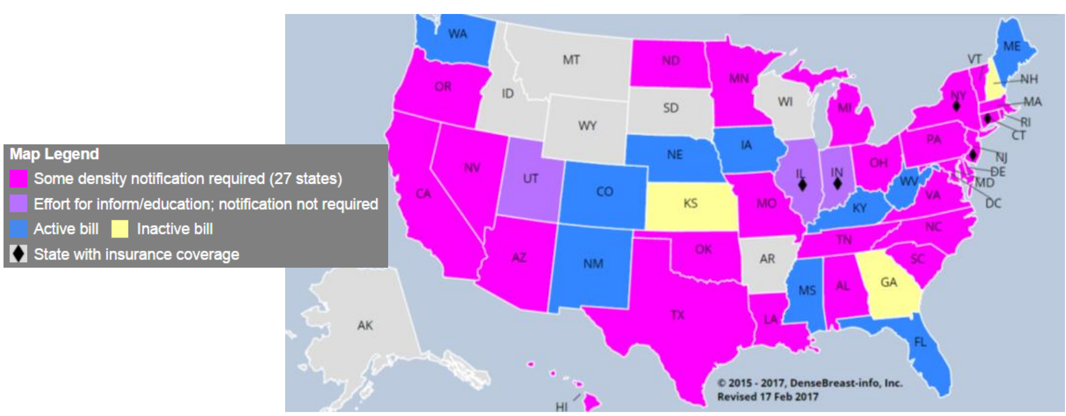


Figure 2. Legislation and Regulations. Dense Breast-info. http://densebreast-info.org/faqs-for-health-professionals.aspx. Published April 2014.

BREAST DENSITY IMPACT ON SCREENING AND BREAST CANCER RISK

Approximately **50% of women will qualify as having dense breasts**. Increased breast density reduces the sensitivity of mammography and increases the chances that breast cancer will go undetected on screening. The sensitivity of mammography is reduced to 36-60% in women with heterogeneously dense breast or extremely dense breasts.[2] Additionally, increased breast density on its own is a risk factor for breast cancer. Breast density is only one of many risk factors for breast cancer and should be taken into consideration in the context of other risk factors. In a female with average risk factors, increased breast density is a relatively minor risk factor, but may have a large impact on screening mammography.

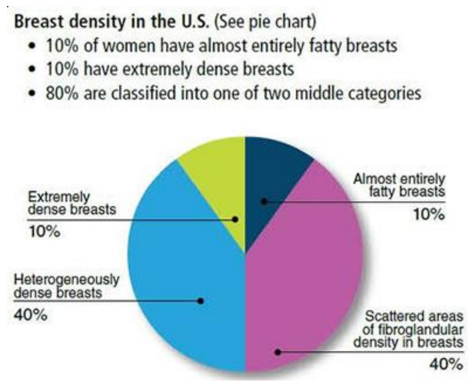
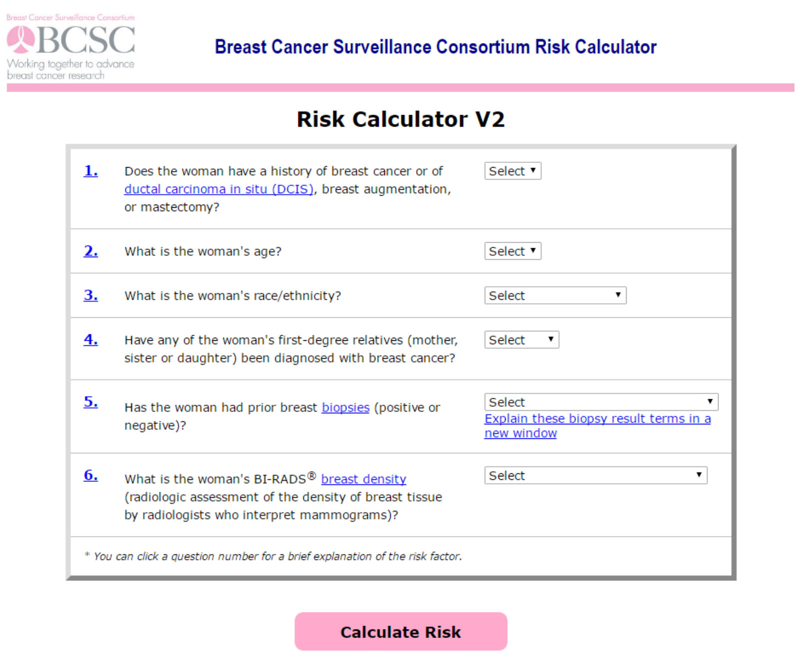


Figure 3. Breast density and breast cancer risk. Michigan Comprehensive Cancer Center. http://www.mcancer.org/breast-cancer/detection-and-prevention/breast-density-and-breast-cancer-risk

The following breast cancer risk assessment tool can be used to calculate a patient's 5 and 10 year risk of developing breast cancer: https://tools.bcsc-scc.org/bc5yearrisk/calculator.htm

The calculator provides the average 5-year and 10-year risk for a woman of the same age and race/ethnicity.



Available as iPhone App

Figure 4. Breast cancer surveillance consortium risk calculator. BCSC. https://tools.bcsc-scc.org/bc5yearrisk/calculator.htm

SUPPLEMENTAL SCREENING

All supplemental screening methods increase cancer detection, but **none are proven to decrease mortality or morbidity**.[3]

Supplemental Screening Tests	Benefits	Risks
Ultrasound	Widely available	High false positive rate Low PPV (6-11%)
MRI	No radiation	IV gadolinium required Low PPV (19%)
Tomosynthesis	Increase cancer detection in all densities (41%) but not significantly in extreme density Reduce recall rate (15%)	Radiation equivalent to mammogram if synthetic views used instead of 2D Increased interpretation time
Molecular breast imaging	PPV equal to mammography High specificity	Recall rate of 17%

Figure 5. Supplemental screening risks and benefits[3]

For additional information on the advantages and disadvantages of current technology:

http://densebreast-info.org/breast-imaging-technologies.aspx

GUIDELINES

Disclaimer: There is a lack of consistent evidence and clear national guidelines to advise physicians on supplemental screening. Supplemental screening decisions should be made on a case by case basis in accordance with the goals of the patient. The USPTF, ACS, ACOG, ACR, and AAFP all site that there is insufficient evidence to make recommendations on supplemental screening.

- Supplemental screening is not supported in women with average risk factors by ACOG, ACR/SBI, NCCN, ACS, and the USPTF.
- Any patient considered to be at a high risk for breast cancer (>20% lifetime risk, >5% 10 year risk, or BRCA mutation) should undergo annual screening with digital mammogram and MRI regardless of breast density
- There is an increasing support for additional testing in women who qualify as having extremely dense tissue regardless of other risk factors (not a formal recommendation).

HOW TO COUNSEL PATIENTS

- Reassurance that breast density poses a small increased risk of breast cancer (1.2-2.1x)
- Provide education that increased breast density affects the sensitivity of screening

- Supplementary screening can offer increased cancer detection
- All forms of supplementary screening can increase false positives, additional imaging, and biopsies
- Patients should be counseled as always to modify controllable risk factors: BMI, Exercise, Alcohol

★ Useful resource for patient: Decision Tool

https://www.cigna.com/healthwellness/hw/medical-topics/breast-cancer-screening-and-dense-breasts-abp1927

There is no right answer to supplemental screening. The goal is to provide patients with enough education to make an informed decision in accordance with their values.

PRISM DOT PHRASE

The following dot phrase can be used to provide patients with resources on their patient instructions.

.DENSITY

Useful resources to learn more about breast density and what screening tests are right for you:

Decision Tool:

https://www.cigna.com/healthwellness/hw/medical-topics/breast-cancer-screening-and-dense-breasts-abp1927

Resources:

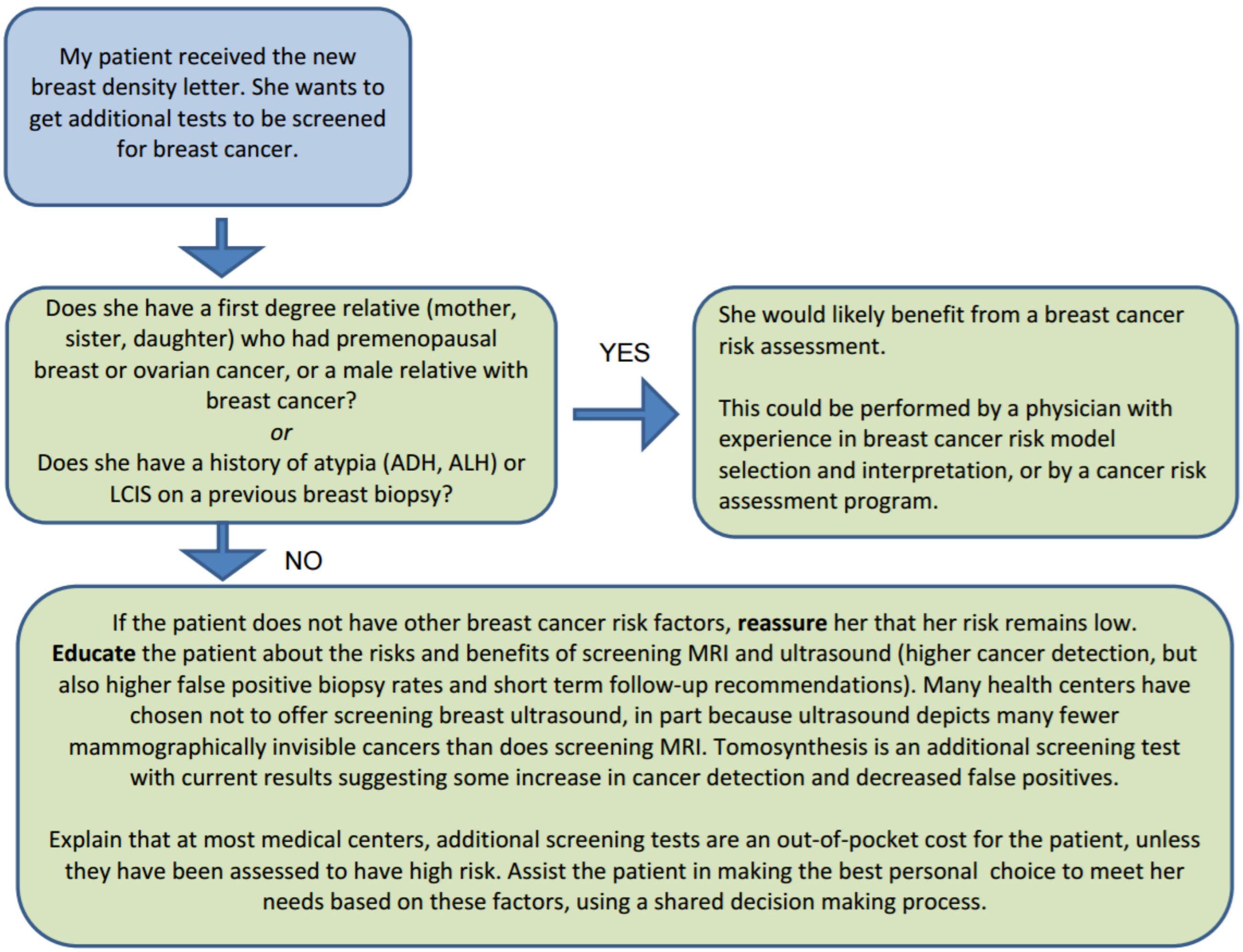
https://www.uvmhealth.org/medcenter/Pages/Conditions-and-Treatments/Breast-Density.aspx.

http://densebreast-info.org/

REFERENCES

1. S.157 (Act 139). Vermont General Assembly. http://legislature.vermont.gov/bill/status/2016/S.157. May 25, 2016. Accessed February 18, 2017.
2. Breast density information for healthcare providers. University of Vermont Medical Center. https://www.uvmhealth.org/medcenter/Pages/Conditions-and-Treatments/Breast-Density.aspx.
3. Michigan breast density notification. Health System University of Michigan. http://www.midensebreasts.org/index.php/information-for-providers/. Published 2015

California Breast Density Information Group



Appendix A. Breast density scenarios for physicians. California Breast Density Information Group. http://www.breastdensity.info/docs/DENSITY-SCENARIOS-FOR-CLINICIANS.pdf. Published March 2013.

DENSE® BREAST-info
DenseBreast-info.org

"…the most up-to-date, comprehensive site for breast density knowledge…"

Get Smart About Being Dense™

TABLE 2. SUMMARY OF CANCER DETECTION AND RECALL RATES FOR COMMONLY AVAILABLE BREAST SCREENING TESTS

If 1,000 Women Are Screened With	Number of Women Found to Have Cancer	Type of Technology	Number of Women Called Back for More Testing
Regular 2D-mammogram alone	**2-7 total**	Ionizing Radiation	100
2D-mammogram plus 3D-mammogram (tomosynthesis)	Mammogram 2-7 + Tomosynthesis 1-2 = **3-9 total**	Ionizing Radiation	70
Regular 2D-mammogram plus ultrasound (US) *	Mammogram 2-7 + Ultrasound 2-4 = **4-11 total**	Sound waves	170-230
Regular 2D-mammogram plus contrast-enhanced MRI	Mammogram 2-7 + MRI 10 or more = **12-17 or more total**	Magnetic field and intravenous contrast	160-220

Courtesy of Dr. Wendie Berg

* One prospective multicenter trial in Italy (ASTOUND) examined ultrasound and 3D mammography after 2D mammography, reporting ultrasound identified 7 more cancers per 1000 women screened compared to 4 more cancers per 1000 women screened with 3D mammography.

Appendix B. Health care providers FAQs. Dense Breast-info. http://densebreast-info.org/faqs-for-health-professionals.aspx. Published April 2014.