

Using education to overcome unequal access to supplemental screening for women with dense breasts

By Dr. A Vourtsis & Dr. W A Berg

Mammography has been proven to reduce deaths due to breast cancer in women aged 40-74; however, there is growing understanding that screening with mammography alone may not be enough in women with higher risk and/or dense breasts. While the European Society of Breast Imaging (EUSOBI) attributes a 40% reduction in breast cancer mortality to population-based screening [1], breast cancer remains the most prevalent cancer among women across Europe with more than 523,000 new cases each year (after excluding non-melanoma skin cancers), and the third most common cause of cancer death in Europe (after lung and colorectal cancers) [2].

Breast density is the most common factor that may prompt women to seek additional screening beyond mammography to increase the likelihood of early cancer detection. Recently published results from a number of large-scale studies have demonstrated improved breast cancer detection and decreased interval (symptomatic) cancer rates associated with supplemental screening of women with dense breasts.

This includes the DENSE trial, recently published in the New England Journal of Medicine [3]. The study, “Supplemental MRI Screening for Women with Extremely Dense Breast Tissue” spanning an eight-year period, is the first randomized controlled study on the clinical utility of breast MRI supplemental screening for women with extremely dense breasts. Results showed that the interval cancer rate was reduced from 4.9/1000, in the control group with mammography alone, to 0.8/1000 among women having supplemental MRI every other

year, with MRI identifying another 16.5 cancers per 1000 women screened after negative mammography.

In our recent article, “Screening Breast Ultrasound Using Handheld or Automatic Technique in Women with Dense Breasts [4], we reviewed outcomes from the literature on more than 400,000 screening ultrasound exams in women with dense breasts. Both handheld and automated techniques consistently reveal an additional 2-3 cancers per 1000 women screened, that are not seen on mammography. Nearly 90% of cancers found on screening ultrasound are invasive and node negative, i.e. those with the most favorable prognosis.

Despite a growing body of evidence that demonstrates the beneficial effect of supplemental screening in dense breasts, the widespread adoption of supplemental screening has been hampered, in large part, by the lack of consistent guidelines. Moving forward, education may be one of the most important tools in advancing the importance of supplemental screening and understanding that mammography does not perform equally well in all women.

ADDRESSING THE NEED FOR MEDICALLY SOURCED DENSITY INFORMATION

Most women in Europe do not have a choice to pursue supplemental screening independent of their healthcare providers or government-sponsored screening.

DenseBreast-info.org (DB-I), and subsequently DB-I/Europe (<https://eu.densebreast-info.org/>), was launched to provide education to healthcare professionals about the screening and risk implications of dense breast tissue and value of supplemental screening. This educational goal is supported by availability of our CME opportunity, *Breast Density: Why it Matters* through the European Accreditation Council for CME. Other educational features on the European website include:

- Dense Breast Primer for health care providers
- An interactive map featuring screening guidelines for each specific country
- A comprehensive list of FAQs with literature citations
- An easy-to-follow screening flowchart
- An illustrated explanation of screening technologies

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Healthcare professionals need to know that having dense breasts is a normal condition that is found in 40% of European women age 40-74 years old. Compared to women with predominantly fatty breasts, women with heterogeneously dense and extremely dense breasts (BI-RADS category C or D respectively) have a 2-fold and 4-fold relative risk of developing invasive breast carcinomas respectively [5]. More importantly, breast density hampers the detectability of breast cancer on mammography due to its “masking effect.” This significantly decreases both the sensitivity and specificity of mammography. Cancers are more likely to present due to symptoms after a normal mammogram in women with dense breasts (“interval cancers”) and may be detected later with worse prognosis. Mammography alone may not be adequate screening in such women. Due to its clinical importance, breast density has been

incorporated into the Tyrer-Cuzick (IBIS v.8) and Breast Cancer Surveillance Consortium risk models that are used to determine which women are at high risk and should have MRI or consider risk-reducing medications, respectively.

UNEQUAL ACCESS TO SUPPLEMENTAL SCREENING

Nearly all European countries offer national breast cancer screening programs to comply with the *European Guidelines for Quality Assurance in Breast Cancer Screening and Diagnosis* [6]. However, there is variation in both the reporting of breast density to medical providers and the implementation of risk-stratified screening. This lack of consistent European-wide guidelines results in unequal access to supplemental screening – with the potential for sub-standard care. Two countries that stratify screening based on

Comparative Analysis Sample - National Breast Screening Guidelines in Europe

Country	Age to Start/ Stop	Recommended Screening Interval	Breast Density in Medical Mammography Reports (BI-RADS categories used)	Screening Guidelines on Dense Breasts
Austria	45 ^a / 69 ^a	Every 2 years	Yes	Screening ultrasound is standard in addition to mammography in women with heterogeneously dense or extremely dense breasts.
Cyprus	50 / 69	Every 2 years	Yes	If breasts are heterogeneously or extremely dense, ultrasound beginning 6 months after the screening mammogram and continuing annually.
France	50 / 74	Every 2 years	Yes	Supplemental ultrasound is recommended in women with heterogeneously and extremely dense breasts.
Germany	50 / 69	Every 2 years	No	No national guidelines.
Greece ^b	40 / 72	Annual	Yes	Opportunistic screening: Most centers offer supplemental ultrasound to women with dense breasts.
United Kingdom	50 / 70 ^c	Every 3 years	No	No national guidelines.

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^a Opt-in possible to begin at age 40; opt-in also possible to continue after age 69

^b No national screening program; opportunistic screening only

^c Women over age 70 may self-refer

For additional information about screening guidelines by country, please visit the European interactive map at [DenseBreast-info.org](https://eu.densebreast-info.org)

Table 1. DB-I/Europe's Screening Guidelines' chart and interactive map (excerpted above) provide information on five key data points: Screening Process, Screening Technologies, Breast Density Notification, Payment/Reimbursement and High-Risk Screening.

<https://eu.densebreast-info.org/>. Table ©2020 DenseBreast-info.org

breast density are France and Austria where women with heterogeneously or extremely dense breasts are routinely offered supplemental physician-performed US screening.

“REQUEST FOR DENSITY” TEMPLATE

However, in the UK, breast density is not part of data collection in the UK national breast screening programme; therefore it is neither recorded, nor reported. Cheryl Cruwys, DB-I’s European Education Coordinator, is English but currently lives in France where breast density composition is included in mammography screening reports. As she was frequently contacted by UK women concerned about their breast health and breast density, Cheryl developed the ‘Request for Density’ template ([clickable here](#)) to provide an educational, communication tool between patients and radiologists to encourage informed conversations. [Figure 1, overleaf]. Following a small trial, feedback was positive; breast radiologists responded, providing womens’ breast density compositions and offering to answer any further questions. Some women who were informed that their breasts were BI-RADS category C/D pursued discussions with their imaging experts to discuss their screening options.

Opportunistic mammography exists in some countries either as the sole screening system or in addition to the national breast screening program. In opportunistic screening, women are advised by their physician or they decide on their own to have a screening mammogram, and programmatic results are not officially monitored. In these countries, access and implementation of breast density reporting and supplemental screening is ad hoc – left to the discretion of individual physicians or imaging practices.

Dr Vourtsis comments: “While there is no national screening program in Greece, I believe it is important for women to have ongoing screening, which is why I have always performed an individualized approach to breast evaluation in my practice. Throughout the years, I have informed my patients about their breast composition and the potential benefits of supplemental screening”.

BEYOND MAMMOGRAPHY: WHERE DO WE GO FROM HERE?

Mammography remains the primary screening method for breast cancer as it is proven to reduce breast cancer mortality. However, we also know that not all women benefit equally and women with high breast density are at high risk for interval cancers due to the reduced sensitivity of screening mammography. As breast imaging professionals, we have a responsibility to investigate any and all methods of improving screening and reducing interval cancers.

Launched in October 2018 in conjunction with publication of the European Radiology article, *Breast Density Implications and Supplemental Screening*, [7] DB-I/Europe (<https://eu.densebreast-info.org>) is the only breast density educational website developed specifically for European medical healthcare professionals. We continue to focus on raising awareness through coalition building and social media support from European Federation of Radiographer’s Societies, Society/College of Radiographers, European Society of Radiology, eCancer and various patient breast-cancer groups.

At the time of launch, 14 Education Ambassadors represented 11 countries, including Austria, Croatia, Cyprus, France, Germany, Greece, Italy, Serbia, Spain, and United Kingdom. We have since expanded to include Iceland, Lithuania, Norway, Portugal, and Turkey. We will continue to add country-specific screening information and advance education to the medical community in order to set a standard of care for screening women with dense breasts.

Working with the European Education Ambassadors and other thought leaders throughout Europe, we are creating a European Coalition for breast density working to establish clear and consistent guidelines that ensure high quality breast cancer screening. Such screening should be consistently and equitably accessible across Europe.

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“... DB-I/Europe (<https://eu.densebreast-info.org>) is the only breast density educational website developed specifically for European medical healthcare professionals...”

Dear Sir/Madam,

I am writing with regards to my mammogram (information below).

It is my understanding that information about the category of my breast density would have been determined by the radiologist who read my mammogram.

I am aware of the two-fold issue of breast density, firstly that mammograms are not as effective for dense breasts as dense tissue can 'mask' cancer and secondly, that the denser the breast, the greater the risk of developing breast cancer.

Name: _____
Date of Birth: _____
NHS number: _____
Location of Screening mammogram: _____
 (hospital/clinic/mobile unit)
Date of Screening mammogram (if known): _____

Therefore, I write to request the category the radiologist assessed my breast density to be.
 (A: Fatty; B: Scattered areas of Density; C: Heterogeneously Dense or D: Extremely Dense).



I would like this information because I believe awareness of my breast density is important information for me to have to participate in my own breast health surveillance.

My information can be sent to me by email or mail (below).

Thank you, in advance, for your assistance.

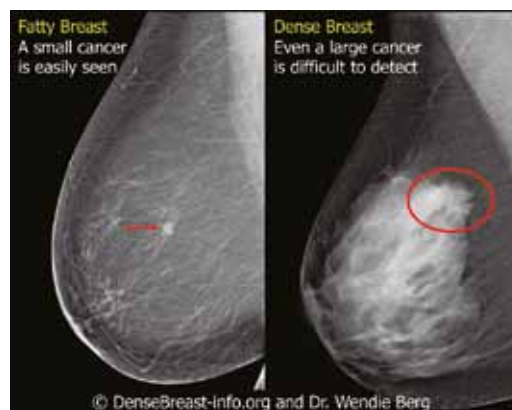
Signature: _____

Name (in capitals): _____

Date: _____

Address: _____

Email: _____



For a comprehensive, medically-sourced resource, visit DenseBreast-info.org

Figure 1. Letter used in UK for patient to request breast density category