

# How to improve breast cancer outcomes for women with dense breast tissue

**Prepared by:**

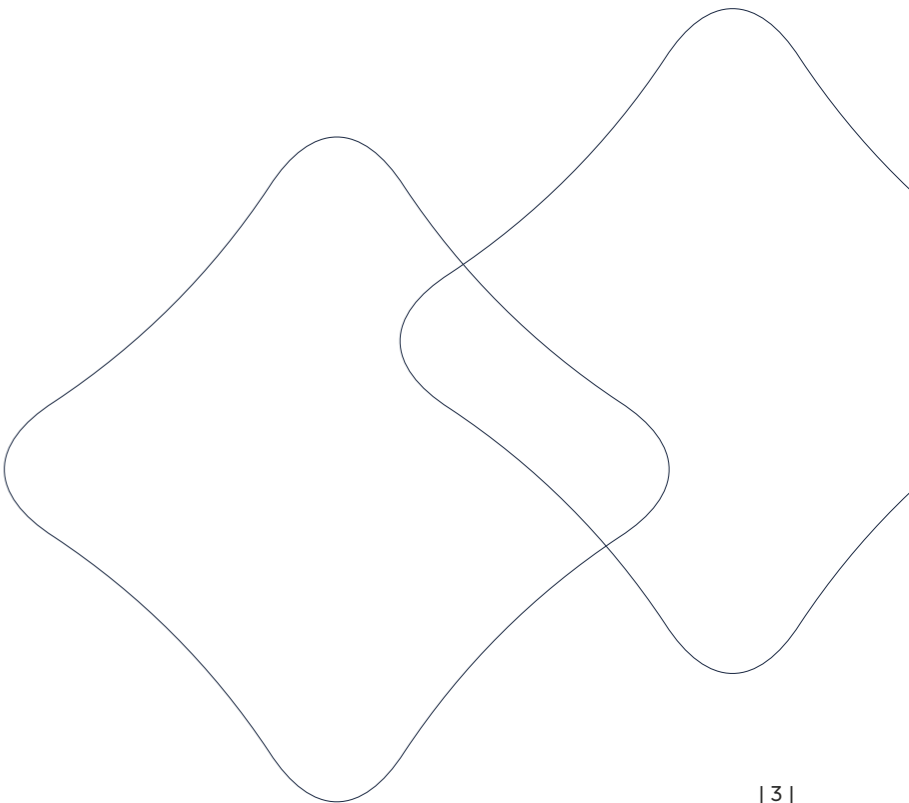
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## Foreword



In today's landscape of rising cancer incidence and chronic conditions in working age individuals, prevention is a higher priority for employers than ever before. For both the employee and the employer, the sooner individuals can access care, the better.

Historically speaking, employers in the UK who adopted health screening as a company benefit tended to reserve this for their executive leadership teams. Post Covid, we have seen that employers feel an increased duty of care to extend screening to their wider workforce to support their employees in managing their own health risks.

Supporting women's health in the workplace has been on many corporate employers' agendas in recent years, and there have been great successes in raising awareness in areas such as menopause. In order to keep women healthy and in the workplace for longer, it's important that comprehensive breast cancer screening is another area of focus within benefits packages.

Breast cancer is increasing in incidence in younger women, and therefore it is important that we continue to evolve our screening programmes to ensure all at-risk women are given the chance to detect cancer at the earliest possible stage. It is crucial, then, that employers look at partners who will give them screening programmes which are modified and evolved to deliver in a continually evolving landscape to offer women the best outcomes.

Ultimately, finding problems sooner and treating them will keep women well and keep them in work,

supporting them to continue in their career and deliver great outcomes. **In 2025, there's no reason why any woman should live with late-stage breast cancer when you can catch it early.**

Arming employers, and their employees, with knowledge is key. We have understood that family history is a risk factor for breast cancer for a number of years. Thanks to research in this area, we now understand that breast density is also a risk factor, so raising awareness of this will be crucial in helping us diagnose these high-risk women earlier. There are two elements of risk in relation to breast density – a higher breast density leads to a greater susceptibility to breast cancer, and it makes breast cancer harder to detect.

The NHS's current breast cancer screening programme is a mammogram every three years for women over the age of 50. This does not take into account the rising levels of breast cancer in younger women. As of 2024, the NHS added a recommendation for high-risk women, such as those with extremely dense breasts, to receive an additional MRI. However, it simply does not have the capacity or current infrastructure to extend this to everyone at the optimum level. This means that many asymptomatic women, and many breast cancers, are falling through the cracks. There is an increasing reliance on employers to bridge this gap.

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At HCA UK, we're committed to supporting employers with this challenge and have conducted an in-depth review of breast screening methods for women with extremely dense breast tissue. This report explores these methods. Our expert clinicians, who specialise in breast cancer screening, have assessed different screening tools and outcomes for women with extremely dense breasts. We're passionate about finding the best possible solution for prevention and it's in our nature to look at what the art of the possible is for those that want or need it. We work tirelessly to continue to evolve, review, test and develop solutions to the health challenges employers face, recognising that there is always a balance in terms of funding.

The current gold standard for breast screening is a mammogram followed by an MRI. However, this is not always appropriate or commercially practicable. In order to grant employers of varying sizes with a choice in between just a mammogram and mammogram combined with MRI, we have reviewed the efficacy of ultrasound. As clinicians, we see it as our responsibility to share knowledge and information with our clients, supporting them to make informed choices that can positively impact the health of their employees.

There is a clear need for a consistent approach as breast density risk is being handled differently by different private healthcare providers, leaving patients in uncertainty. Individuals are more well-informed and up-to-speed with their health and the latest research than ever before, and we all have a duty of care to find the right solution and advocate for patients. Our approach has been carefully considered by our clinicians who serve as the voice of the patient for all corporate decision making.

Currently in the UK, breast density is not discussed with women, and they only receive a result of normal or abnormal after a mammogram. This doesn't provide a full understanding of the implications of dense breast tissue, or how supplementary screening could further reduce their risk.

Empowering women over their own health risks and supporting employers to make a tangible difference in this area is something I am passionate about. At a minimum, we must make women and employers aware that dense breast tissue is a risk factor and give them choices of what they can do.

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Soraya Chamberlain

VP of Corporate Sales, HCA Healthcare UK

## Executive Summary



We know that the earlier a cancer is detected, the better the outcome. Most women (almost 100%) will survive breast cancer for over five years after diagnosis if it's detected in stage 1, compared to circa 25% surviving for over five years if it's detected at stage 4. At stage 4 cancer is not curable, but it can be controlled with treatment. However, this treatment can take a toll on both physical and mental wellbeing.

We have found the UK's breast screening landscape difficult to navigate as there is currently no NHS guidance on supplementary screening for dense breast tissue, a known risk factor for breast cancer. When having these discussions with patients, we often need to refer to the USA's current guidance and practice, which has been adopted by various countries throughout Europe.

We have a global patient population, many of whom are familiar with the need for supplementary screening and expect it as a minimum requirement following previous discussions with their healthcare providers. Another challenge is the funding for supplementary screening. Private medical insurance does not always cover supplementary screening as this is seen as 'asymptomatic screening', which is excluded by a number of insurance providers.

This puts both the doctor and patient in a difficult situation. As doctors, we are telling our patients that dense breast tissue is an independent risk factor for breast cancer and that they would benefit from supplementary screening on an annual basis. Medical insurance, however, may not cover this, and self-pay costs present a barrier for many individuals. This makes for a poor patient experience and can create a degree of concern and worry as to how patients will fund this going forward.

As doctors, we are committed to patient care above all else and have an ethical responsibility to provide our patients the most up to date information available, discuss screening pathways

and how they can be accessed, and offer self-pay options until these pathways become more readily available in the NHS.

### Implications for employers:

At a corporate level, our practice is centred around corporate health and wellness. Our aim is to keep employees healthy and well, allowing them to achieve their full potential, reduce the risk of chronic disease and detect any significant illness at an early stage. This approach ensures easier treatment strategies and the best possible outcomes. We therefore have a responsibility to share this information to allow companies to review their screening programmes and health benefits to best meet their employees' needs.

This white paper outlines how we can improve outcomes for women with dense breast tissue, and its key findings include:

#### 1 Understanding breast density

Breast density has become an emerging area of interest. Breast density is an independent risk factor for breast cancer and 40% or more of women can have dense breast tissue (BI-RADS C and D). It is important that healthcare providers are aware of this and that women are educated to understand their risk.

#### 2 Role of supplementary screening

Standard (2D) mammography is less accurate with dense breast tissue. Dense breast tissue can look

We have also seen that starting screening programmes from 40 years of age and offering them on an annual basis has benefits in detecting more aggressive cancers that can arise over shorter time periods.

white on a mammogram, making it more difficult to detect early cancers. Individuals with dense breast tissue (BI-RADS C and D) would therefore benefit from supplementary screening to improve detection rates and ensure that nothing is missed. There are various modalities used for supplementary screening including MRI breast scans, contrast enhanced mammograms (CEM) or breast ultrasounds.

#### 3 Early diagnosis and reduced morbidity and mortality

The key reason for breast screening is to detect cancer at an early stage when it is most treatable, resulting in the least invasive procedure (lumpectomy versus mastectomy). Early diagnosis also means individuals may not need chemotherapy or radiotherapy and will be able to return to their normal level of functioning much quicker. Survival rates are also higher when cancer is detected at stage 1 as opposed to stage 3 or 4. Offering supplementary screening for individuals with dense breast tissue improves detection rates. We have also seen that starting screening programmes from 40 years of age and offering them on an annual basis has benefits in detecting more aggressive cancers that can arise over shorter time periods.

#### 4 Keeping up to date – changing with the times

It is important that we continue to educate patients about breast density. Although there is

not yet guidance in the UK, we have data coming through from various studies, including the US and Europe, that support the benefit of supplementary screening for women with dense breast tissue. As clinicians, we need to provide all the information to allow our patients to make the best decision possible to improve breast cancer detection. Our global patients are already familiar with these screening practices. Other patients have access to private healthcare and would be happy to consider self-pay options in line with best practice.

#### 5 A balanced approach

When deciding on the best screening programme available, we need to find a balanced approach. The gold standard methods for supplementary screening have been reviewed.

At present, with the information we have available, transitioning from 2D mammography to 3D mammography, with breast ultrasound as supplementary screening, would be the most balanced approach to breast screening.

This is a rapidly evolving area that is slowly gaining momentum in the UK. As clinicians we will be guided by emerging evidence from global published data and as newer technologies become more readily available, we will continually review our approach.

**Dr Jane Benjamin**, MBChB, MD, DOccMed

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# The big picture and the industry-wide problem

## Breast cancer in the UK:

According to the latest research by Cancer Research UK, as of 2025, around 56,000 women and 400 men are diagnosed with breast cancer every year, representing 15% of all cancers in the UK.<sup>1</sup> This means that one in seven women will develop the disease at some point in their lives.<sup>2</sup> This has been impacted by a steady rise in breast cancer incidence, increasing by 24% from 1993 to 2019.<sup>3</sup>

## Breast cancer in young women

As with many cancers, there has been an increase in breast cancer incidence in younger women and as of 2020, 6.2% of all breast cancers in Europe were in women under 40.<sup>4</sup> In a five-year study of breast cancer in young women (BCYW), it was argued that this presents a special challenge due to their premenopausal hormonal status, active workforce integration and more frequent hereditary breast cancer context, raising issues of future cancer risk and impact on family planning.<sup>5</sup> BCYW patients are more likely to have dense breast tissue, be symptomatic at point of diagnosis and present with more aggressive disease.

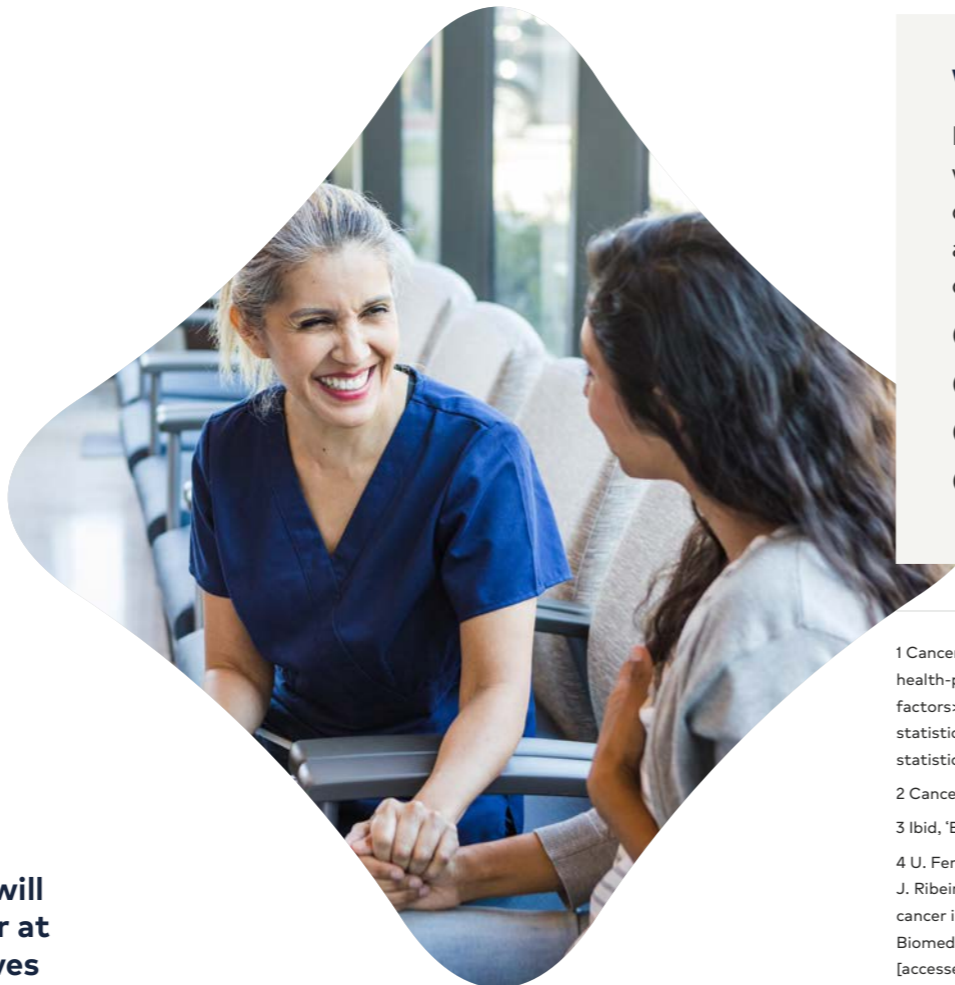
This five-year study found that BCYW rates increased 2% on average per year. One of the key comparisons tracked how women are starting their periods at earlier ages – 80% of BCYW patients (average age 36) were recorded experiencing menarche at age 8-13, compared to 59% of women in the older control group (average age of 62).<sup>6</sup> This is in line with many studies that have tracked early puberty within the millennium cohort (those born 2000-2005) and identified how this leads to an increased risk of mid-life cardiovascular disease and breast cancer.<sup>7</sup> This trend poses a significant implication for employers as this generation are entering the workforce, meaning that more working-age women are at risk of developing breast cancer earlier in their lives than ever before.



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of all cancers in the UK every year are diagnosed as breast cancer



## The importance of breast cancer prevention

Breast Cancer UK's Strategy for 2025-2028 claims that the UK needs a united movement for prevention as, according to Breast Cancer UK, 30% of breast cancer cases are preventable and linked to modifiable risk factors linked with lifestyle.<sup>8</sup>

### These modifiable breast cancer risk factors include:

- Alcohol consumption
- Overweight and obesity
- Rates of physical exercise
- Postmenopausal hormones
- Ionising radiation
- Occupation
- Breastfeeding
- Cigarette smoking
- Diet

## What is breast density?

Breast density is determined through a woman's mammogram and its described as one of four BI-RAD (Breast Imaging-Reporting and Data System) or ACR (American College of Radiology) categories:

- (A) Fatty
- (B) Scattered fibroglandular density
- (C) Heterogeneously dense
- (D) Extremely dense

The importance of diagnosing and treating early from both a human and cost perspective is demonstrated by the below survival rates.

### Survival changes by stage:

- Stage 1** Most women (almost 100%) will survive their cancer for five years or more after diagnosis.
- Stage 2** 90% of women will survive their cancer for five years or more after diagnosis.
- Stage 3** More than 70% of women will survive their cancer for five years or more after diagnosis.
- Stage 4** More than 25% of women will survive their cancer for five years or more after they are diagnosed. The cancer is not curable at this point, but may be controlled with treatment for some years.<sup>9</sup>

Dense tissue is made of glands and fibrous tissue. This blocks X-rays and can show up as white on a mammogram, making it more difficult to detect an early breast cancer as the cancer may be hidden or masked by the dense tissue. As breast density increases, the ability to see cancer on a mammogram reduces. In view of this, individuals with dense breast tissue (BI-RADS C or D on standard 2D mammogram) would benefit from supplementary screening.

1 Cancer Research UK, 'Breast cancer risk factors', <<https://www.cancerresearchuk.org/health-professional/cancer-statistics/statistics-by-cancer-type/breast-cancer/risk-factors>> [accessed August 2025]; Cancer Research UK, 'Breast cancer incidence (invasive) statistics', <<https://www.cancerresearchuk.org/health-professional/cancer-statistics/statistics-by-cancer-type/breast-cancer/incidence-invasive>> [accessed July 2025].

2 Cancer Research UK, 'Breast cancer risk factors'.

3 Ibid, 'Breast cancer incidence (invasive) statistics'.

4 U. Fernandes, G. Guidi, D. Martins, B. Vieira, C. Leal, C. Marques, F. Freitas, M. Dupont, J. Ribeiro, C. Gomes, R. Marques, P. Avelar, A. S. Esteves and J. Pinto-de-Sousa, 'Breast cancer in young women: a rising threat: A 5-year follow-up comparative study', Porto Biomedical Journal, 8.3 (2023), e213 <<https://doi.org/10.1097/j.pbj.0000000000000213>> [accessed September 2025].

5 Ibid.

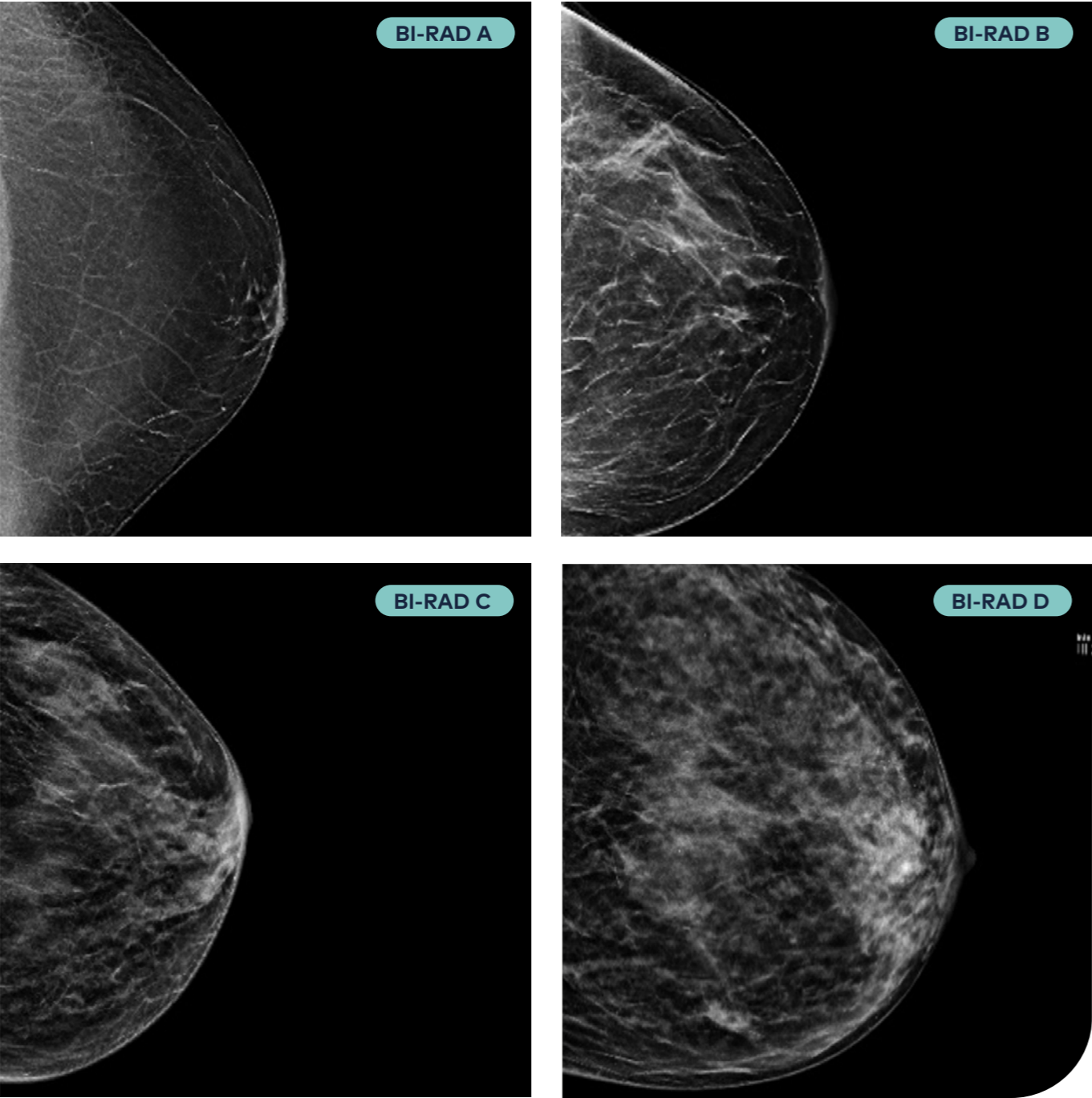
6 Ibid.

7 Kelly Y, Zilanawala A, Sacker A, et al, 'Early puberty in 11-year-old girls: Millennium Cohort Study findings', Archives of Disease in Childhood, 2017 Mar;102(3):232-237. <[doi:10.1136/archdischild-2016-310475](https://doi.org/10.1136/archdischild-2016-310475)> [accessed September 2025].

8 Breast Cancer UK, 'Why do we say at least 30%?', <<https://www.breastcanceruk.org/about-breast-cancer-uk/why-do-we-say-at-least-30/>> [accessed September 2025].

9 Cancer Research UK, Survival for breast cancer, <<https://www.cancerresearchuk.org/about-cancer/breast-cancer/survival>> [accessed September 2025].

Fig.1 Scans of different breast densities by BI-RAD score



Women with extremely dense breast tissue are estimated to be on average 10% of the female population in the UK, and nearly half of all women aged 40 to 74 have dense breast tissue (BI-RAD C and D). Dense breast tissue is not a disease, but a normal finding in over 40% of women. Breast density reduces as you get older – about 50% of women have dense breast tissue in their 40s, compared with 40% of women in their 50s and 25% of women in their 60s.<sup>10</sup>



Breast density is one of the strongest known risk factors for breast cancer and women with extremely dense breasts (BI-RADS score of D) are four to six times more likely to develop breast cancer in their lifetime compared to women with 'fatty' breasts.<sup>12</sup>

As of 10th September 2024 (in line with FDA requirements), breast density has become mandatory reporting on all mammograms conducted in the US. In addition to this, every woman in the US is educated about breast density, increased breast cancer risk and benefits of supplementary screening to increase the detection rate of cancers which may be missed within the dense breast tissue.

Our Breast Board radiologists highlight the importance of annual screening from 40–50 years of age in view of the risk and incidence of aggressive breast cancer in this age group, where early changes can be seen within 12 months. Screening women from 40 years of age means that a larger proportion of the women screened will have dense breast tissue.

Extremely dense breast tissue appears on a standard mammogram as white or opaque, making tumours harder to detect when reviewing the scans. This means that women with extremely dense breasts are more likely to develop an interval cancer in between screening rounds, and the cancer is more likely to be detected at more advanced stages. While denser breast tissue can be more common in younger women, it is also worth mentioning that HRT may also be associated with dense breast tissue.<sup>13</sup>

With this in mind, it is crucial to use emerging medical evidence to help educate patients and employers so that informed decisions can be made in regards to breast screening.

10 Cristina Visintin, 'UK NSC is reviewing the latest evidence for additional screening based on breast density', UK National Screening Committee Blog, 28 May 2025, <https://nationalscreening.blog.gov.uk/2025/05/28/uk-nsc-is-reviewing-the-latest-evidence-for-additional-screening-based-on-breast-density/> [accessed September 2025] ; J. M. Ho, N. Jafferjee, G. M. Covarrubias, M. Ghesani and B. Handler, 'Dense Breasts: A Review of Reporting Legislation and Available Supplemental Screening Options', *AJR. American Journal of Roentgenology*, 203.2 (2014), 449–456<<https://www.ajronline.org/doi/pdf/10.2214/AJR.13.11969>> [accessed 18 September 2025].

12 Health Research Authority, 'BRAID', <https://www.hra.nhs.uk/planning-and-improving-research/application-summaries/research-summaries/braid/> [accessed September 2025].

13 Prevent Breast Cancer, 'Breast Density', <https://preventbreastcancer.org.uk/about-breast-cancer/breast-density/> [accessed September 2025]; S. A. Cohen, 'Hereditary Breast Cancer: Genetic Testing and Risk Assessment', *The Journal of the Nurse Practitioner*, 14.2 (2018), 114–21 <<https://pmc.ncbi.nlm.nih.gov/articles/PMC5938298/>> [accessed September 2025].

# The traditional/current solutions and their drawbacks

Breast cancer screening reduces breast cancer specific mortality by 20%. However, only 53% of the cancers being detected are small.<sup>14</sup>

The NHS breast screening programme started in 1998, with an aim of screening women between 50-70 years of age once every three years. This programme followed the Forrest Report of 1986, which recommended the introduction of breast screening in the UK. The NHS programme now screens 1.3 million women each year, with an uptake of around 75% of those who are invited. The aim of this is to detect cancer at an earlier stage, which reduces mortality and morbidity. The NHS screening programme diagnoses about 10,000 breast cancers annually.<sup>15</sup>

Historically, 2D mammography has always been used for breast screening. However, we now have new and increased access to technology such as 3D mammography, breast ultrasound, breast MRI and the emerging use of CEM. To reflect these advances, it is important to review breast screening programmes to give patients accurate information to allow them to make the best decision about their health.

There have been two major governmental reviews of breast cancer screening in the UK, with both ultimately deciding not to enhance the NHS’s screening programme.

In 2012, the government asked Sir Michael Marmot to chair an independent review of the evidence for breast screening. He found that in the UK, the screening programme prevents around 1,300 deaths from breast cancer each year. But he also found evidence of overdiagnosis and that for every

death prevented by screening, around three women will be treated for a cancer which would not have harmed them. Overall, the review concluded that breast screening has significant benefit and should continue unchanged.<sup>16</sup> While the 2012 Marmot Review rightly acknowledged the life-saving potential of breast screening, it fails to capture the importance of quality survivorship, which includes physical, emotional and social wellbeing post-treatment. The assertion that three women are overtreated for every life saved and the notion of harmless cancers is medically contentious and does not recognise the potential progression risks associated with undiagnosed disease.

More recently, another review was undertaken in 2019, where the UK National Screening Committee looked at the evidence for whether offering extra ultrasound screenings after a standard mammogram test could help women with dense breasts. Like the 2012 review, the findings ultimately opted not to make any changes to the existing breast screening programme and did not recommend extra ultrasound screenings after negative mammograms for women with dense breasts due to there being no standard test for dense breast tissue, and that ultrasound could lead to false positives. This outlines a clear need for some form of standardisation within UK healthcare on offering women with dense breast tissue access to supplementary screening tools, as well as educating women so that they can make informed decisions about their health.

As of 2024, the NHS recommends MRI for the surveillance of women at higher risk of developing breast cancer. A second look ultrasound (SLUS) is mandatory for all women at very high risk, and short-term recall should occur between three to six months, instead of 6-12 months for this high-risk group.

This is a welcome approach and acknowledgement of women at higher risk as MRI screening for women with extremely dense breasts reduces interval cancer rates by over 80% compared to mammography alone.<sup>17</sup>

Although recommending this MRI approach, the NHS does not currently have the infrastructure to successfully roll this out:

- **30%** of the NHS MRI scanners are more than 10 years old, limiting access to required breast imaging.
- The UK has **8.6 MRI units per million people** – the lowest ratio amongst any western country (Germany 30.5 per million, US 38.1 per million).
- Lower MRI availability in the UK has a direct impact on breast cancer mortality rates (specifically for women with dense breast tissue) – this leads to late-stage diagnoses as mammography alone is not sufficient for this patient population.

Research shows that countries with higher MRI availability integrated with breast screening programmes had lower mortality rates and that those with biennial MRI screening for high-risk women saw better early detection rates, reducing late-stage diagnoses.

However, NHS guidelines still maintain mammography for routine breast cancer screening and reserves MRIs only for high-risk individuals.

With the 2012 and 2019 reviews opting for no change, the latest 2024 guidance is encouraging in its recognition of breast density as a risk factor and the need for enhancing the national programme, but their MRI solution will be difficult to implement consistently across the UK and will come at a high cost.

## BRAID trial

May 2025 saw a significant recent development with the publication of the outcomes of Cambridge University Hospitals NHS Foundation Trust and the University of Cambridge’s BRAID trial. The aim was to explore how best to screen women with dense breasts for breast cancer due to mammography’s reduced sensitivity for these high-risk individuals. While the study found that CEM and MRI were the most effective supplementary screening tools, it also found that ultrasound had a role to play. Based on our experience and advice from our Breast Board radiologists, when combined with 3D mammography, ultrasound is more effective than the BRAID trial initially suggests (which used 2D mammography).

## The UK’s Breast Cancer Screening Programme is lagging behind

Both the European Society of Breast Imaging (EUSOBI) and American College of Radiology updated their guidelines to include a risk-stratified approach, offering MRIs to women with extremely dense breasts as part of screening.<sup>18</sup>

The UK’s approach, with its latest 2024 guidelines included, may not be enough, and those with access to private healthcare or who are familiar with breast screening in other countries may expect more. Macmillan’s recent 2024 data shows that the UK is lagging 10 years behind the survival rates of comparable European countries, demonstrated in the data below.

14 Health Research Authority, 'BRAID'.  
15 N. Boyd, J. Martin, M. Yaffe and L. Minkin, 'Mammographic density and breast cancer risk: current understanding and future prospects', Breast Cancer Research, 9,6 (2007), 1–8 <<https://pubmed.ncbi.nlm.nih.gov/16792825/>> [accessed September 2025].  
16 UK National Screening Committee, 'Breast cancer', <<https://view-health-screening-recommendations.service.gov.uk/breast-cancer/>> [accessed September 2025].

17 F. Sardanelli, V. Magni, G. Rossini, F. Kilburn-Toppin, N. A. Healy and F. J. Gilbert, 'The paradox of MRI for breast cancer screening: high-risk and dense breasts—available evidence and current practice', Insights into Imaging, 15 (2024), Article 96 <https://doi.org/10.1186/s13244-024-01653-4> [accessed September 2025].  
18 R. M. Mann, A. Athanasiou, P. A. T. Baltzer, J. Camps-Herrero, P. Clauser, E. M. Fallenberg, G. Forrai, M. H. Fuchsjäger, T. H. Helbich, F. Killburn-Toppin, M. Lesaru, P. Panizza, F. Pediconi, R. M. Pijnappel, K. Pinker, F. Sardanelli, T. Sella, I. Thomassin-Naggara, S. Zackrisson, F. J. Gilbert and C. K. Kuhl, 'Breast cancer screening in women with extremely dense breasts: recommendations of the European Society of Breast Imaging (EUSOBI)', European Radiology, 32 (2022), 4036–4045 <https://doi.org/10.1007/s00330-022-08617-6> [accessed September 2025]; M. Mohnasky, S. Gad, A. Moon, A. S. Barritt, R. A. Charalel, C. Eckblad, A. Caddell, M. Xing and N. Kokabi, 'Hepatocellular Carcinoma Screening: From Current Standard of Care to Future Directions', Journal of the American College of Radiology, 22 (2025), 260–68 [https://www.jacr.org/article/S1546-1440\(23\)00334-4/fulltext](https://www.jacr.org/article/S1546-1440(23)00334-4/fulltext) [accessed September 2025]; U.S. House of Representatives, H.R.3086 – Find It Early Act, 118th Congress (2023–2024), introduced by Rep. Rosa DeLauro, 5 May 2023, <https://www.congress.gov/bill/118th-congress/house-bill/3086/text>, accessed September 2025.

Breast cancer survival rates by country (females):

England, 49,400, 85.9% (five-year), Sweden — 92.5%; Norway — 90.8%; Denmark — 90.3% (all five-year), 2007–2011 (Sweden — 90.1% and Denmark — 87.4%), 10 years behind<sup>19</sup>

This could be reflective of how the NHS’s national screening programme is less frequent and comprehensive than other comparable countries as it covers women over 50 at three-year intervals. Researchers from Prevent Breast Cancer published a research report in 2023 investigating ways to improve the NHS breast screening programme, criticising the ‘one-size-fits-all’ approach regardless of a woman’s level of risk or family history.<sup>20</sup> The NHS has also been affected by a national shortage of radiologists to perform mammograms and ultrasound, and clinical radiologists to interpret MRI results.<sup>21</sup> The gap between growing demand for radiological expertise and the radiology workforce will only widen with the introduction of breast MRIs for high-risk individuals. With this in mind, private healthcare providers can play an important role in providing employer-backed breast screening programmes, helping to decrease the burden on the NHS.

By comparison, France, Germany and Spain’s national screenings, for example, although also starting at age 50, repeat testing every two years. Sweden on the other hand, which has the best survival rates above, screens at age 40 every 18-24 months.<sup>22</sup>

In addition to the above, Austria, the Czech Republic, France, Greece, Spain and Sweden all offer supplementary screening for women with dense breast tissue, with Germany discussing this and offering self-pay options.

**This clearly outlines the need for another solution so that high-risk women are not left behind or struggling to receive a timely MRI with the NHS.** While we appreciate the NHS’s need to balance budgetary constraints with its screening programme, concerns over false positives could be preventing the detection of 3,500 extra cancers per year. Detecting these cancers could potentially save 700 lives.<sup>23</sup>

Mammography remains the most widely used screening tool. However, in line with emerging evidence, women with increased breast density (BI-RAD/ACR C or D), should be educated about their breast density, potentially increased cancer risk and the benefits of supplementary screening in line with individual patient choice and wishes. We have seen this has a high degree of false positives, needing additional investigation.

While more accurate, Contrast Enhanced Mammography (CEM) is a more invasive option for the patient, adds an additional radiation risk, and is also not readily available to screen around 40% or more of all women who undergo 2D mammograms.

Transitioning from 2D to 3D mammogram significantly improves detection rates of abnormalities. Only those with BI-RADS D (9-10%) would require onward referral for supplementary screening, reducing the overall cost of the screening programme and making it easy for patients.

MRI is the most sensitive modality, especially for detecting breast cancer in high-risk populations or women with dense breast tissue. However, its lower specificity can result in more false positives, requiring additional testing.

Currently, breast ultrasound is the most readily available technology for supplementary screening. It is also more cost efficient than MRI or CEM, has no additional radiation risk, is non-invasive and has less risk of false positive results requiring unnecessary investigation. **Ultrasound, therefore, offers a good balance, providing increased detection rates for dense breasts, and can be a useful supplementary tool to mammography.**

Chapter three

A new, improved solution

The current screening tools available within breast cancer screening:

- **2D Mammogram** – remains the primary NHS screening tool, higher missed cancer cases with this modality alone.
- **3D Mammogram (tomosynthesis)** – improves cancer detection rates and reduces call back rates in all groups.
- **Ultrasound** – used as supplementary screening for dense breast tissue, easily available, lower false positive rates than MRI, more cost efficient compared to MRI.
- **MRI** – used as supplementary screening for dense breast tissue, less readily available, higher false positive rates and over investigation. Most expensive modality.
- **Contrast Enhanced Mammogram (CEM)** – newer technology, available in specialist centres, higher radiation risk than mammogram alone. Less readily available.

Providing an MRI for high-risk patients should remain the gold standard. However, lack of capacity and cost implications make this approach unfeasible at scale in the current healthcare landscape in the UK.

Based on our review, when considering corporate health screening, **we believe the optimum route would be a 3D mammogram, with use of ultrasound for supplementary screening where required for the 10% of women with dense breast tissue.**

According to DenseBreast-info.org, ultrasound can detect 33% more breast cancers than 3D mammogram alone and 40% more compared to a 2D mammogram alone.<sup>24</sup> They go on to explain the various screening tools, highlighting how ultrasound is the most widely available additional test used after a mammogram, takes around 15-20 minutes, rarely causes discomfort and can be used when it is not possible to receive an MRI.<sup>25</sup>

The BRAID study generally found that MRI and CEM were the most effective additional screening methods for dense breasts, but did note that automated whole breast ultrasound (ABUS) was also able to detect cancers not seen in mammograms.

**While less effective than CEM and AB-MRI, using ultrasound as an additional screening tool for women with dense breasts is significantly more comfortable for the patient, the most cost-effective, easiest to roll out at scale and leads to much better outcomes than mammography alone.**

Benefits of ultrasound:

- **Cost efficient** – A commercially practicable solution for employers
- **Widely available/capacity at scale** - A timely intervention which can be swiftly mobilised (unlike MRI)
- **Patient experience** - Rarely causes discomfort or side effects (does not involve radiation or an injection)
- **Convenience** - Takes about 15-20 minutes and able to be done the same day as a mammogram

19 Macmillan Cancer Support, 'UK cancer care stuck in the noughties', Medium, 28 August 2023, <https://medium.com/macmillan-press-releases-and-statements/uk-cancer-care-stuck-in-the-noughties-28b069aa6c4c> [accessed September 2025].  
20 Prevent Breast Cancer, 'Improving NHS Breast Screening', < <https://preventbreastcancer.org.uk/improving-nhs-breast-screening/> > [accessed September 2025].  
21 Royal College of Radiologists, 'Clinical Radiology Census Reports', <https://www.rcr.ac.uk/news-policy/policy-reports-initiatives/clinical-radiology-census-reports/> [accessed September 2025].

22 DenseBreast-info, Inc., 'European Screening Guidelines', <<https://densebreast-info.org/europe/european-screening-guidelines/map-screening-guidelines/>> [accessed September 2025].  
23 University of Cambridge, 'Enhanced breast cancer screening in the UK could detect an extra 3,500 cancers per year, trial shows', <<https://www.cam.ac.uk/research/news/enhanced-breast-cancer-screening-in-the-uk-could-detect-an-extra-3500-cancers-per-year-trial-shows>> [accessed September 2025].

24 DenseBreast-info, Inc., 'Screening Tests After a Mammogram', <<https://densebreast-info.org/for-patients/screening-tests-after-a-mammogram/>> [accessed September 2025].  
25 Ibid.

We believe a 3D mammogram accompanied by an ultrasound to be the optimum route to balance both safety and cost. This is based on the following data:

Fig.2 Comparison of breast screening methods

Pathways	Onward referral rate	Pick-up rate per 1000	Number of missed cases per 1000
PATHWAY 1			
2D Mammogram	40-50% BI-RADS C/D	2.3/10000	12.7 missed cases
+ Ultrasound		Additional CDR 3/1000	9.7 missed cases
PATHWAY 2			
3D Mammogram	9% BI-RADS D	8.1/1000	6.9 missed cases (15 Contrast MRI – 8.1 3D Mammogram)
+ Ultrasound BI-RAD C/D		4.5/1000	2.4 missed cases (15 Contrast MRI – 8.1 3D Mammogram)
PATHWAY 3			
3D Mammogram	9% BI-RADS D	8.1/1000	6.9 missed cases (15 Contrast MRI – 8.1 3D Mammogram)
+ Contrast MRI BI-RAD D		12-15/1000 (15)	Using this value as gold standard

\*We built these models based on previous studies together with information from densebreast-info.org and guidance from our radiology colleagues to illustrate the outcomes of various pathways.

Benefits of Pathway 2:

- Reduced need for supplementary screening following mammography
- More likely to detect cancer at an early stage
- Reduced treatment costs as a result of early diagnosis enabling prompt intervention

The importance of a breast examination within health screening

It is also important to note that having access to a doctor-led, asymptomatic health screen via an employer’s health and wellbeing benefits can often be the first line of defence when it comes to detecting breast cancer early. Having a health screen from an experienced GP, rather than a physiologist, means that the patient can receive a physical breast examination during their appointment. Many women are unsure about the correct technique for performing a self-check, and therefore do not feel confident to check themselves often or very thoroughly. This means that women can be reassured they have had a proper breast check and that if there are changes that may go unobserved by the individual, they’ll be found by the clinician.

Chapter four

Patient case study

Beyond the mammogram: How ultrasound revealed early breast cancer in dense breast tissue - Case Study

A 63-year-old female employee of a leading financial services firm was diagnosed with breast cancer at an early stage thanks to her annual health screen.

The employee attended her routine screen in mid-January 2025 which featured age-specific tests, including a breast examination by the GP. It was advised that she attend our One-Stop Breast Clinic at HCA UK’s London Bridge Hospital after a change was noted by the experienced clinician – the individual had not noticed herself during at-home checks. Her mammogram was normal but due to dense breasts, she was sent for an ultrasound which then detected a small cancer.

The cancer was detected early at stage 1, and she accessed her PMI through her work, allowing her to undergo a lumpectomy at London Bridge Hospital in February 2025. During the surgery, it was determined that the cancer had not spread to the lymph nodes, meaning that she did not need to have chemotherapy. After the procedure, her treatment plan included 15 sessions of radiotherapy over four weeks to reduce the risk of cancer recurring in the affected breast.

In April 2025, after completing her radiotherapy, she had a follow-up appointment with the breast oncologist where it was discussed that she would start cancer prevention medication.

The results

Once settled on her medication, the employee returned to work in June 2025 and has resumed her normal routine. Our thorough approach, ensuring she received an ultrasound although she was asymptomatic and had a normal mammography result, meant that her breast cancer was caught at the earliest possible stage, meaning a more complex surgery or mastectomy and chemotherapy was avoided.

This significantly reduced her recovery time and disruption to daily life. While a mastectomy with follow-on treatments of chemotherapy and radiation can take over a year, early detection meant her total time off was just five months from health screening to completing treatment for stage 1 breast cancer.



Patient testimonial

“I felt well in myself when I went for my annual HCA UK health screening where during the breast exam, something didn’t feel quite right. I hadn’t been for a mammogram for a couple of years, so I was referred to the One-Stop Breast Clinic. My mammogram came back normal, but a mass was discovered after the ultrasound. I wasn’t due to have my mammogram for another six months. I was told it was breast cancer and had an MRI the next day. Things moved quickly and I had my lumpectomy and then I was given radiotherapy just to make sure.

“I feel really fortunate that this was caught early and I have recovered well. I was given advice on what to expect after surgery, how to look after

my skin and what to do to recover. When I was originally diagnosed, I was panicking a lot and have worried about it reoccurring since, but the clinicians’ continued reassurance has really helped. I’m now on hormone therapy and returned to work in June and I’m looking forward to going back to normality. I’m doing a phased return to work to get up to normal hours over a six-week period.

“If I hadn’t gone to my health screen and waited for my next mammogram, it would have then been a different story and a much harder treatment path than just a lumpectomy and radiotherapy. The earlier it can be caught the better and it’s important to go to your health screens.”

Unfortunately, not all breast cancers are caught early. Please see below a timeline which compares the patient journeys from the above case study and a second late stage patient we are supporting.

Early-stage diagnosis

63-year old with dense breast tissue and access to employee health screening

- January 2025 – attended a routine health screen where an abnormality was found during breast examination
- January 2025 – attended our One-Stop Breast Clinic for a mammogram, ultrasound and MRI, where a cancer was confirmed
- February 2025 – underwent a lumpectomy surgery and margins were all clear
- March 2025 – underwent four weeks of radiotherapy to reduce the chance of the cancer recurring
- April 2025 – commenced cancer prevention medication
- June 2025 – returned to work and normal activities after settling on medication

The comparison of these case studies paints a stark contrast between breast cancer detection through screening in 2017 vs 2025. Widening access, advances in screening technology and genetic testing, and awareness of dense breast tissue have improved our ability to diagnose breast cancer at earlier stages for these high-risk women. This further underscores the need to raise awareness and provide access to supplementary tools like ultrasound, to offer women a better chance of catching breast cancer early.

Late-stage diagnosis

48-year old with dense breast tissue and access to employee health screening

- April 2017 – attended screening mammogram which showed dense breast tissue and abnormalities in the right breast
- April 2017 – a grade 3, two-centimetre, aggressive breast cancer was confirmed and had spread to nearby breast tissue and lymph channels
- April 2017 – the patient had a breast lump removed along with lymph nodes from the armpit area, and one out of twelve lymph nodes tested showed signs of cancer
- May 2017 – commenced chemotherapy
- November 2017 – completed chemotherapy and CT scan showed no residual disease
- November 2017 – commenced cancer prevention medication and radiotherapy to lower the risk of the cancer returning
- April 2019 – stopped cancer prevention medication due to cognitive difficulties/side effects and began two different medications
- September 2021 – stopped both medications due to cognitive side effects
- November 2021 – commenced one medication
- December 2021 – switched over to a different medication due to mild side effects
- September 2023 – continuing medication
- March 2024 – completed adjuvant endocrine therapy (oestrogen blocking medication)
- November 2024 – cancer has progressed in the bone
- November 2024 – commenced three medications
- November 2024 – undergone genetic testing to further guide treatment

Chapter five

The benefit of catching it early for employers

In terms of cost analysis for an employer’s PMI claims, catching and treating a stage 1 breast cancer via a health screen and lumpectomy generates less than half the overall cost and has a faster return to work compared to catching a late-stage cancer which involves a mastectomy, hospital stay and longer recovery. This is, of course, a wider cost implication for employers when cancers are detected at a later stage, causing more time away for treatment, lengthier returns to work and, in some cases, leaving the workforce entirely, thereby losing valuable skills.

Using the example of a senior leader, the difference in recovery time between early and late-stage breast cancer is not only a matter of patient experience and quality survivorship, but a financial one for the individual and their employer. If caught early (assuming no need for radiotherapy or chemotherapy), recovery may take around four to six weeks. In contrast, a late-stage diagnosis often requires more invasive treatment and a longer recovery period, conservatively estimated at twelve weeks. **Treating a cancer at a later stage results in at least tripled costs to the employer** in relation to the employee’s time away from work.<sup>26</sup>



26 These cost comparisons that have been calculated have excluded any oncology impact such as radiotherapy, chemotherapy or newer targeted treatments in line with genomics.

### Key actions for employers

As this report highlights, early detection of breast cancer not only improves clinical outcomes, but also supports faster recovery, better quality of life and more sustainable workforce planning. Employers have a unique opportunity to play a proactive role in supporting high-risk employees when it comes to breast cancer screening.

#### Employers can take two key steps:

If you are an employer who would like to explore how to enhance your corporate breast screening programme in light of these findings, please speak to your Health Screening Provider or Intermediary to begin a conversation.



Conduct a review of how their current screening programmes address the needs of employees with dense breast tissue. Our clinical teams can provide guidance on why ultrasound may be recommended in certain cases and how to ensure employees receive appropriate follow-up care.



Launch education campaigns to raise awareness over what dense breast tissue is, what it means for their health, and how it affects screening outcomes. Knowledge over this risk factor will allow individuals to make informed decisions about their health.

If you are an employer who would like to explore how to enhance your corporate breast screening programme in light of these findings, please speak to your Health Screening Provider or Intermediary to begin a conversation.



### Conclusion

- 1 The ideal screening pathway needs to balance cost effectiveness with maximising cancer detection and preventing unnecessary overdiagnosis and potential harm.
- 2 It is important to prioritise early breast cancer detection to improve patient outcomes, reduce treatment costs and the cost of time away from work.
- 3 This can be achieved through targeted risk stratification, optimising screening intervals and utilising advanced screening techniques where appropriate.
- 4 Increased breast cancer risk due to dense breast tissue and emerging evidence of the benefit of supplementary screening for dense breast tissue has been presented.
- 5 Employers are encouraged to review their breast screening approach and provide targeted education to ensure high-risk employees with dense breast tissue are supported.



## About us

HCA Healthcare has been providing healthcare for more than 50 years. It began with a small hospital, Park View Hospital, founded by doctors in Nashville, USA. In 1995, HCA entered the UK healthcare market, and has since built a leading network of 67 locations, with hospitals in London, Manchester and Birmingham.

Today HCA is the largest private healthcare provider in the world, and one of the leading private healthcare providers in the UK. Its founding philosophy of putting patients first has guided it every day since 1968. It provides compassionate care to patients no matter what they need – from clinical research, primary care (including a private GP service), outpatient and day-case treatment, through to complex and urgent care.

In the UK, HCA Healthcare UK is the only private hospital group to have the highest level of critical care bed across all its facilities. We are committed to continuous innovation and advancing clinical care. Importantly, HCA's scale enables it to invest in networks of facilities with a specialist focus. Both here in the UK and in the US, networks staffed by experts in their fields deliver high quality care for patients.

### Our corporate healthcare:

We have been a leading provider of corporate healthcare for over 30 years. HCA UK constitutes the UK arm of HCA Healthcare, a US publicly traded organisation. This longstanding presence in the market under consistent leadership makes us uniquely placed to offer reliable services to our clients.

Many things set HCA UK apart from other healthcare organisations; however, at our core, our greatest strength is our people. We have over 9,000 employees in the UK including over 3,500 doctors and consultants and over 3,000 nurses, allied health professionals, laboratory employees and clinical support roles. Our teams provide exceptional care and treat everyone with dignity, respect, and fairness.

### HCA UK - a trusted partner

- **Clinical leaders** bringing new innovations to market
- **Clinical quality** as recognised by HCA UK's regulators
- **Best clinical minds** backed by the best health tech to drive meaningful outcomes
- **Customer service:** Seamless integration bringing speed and ease when booking appointments
- HCA UK employ the **largest cohort of private GPs** in the UK and are on track to double the size in the next five years

### Our mission:

We are committed to the care and improvement of human life. To achieve this, we live by four core values:

- **Unique and Individual:** We recognise and value everyone as unique and individual.
- **Kindness and Compassion:** We treat people with kindness and compassion.
- **Honesty, Integrity, and Fairness:** We act with absolute honesty, integrity, and fairness.
- **Loyalty, Respect, and Dignity:** We trust and treat one another as valued members of the HCA UK family with loyalty, respect, and dignity.

## References

Boyd, N., J. Martin, M. Yaffe and L. Minkin, 'Mammographic density and breast cancer risk: current understanding and future prospects', *Breast Cancer Research*, 9.6 (2007), 1–8 <<https://pubmed.ncbi.nlm.nih.gov/16792825/>> [accessed September 2025].

Breast Cancer UK, 'Why do we say at least 30%?' <<https://www.breastcanceruk.org.uk/about-breast-cancer-uk/why-do-we-say-at-least-30/>> [accessed September 2025].

Cancer Research UK, 'Breast cancer incidence (invasive) statistics' <<https://www.cancerresearchuk.org/health-professional/cancer-statistics/statistics-by-cancer-type/breast-cancer/incidence-invasive>> [accessed July 2025].

Cancer Research UK, 'Breast cancer risk factors' <<https://www.cancerresearchuk.org/health-professional/cancer-statistics/statistics-by-cancer-type/breast-cancer/risk-factors>> [accessed August 2025].

Cancer Research UK, Survival for breast cancer <<https://www.cancerresearchuk.org/about-cancer/breast-cancer/survival>> [accessed September 2025].

Cohen, S. A., 'Hereditary Breast Cancer: Genetic Testing and Risk Assessment', *The Journal of the Nurse Practitioner*, 14.2 (2018), 114–21 <<https://pmc.ncbi.nlm.nih.gov/articles/PMC5938298/>> [accessed September 2025].

DenseBreast-info, Inc., 'European Screening Guidelines' <<https://densebreast-info.org/europe/european-screening-guidelines/map-screening-guidelines/>> [accessed September 2025].

DenseBreast-info, Inc., 'Screening Tests After a Mammogram' <<https://densebreast-info.org/for-patients/screening-tests-after-a-mammogram/>> [accessed September 2025].

Fernandes, U., G. Guidi, D. Martins, B. Vieira, C. Leal, C. Marques, F. Freitas, M. Dupont, J. Ribeiro, C. Gomes, R. Marques, P. Avelar, A. S. Esteves and J. Pinto-de-Sousa, 'Breast cancer in young women: a rising threat: A 5-year follow-up comparative study', *Porto Biomedical Journal*, 8.3 (2023), e213 <<https://doi.org/10.1097/j.pbj.0000000000000213>> [accessed September 2025].

Health Research Authority, 'BRAID' <<https://www.hra.nhs.uk/planning-and-improving-research/application-summaries/research-summaries/braid/>> [accessed September 2025].

Ho, J. M., N. Jafferjee, G. M. Covarrubias, M. Ghesani and B. Handler, 'Dense Breasts: A Review of Reporting Legislation and Available Supplemental Screening Options', *AJR. American Journal of Roentgenology*, 203.2 (2014), 449–456 <<https://www.ajronline.org/doi/pdf/10.2214/AJR.13.11969>> [accessed 18 September 2025].

Kelly, Y., A. Zilanawala, A. Sacker, et al., 'Early puberty in 11-year-old girls: Millennium Cohort Study findings', *Archives of Disease in Childhood*, 102.3 (2017), 232–237 <<https://doi.org/10.1136/archdischild-2016-310475>> [accessed September 2025].

Macmillan Cancer Support, 'UK cancer care stuck in the noughties', *Medium*, 28 August 2023 <<https://medium.com/macmillan-press-releases-and-statements/uk-cancer-care-stuck-in-the-noughties-28b069aa6c4c>> [accessed September 2025].

Mann, R. M., A. Athanasiou, P. A. T. Baltzer, J. Camps-Herrero, P. Clauser, E. M. Fallenberg, G. Forrai, M. H. Fuchsjäger, T. H. Helbich, F. Killburn-Toppin, M. Lesaru, P. Panizza, F. Pediconi, R. M. Pijnappel, K. Pinker, F. Sardanelli, T. Sella, I. Thomassin-Naggara, S. Zackrisson, F. J. Gilbert and C. K. Kuhl, 'Breast cancer screening in women with extremely dense breasts: recommendations of the European Society of Breast Imaging (EUSOBI)', *European Radiology*, 32 (2022), 4036–4045 <<https://doi.org/10.1007/s00330-022-08617-6>> [accessed September 2025].

Mohnasky, M., S. Gad, A. Moon, A. S. Barritt, R. A. Charalel, C. Eckblad, A. Caddell, M. Xing and N. Kokabi, 'Hepatocellular Carcinoma Screening: From Current Standard of Care to Future Directions', *Journal of the American College of Radiology*, 22 (2025), 260–68 <[https://www.jacr.org/article/S1546-1440\(23\)00334-4/fulltext](https://www.jacr.org/article/S1546-1440(23)00334-4/fulltext)> [accessed September 2025].

Prevent Breast Cancer, 'Breast Density' <<https://preventbreastcancer.org.uk/about-breast-cancer/breast-density/>> [accessed September 2025].

Prevent Breast Cancer, 'Improving NHS Breast Screening' <<https://preventbreastcancer.org.uk/improving-nhs-breast-screening/>> [accessed September 2025].

Royal College of Radiologists, 'Clinical Radiology Census Reports', <<https://www.rcr.ac.uk/news-policy/policy-reports-initiatives/clinical-radiology-census-reports/>> [accessed September 2025].

Sardanelli, F., V. Magni, G. Rossini, F. Kilburn-Toppin, N. A. Healy and F. J. Gilbert, 'The paradox of MRI for breast cancer screening: high-risk and dense breasts—available evidence and current practice', *Insights into Imaging*, 15 (2024), Article 96 <<https://doi.org/10.1186/s13244-024-01653-4>> [accessed September 2025].

UK National Screening Committee, 'Breast cancer' <<https://view-health-screening-recommendations.service.gov.uk/breast-cancer/>> [accessed September 2025].

University of Cambridge, 'Enhanced breast cancer screening in the UK could detect an extra 3,500 cancers per year, trial shows' <<https://www.cam.ac.uk/research/news/enhanced-breast-cancer-screening-in-the-uk-could-detect-an-extra-3500-cancers-per-year-trial-shows>> [accessed September 2025].

U.S. House of Representatives, H.R.3086 – Find It Early Act, 118th Congress (2023–2024), introduced by Rep. Rosa DeLauro, 5 May 2023 <<https://www.congress.gov/bill/118th-congress/house-bill/3086/text>> [accessed September 2025].

Visintin, Cristina, 'UK NSC is reviewing the latest evidence for additional screening based on breast density', *UK National Screening Committee Blog*, 28 May 2025 <<https://nationalscreening.blog.gov.uk/2025/05/28/uk-nsc-is-reviewing-the-latest-evidence-for-additional-screening-based-on-breast-density/>> [accessed September 2025].

# Glossary

**AB-MRI** – Abbreviated Breast Magnetic Resonance Imaging: A shortened MRI protocol used for breast cancer screening, especially in women with dense breast tissue.

**ACR** - American College of Radiology

**Biopsy** – A medical procedure that involves taking a small sample of tissue for examination under a microscope to diagnose disease.

**BI-RADS** – Breast Imaging Reporting and Data System: A standardised system developed by the American College of Radiology (ACR) to categorise breast imaging findings.

**BI-RADS Categories** –

- **Fatty (A):** Mostly fatty tissue, easier to detect abnormalities.
- **Scattered fibroglandular density (B):** Some dense tissue scattered throughout.
- **Heterogeneously dense (C):** More areas of dense tissue, may obscure small masses.
- **Extremely dense (D):** Very dense tissue, significantly reduces mammogram sensitivity.

**BRAID trial** – Breast screening Risk Adaptive Imaging for Density trial: A UK-based research study evaluating enhanced screening methods for women with dense breasts.

**BCYW** – Breast Cancer in Young Women: Refers to cases of breast cancer diagnosed in women typically under the age of 40.

**CEM** – Contrast-Enhanced Mammography: A type of mammogram that uses contrast agents to improve visibility of abnormalities.

**Dense breast tissue** – Breast tissue that has more fibroglandular than fatty tissue, making it harder to detect cancer on mammograms.

**EUSOBI** – European Society of Breast Imaging: A professional organisation that provides guidelines and recommendations for breast imaging practices in Europe.

**FDA** – US Food and Drug Administration: The regulatory body responsible for approving medical devices and treatments in the United States.

**HRT** – Hormone Replacement Therapy: A treatment used to relieve symptoms of menopause, which may influence breast cancer risk.

**Ionising radiation** – High-energy radiation that can remove tightly bound electrons from atoms, used in imaging but also associated with cancer risk.

**Lumpectomy** – A surgical procedure to remove a breast tumour and a small margin of surrounding tissue, preserving most of the breast.

**Mammogram** – A breast imaging technique using low-dose X-rays to detect abnormalities such as tumours.

**2D Mammogram** – Traditional mammography that produces flat images of the breast.

**3D Mammogram** – Also known as 3D mammography, an advanced form of mammography that creates a three-dimensional image of the breast.

**Mammography** – See Mammogram.

**Mastectomy** – Surgical removal of one or both breasts, typically to treat or prevent breast cancer.

**MRI** – Magnetic Resonance Imaging: A non-invasive imaging technique using magnetic fields and radio waves to produce detailed images of soft tissues.

**Mortality vs Morbidity** –

**Mortality:** The rate of death in a population.

**Morbidity:** The rate of disease or medical conditions in a population.

**PMI** – Private Medical Insurance: Insurance designed to cover the costs of private medical treatment.

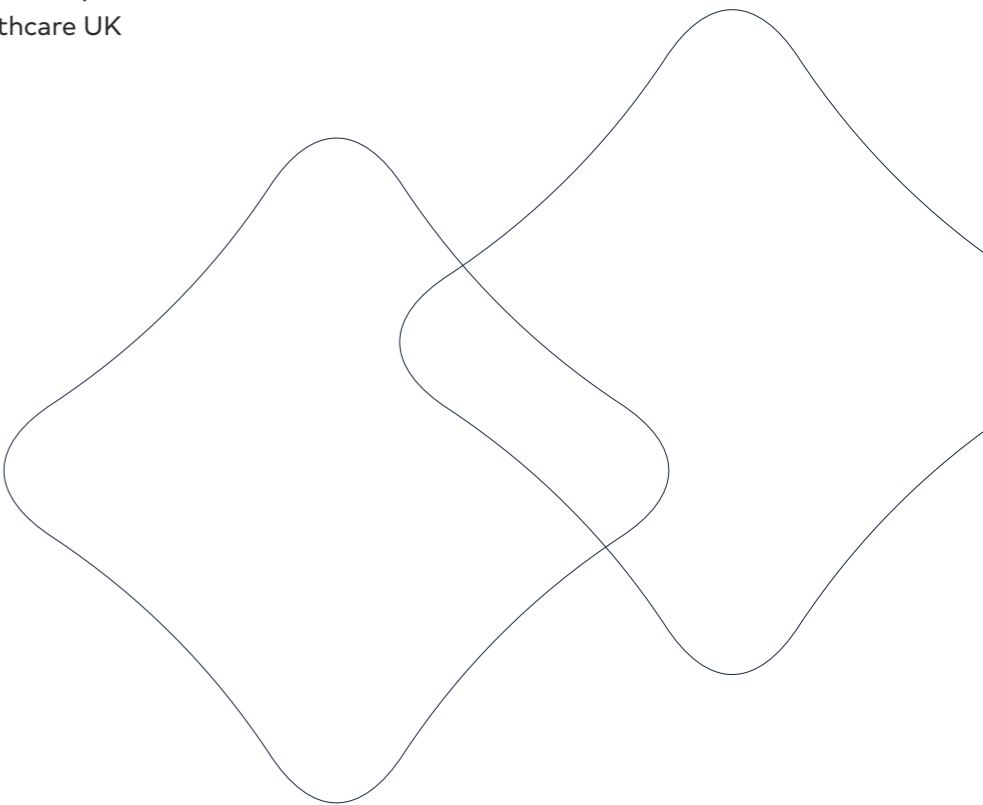
**SLUS** – Second Look Ultrasound: An additional imaging method used alongside mammography, especially for women with dense breasts.

**Tomosynthesis** – See 3D Mammogram.

**Ultrasound** – An imaging technique using high-frequency sound waves to visualise internal organs and tissues, often used in breast cancer diagnostics.

# Acknowledgements

- Dr Orlanda Allen, MBChB MRCEM FRCA MSc, MBA, Head of Women’s Services and Urology Service Line at HCA Healthcare UK
- Mr Tejwant Bangay, Head of Imaging at HCA Healthcare UK
- Dr Robyn Cohen, MBChB, DRCOG, DOccMed, GP at HCA Healthcare UK
- Miss Joanna Franks, Consultant Breast Surgeon and Chair of HCA UK’s Breast Board
- Mr Nick Jeal, AVP Corporate Sales at HCA Healthcare UK
- Dr Niaz Khan, MBBS MBA (Exec) FRCGP PGDipClinDerm DRCOG DFSRH DOccMed, Chief Clinical Officer at HCA Healthcare UK
- Dr Gillian MacLeod, Senior Executive OHP, MBChB MRCP ADOM at HCA Healthcare UK
- Dr William Teh, Consultant Radiologist at HCA Healthcare UK
- Densebreast-info.org
- Breast Cancer UK
- Cancer Research UK
- MacMillan Cancer Support
- Prevent Breast Cancer UK
- One Cancer Voice
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