



NATIONAL
**BREAST
IMAGING**
ACADEMY

The National Breast Imaging Academy Programme: 2018-2022



**An innovative approach to tackling workforce
shortages across breast imaging**

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About the NBIA

The National Breast Imaging Academy (NBIA) programme is a collaborative, multidisciplinary initiative which aims to address the significant workforce issues facing breast imaging services across England. The NBIA approach includes establishing a national centre of excellence for training, developing high-quality training programmes for all staff and an innovative, online learning hub.

The programme is funded by Health Education England, hosted by Manchester University NHS Foundation Trust and works in collaboration with NHS England & Improvement, the Royal College of Radiologists, the Society and College of Radiographers, the Association of Breast Clinicians, the British Society of Breast Radiology, Breast Cancer Now, and Prevent Breast Cancer.



Introduction



Dr Mary Wilson
Consultant Radiologist and NBIA
Programme Lead

Welcome to this programme report, in which we are very proud to share the achievements of the NBIA since it was established in 2018.

Thanks to the outstanding commitment and hard work of all our partners, the NBIA has made significant progress in addressing the major workforce shortages across breast imaging. We started with a very clear and focused strategy:

- introduce a national breast radiology fellowship programme
- develop and pilot a credential programme for breast clinicians
- establish an apprenticeship programme for mammography staff
- develop a suite of online resources to support breast imaging trainees and professionals.

This would be a substantial programme to undertake at any time, but the COVID-19 pandemic brought further huge challenges. It drastically altered breast cancer services and virtually eradicated training opportunities within breast imaging. The suspension of the National Breast Screening Programme which diagnoses over 18,000 breast cancers each year, and a reduction of up to 70% in referrals by GPs has led to delayed breast cancer diagnosis and a huge backlog of cases needing imaging.

Now more than ever, we need to support the breast imaging workforce at every level with access to training and professional development. That is why the NBIA is also aiming to secure funding for a purpose-built training centre to deliver world-class, hands-on clinical training to the next generation of breast imagers. This Manchester-based facility will support and enhance all NBIA trainees nationally and enable training delivery on a large scale.

We are immensely grateful to Health Education England (HEE), our host organisation Manchester University NHS Foundation Trust and to all the colleagues who have contributed to NBIA's success. The investment from HEE is already producing a significant increase within the breast imaging workforce, but to ensure our breast services are safeguarded for the future and to further reduce breast cancer mortality, we need ongoing planned investment in trainers, trainees and training facilities across the country.



Kerry Mills
National Programme Lead –
Cancer and Imaging
Health Education England

The breast imaging workforce, and the services that it delivers, has been significantly affected by the pandemic that we have all faced over recent years. The challenges have been immense, and its legacy still leaves a mark that those of us working in healthcare are all still trying to address. Sir Mike Richard's Independent Review of Adult Screening Programmes in England highlighted that 'considerable proportions of the radiographer workforce have retired or are approaching retirement'. Therefore there has been a focus on needing to attract, train and retain the right mix of professions and skills which has been integral to the work and achievements highlighted within this report. The light in these dark times has been held firmly by the NBIA and their associated partners, who have relentlessly sought to improve and increase high quality education and training provision for the entire workforce involved in breast imaging.

This report signifies a collaborative effort that must not be underestimated and clearly demonstrates how a shared vision and collective intentions can help shape the future of how and who is best placed to deliver our services. Health Education England is extremely pleased to see the work of the NBIA outlined in this report and very proud to have been able to support the development of the breast workforce through their various initiatives and education programmes. Our thanks go to all involved, from the learners themselves to the trainers who supported them and to the leaders who had the courage and insight to push forward with their intentions, despite the many challenges and barriers faced since 2018.

Developing the breast imaging workforce

Breast cancer is the most common cancer in Britain and a leading cause of death in women. Around 55,000 women are diagnosed with breast cancer in the UK each year. The NHS England National Cancer Strategy (Achieving World-Class Cancer Outcomes) had as part of its key objectives early diagnosis, investment in a modern high quality service and support for cancer research. In order to achieve these objectives it is essential to have a robust and sustainable breast imaging workforce.

Breast imaging services face significant challenges in delivery and sustainability. This is the result of the combination of increasing demand for breast imaging, and severe and worsening shortages across all aspects of the workforce.

The number of trained staff entering the workforce has not kept up with the increasing clinical demands. This has been further exacerbated by an increased retirement rate amongst senior breast radiologists and radiographers. The shortage of staff has led to several breast units closing, which directly impacts on patients by causing delays in diagnosis and treatment.

Working with partner organisations and with an initial £4.6m of funding from Health Education England, the NBIA began work in 2018 to tackle these issues on a national basis. By providing and developing new courses to attract a more diverse workforce into breast imaging, we aim to improve sustainability of breast services.

In 2020, the impact of the pandemic on the National Breast Screening Programme and the subsequent need to tackle a screening backlog brought further challenges. But even before the pandemic, breast screening waiting times had continued to grow due to severe workforce shortages.

Almost 15% of breast radiologist and radiographic posts are vacant nationally, and by 2025 around 40% of the senior doctors are expected to retire*. Research has also shown** that 1.5 million fewer breast screening appointments have been carried out since March 2020, with an estimated 12,000 people that could be living with undiagnosed breast cancer.



*https://www.rcr.ac.uk/system/files/publication/field_publication_files/bfcr162_bsbr_survey.pdf

**<https://www.itv.com/news/2021-10-05/thousands-could-be-living-with-undiagnosed-breast-cancer>

Our approach

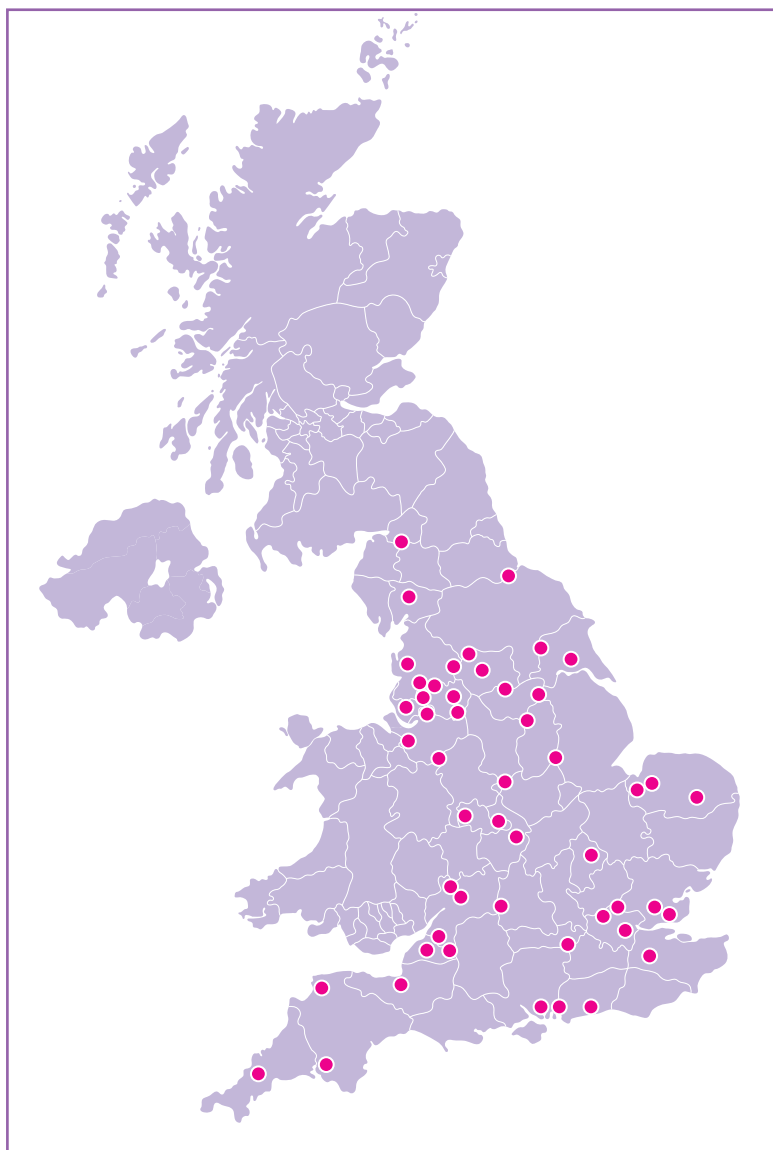
The approach adopted by the NBIA was to consider every individual role providing breast imaging services and establish for each profession how we could augment the number of trainees, support those already in post, or develop completely new training pathways. In tandem with this was the development of a huge e-learning resource and an attempt to raise the profile of breast imaging as a desirable career. In order to achieve these goals we involved as many colleagues as possible from across the country.

An overarching steering group was established together with a working group for each academy work-stream.

The NBIA Radiology Group was tasked with improving recruitment and training for radiologists delivering breast imaging. The one-year **Radiology Fellowship** scheme they developed has been very successful in attracting high calibre post-CCT candidates, who undergo practical training in breast units supplemented by bespoke study blocks and training courses.

A radiography working group was established and they helped develop a collaborative national Trailblazer Group which created the **Mammography Associate Level 4 apprenticeship programme standard**. This apprenticeship programme is now delivered by three training sites across England.

Map showing 51 breast units where trainees are hosted



The NBIA also joined the Association of Breast Clinicians, the Royal College of Radiologists and Health Education England to develop a **new credential in breast disease management**.

Launched in 2019, the three-year programme aims to standardise and recognise the training for breast clinicians, and increase the breast clinician workforce to support breast screening and symptomatic services.

Recognising the need for new virtual training resources the Academy online working group set out to develop **new e-learning programmes** for the whole breast multidisciplinary team, a resource that became increasingly valuable as the pandemic developed.

Since introducing these programmes, the NBIA has placed trainees in 51 breast units across England, including nearly 60% of the breast screening centres.

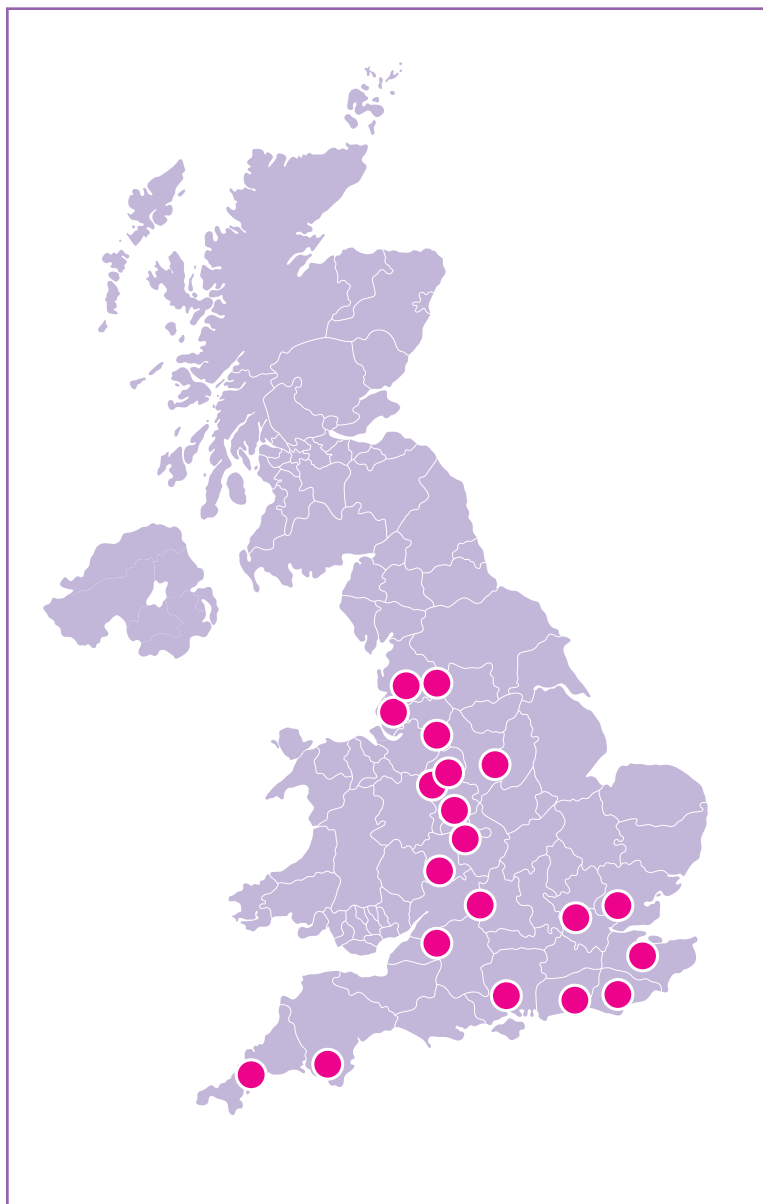
NBIA Radiology Fellowship

This innovative fellowship provides a comprehensive training pathway which complements the existing workforce and helps to future-proof staffing.

Established in 2019 and part-funded by Health Education England, the one-year programme allows fellows to enhance their skills in all aspects of breast imaging while they support radiology service delivery. Fellows gain their clinical experience at the host Trust which is supplemented by NBIA online resources. The NBIA undertakes the international advertisement, short listing and recruitment for these posts, and supports host sites with template business cases and job descriptions. The NBIA also provides fully funded specialist study blocks, a dedicated study leave budget per trainee and networking opportunities with breast imagers across England.

The scheme has already appointed 31 fellows from around the world to various breast units across England. Of the 15 who have completed the programme, 13 have taken up posts at their training hospital or in other breast units in England.

Map of all NBIA fellowship host sites



Participant feedback

"I've been involved with developing the fellowship programme from the very beginning - and experienced the benefits it offers in my own breast unit. Alongside being a very valuable clinical resource, fellows bring insight, new ideas and cultural diversity to the team.

"The NBIA fellowship has global reach and the majority of applicants are highly-motivated, ambitious young international doctors, already at UK consultant equivalent level. The programme is an exciting opportunity for host Trusts to access this talent, developing the breast radiologists needed locally and more widely across the NHS workforce.

"The recruitment process is totally seamless. Everything from initial interviews and visa applications to NHS inductions and ongoing training is managed by the NBIA team. I'd urge all breast units to make the most of the funding and support available through the programme. It's a highly successful way to address immediate workforce needs and develop the breast radiologists of the future."

Dr Lisa Hamilton

Consultant Breast Radiologist, Nottingham University Hospitals NHS Trust

"The benefits of this fellowship programme are numerous. The protected clinical sessions give you hands-on clinical experience so that you can ease your way into the NHS, which is priceless for me as an international fellow. And the e-learning modules provide quality standardised teaching in one place.

"I love the interaction with the patients and feeling more involved in their care. As a breast radiologist, detecting small cancers at a very early stage and then discussing them in the MDT meetings gives you a sense of achievement and satisfaction. The fellowship provides all the necessary clinical skills and academic knowledge you need to work as a consultant in the future, anywhere in the world."

Dr Saad Khalil Chaudhry

Fellow 2021/22, University Hospitals Sussex NHS Foundation Trust

Overview: Dr Soujanya Gadde, Radiology Fellowship Lead

"After only four years since its commencement, this fellowship programme is already well established and is highly regarded at a national and international level. A high application rate to these prestigious posts, an increasing number of host sites at every recruitment round and the keenness to subsequently recruit these NBIA fellows into the host site consultant pool are a testament to the huge success of this fellowship programme.

"We are attracting talented and committed fellows who are excited by the opportunities the programme offers. The benefits for their host breast units are also considerable. The fellows become key members of the multidisciplinary team, to provide timely diagnosis and treatment services to patients. This is particularly important as breast units nationwide are working hard to address the issues in post-pandemic breast service delivery, which is further impacted by significant shortages in the breast radiology work force.

"Our initial aim with the fellowship programme was to deliver 30 highly trained breast radiologists to the workforce. I'm very pleased and proud that we have already surpassed our expectations in achieving this goal.

"Based on this success so far, we are delighted to receive additional funding from HEE to recruit another cohort of ten fellows. Recruitment will begin in January 2023, with the new fellows taking up their training posts across the country in September 2023."

Find out more at: <https://nationalbreastimagingacademy.org/about-radiology/nbia-fellowship/>

Mammography Associate apprenticeship

The one-year Level 4 apprenticeship programme was developed by the Mammography Associate Trailblazer Group, comprising NHS and academic experts, the Society and College of Radiographers and Public Health England (now part of NHS England and Improvement), led by Lyndsay Kinnear (NBIA Radiographic Lead and Chair of the NBIA Radiography Working Group).

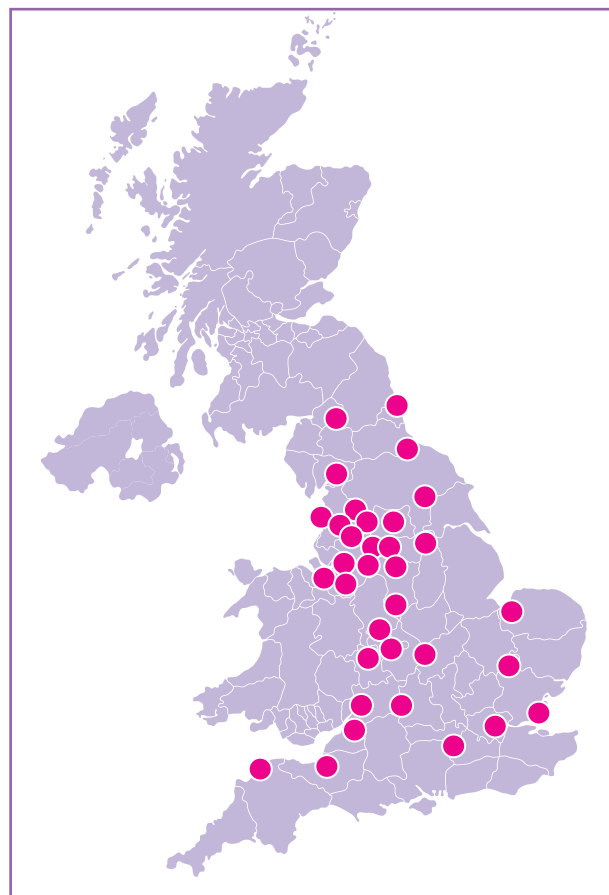
Launched in autumn 2019, it provides a standardised training pathway, funded through the Apprenticeship Levy and Health Education England, making this an attractive scheme for both employers and prospective trainees.

The NBIA Radiography Working Group, comprising colleagues from around the country, has worked to establish the apprenticeship standard and to deliver a robust End Point Assessment (EPA). This comprises an exam, clinical practice observation and discussion, and is managed and quality assured through Pearson, an independent end point assessment organisation.

The apprenticeship is being delivered by:

- St George's National Breast Education Centre (with South Thames College)
- NBIA, Manchester University NHS Foundation Trust (with HEE)
- Jarvis Breast Centre (with The Royal Free NHS Foundation Trust).

Map showing location of NBIA/HEE apprentices



Supported by a mentor, the apprentices undertake academic study sessions and on the job training in their host NHS Trusts. The apprenticeship programme covers clinical mammography, mammography science, professional practice, quality assurance, communication and team working, and health and safety. The apprentices' learning is supported by the NBIA's Academy Online resources.

By 30th September 2022, the first 82 apprentices to qualify were working in the NHS Breast Screening Programme and symptomatic breast units. Another 60 apprentices are in training and will join the workforce over the next two years.

The apprenticeship programme has been a very successful route to bringing new staff into the workforce, from a variety of backgrounds. Employing Mammography Associates is a cost-effective way of running breast services, and it enables qualified radiographers to be freed up to take on more advanced roles.

Participant feedback

A trainee, mentor and service manager's perspective on the Mammography Associate apprenticeship: North Tees & Hartlepool NHS Foundation Trust

"I would definitely recommend the programme; it was great to have not just the practical side of learning how to get a good mammogram and learning how to adapt your technique to achieve this. But having the off-the-job-learning too was brilliant as I have learnt so much which has increased my knowledge. I have visited the path labs, MRI, MDT, observed in ultrasound, followed a lady through her journey from referral from her doctor to diagnosis, surgery and her aftercare treatment."

Apprentice Karen Coates (qualified with distinction)

"Our apprenticeship candidates have enjoyed the course and felt supported throughout. The communication between the providers, trainees and the training team is excellent. The providers are extremely understanding and patient whilst you adapt to the new approach to learning and give detailed advice around what they need from you as a department."

Service manager and radiographer Gemma Ingram

"Overall I feel that the apprenticeship programme has been a success. It provides the trainees with a good depth of knowledge and prepares them really well for their role. I've really enjoyed mentoring Karen, she has been a lovely trainee and I feel that we have both gained from this experience."

Trainer and mentor Katie Horton

Read a case study by Gemma, Kate and Karen at:

<https://nationalbreastimagingacademy.org/news/success-for-mammography-associate-apprentice-karen/>

Independent End point Assessors (IEAs) play a key role in the Mammography Associate Level 4 apprenticeship programme. They are experienced breast imaging professionals who assess whether an apprentice has reached the required standard to be awarded the qualification.

"Once an apprentice has met the gateway criteria, they can progress to the End Point Assessment, which involves an exam, clinical observation and discussion with an assessor. I have really enjoyed all the assessments I've done so far, and would strongly encourage experienced breast imaging colleagues to consider becoming an IEA. It's an opportunity to support the development of our future mammography workforce, and also to enhance your own skills and professional experience."

Tracey Daulby, Senior Radiographer at Wythenshawe Hospital, part of Manchester University NHS Foundation Trust (MFT), and an NBIA Clinical Trainer

"The development of the Mammography Associate Apprenticeship is so important for Breast Screening Services. Being able to deliver such a high quality programme within the North of England has such positive benefits for our patients and all the organisations that we work with. I cannot thank Lyndsay Kinnear and her team at the National Breast Imaging Academy enough for all the help and support they have given this programme; it is a great achievement to see how it has progressed from development through to delivery.

"It is such a reward to now see our Mammography Associate Apprentices successfully completing their training programmes and becoming qualified and valued members of the NHS workforce. They are fulfilling a much needed role within this service and especially at a time when they are most needed."

Helen Suddes, Widening Participation and Apprenticeship Lead for Health Education England North East and Yorkshire.

"This apprenticeship opportunity is proving to be very popular and is already allowing us to increase the numbers of associate practitioners in the NHS Breast Screening Programme's mammographic workforce. NHS England and Improvement are continuing to work with key stakeholders to develop innovative ways to address the workforce challenges."

Jacquie Jenkins, National Breast Screening Programme Manager

Overview: Lyndsay Kinnear, NBIA Radiographic Lead and chair of the Mammography Associate Trailblazer Group.

"The MA apprenticeship is a really significant development in terms of meeting the increasing demand for breast imaging staff and helping to address the screening backlog which has been created by the pandemic.

"It is so rewarding to see the apprentices complete the programme and become valued members of breast imaging teams across the country. In my own breast unit, I see first-hand what an invaluable resource this dedicated group of staff are in the early detection and treatment of breast cancer. I'm very proud to have been part of the trailblazer group and to see the hard work and determination of many dedicated professionals come to fruition."

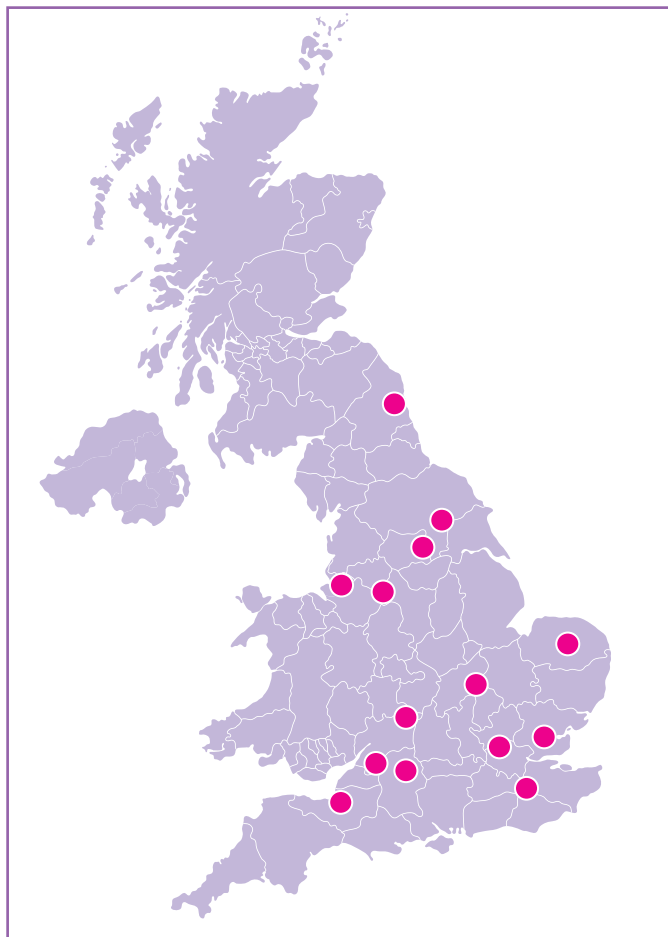
Find out more at:

<https://nationalbreastimagingacademy.org/radiography/mammography-associate-apprenticeship/>

Breast Clinician Credential

The Association of Breast Clinicians (ABC), Royal College of Radiologists (RCR), NBIA and HEE worked collaboratively to establish a new three-year training programme, offering a standardised credential for trainee breast clinicians.

Map of all Breast Clinician Placements (Cohorts 1 and 2)



Representatives from these organisations convened a project board that leads the initiative, and HEE provided funding support for a pilot cohort of ten trainees. A recruitment drive to sites across England attracted over 220 applications. The first ten trainees started in August 2019 and completed their training from summer 2022.

The credential provides a holistic approach to breast disease management, with breast clinicians working across radiology, surgery and family history. The curriculum is supported by courses, online resources and a robust assessment process.

Based on the evaluation* of the successful pilot programme, funding for a second cohort was awarded in 2021/22. Another ten trainees have been identified and matched to host sites around England.

You can watch a film about the credential programme, which was shortlisted for a BMJ Award in the Women's Health category in 2020, at

<https://www.youtube.com/watch?v=w-wlO8d3BQDE&t=10s>

Trainee breast clinicians have shared their stories on our website:



Dr Mayada Haydar -

<https://nationalbreastimagingacademy.org/news/a-day-in-the-life-of-a-trainee-breast-clinician/>



Dr Natalie Spillane -

<https://nationalbreastimagingacademy.org/news/blog-a-day-in-the-life-of-a-trainee-breast-clinician-2/>



Dr Sravya Singamaneni -

<https://nationalbreastimagingacademy.org/news/blog-a-day-in-the-life-of-a-trainee-breast-clinician/>

*The 'Credential in Breast Disease Management Economic Report 2021' is available at https://nationalbreastimagingacademy.org/app/uploads/2022/11/HEE_Breast-Clinician-Credential_Economic-Analysis_Revised_Final.pdf

Participant feedback

"I wasn't even aware breast clinicians existed before hearing about the credential - it has everything I have been looking for in a career and more. The variety within it is fantastic and working across radiology, surgery, genetics and oncology- I really feel I am getting to do the best bits of each of the specialties but also a real canvas to build in any or all of the areas to add impact to the local service. It has both been challenging but also quite exciting to be part of the pilot, for the unit I am in; I am their first breast clinician and it feels like together with my supervisors we are creating something new."

Dr Fatima Ali, Trainee Breast Clinician, London North West University Healthcare NHS Trust

"We are extremely pleased and proud of the progress of the new credential. The scheme has the potential to make a real difference in supporting breast clinics and training the future leaders of breast services and we are extremely grateful to HEE for all its hard work and commitment in securing additional funding for a second cohort."

Dr Stephen Harden, RCR radiology training lead

"The programme is a very positive step in trying to reduce workforce issues in breast imaging. It is an evolving, coordinated project which builds on individual and team strengths encouraging mutual learning and personal development. Our department is very grateful to be involved."

Professor Iain Lyburn, Cheltenham-based breast radiologist commenting on his experience of supervising a credential trainee

Overview: Dr Zoe Goldthorpe, President of the Association of Breast Clinicians

"The Breast Clinician Credential was established to provide a standardised and recognised training pathway for this group of doctors working in screening and symptomatic breast units throughout the UK. With a background of breast radiology vacancies and increasing complexity of caseload, a workforce crisis within the specialty of breast radiology was upon us and needed innovative solutions."

"The credential pilot scheme, funded through Health Education England and the National Breast Imaging Academy, provided financial support for 20 training breast clinician posts in England, each for three years. The credential curriculum was designed and written through a collaborative project board with input from the Royal College of Radiologists, Association of Breast Clinicians, the NBIA and HEE. The curriculum, mirroring some elements of the Clinical Radiology training with additional elements of clinical practice and family history/genetic risk assessment, outlines a robust and thorough blueprint of training, assessed through a series of progression reviews undertaken by members of the project board."

"To date three breast clinicians have completed the programme, all now being employed within breast services in England, with further, less than full time trainees expected to complete training in 2023. The multi-skilled training undertaken by these breast clinicians provides service flexibility, working as autonomous breast imaging clinicians and leading high risk and clinical elements of busy symptomatic and screening breast units."

Find out more at: <https://nationalbreastimagingacademy.org/breast-clinicians/about-breast-clinicians/breast-clinician-credential/>

Academy Online

The NBIA has worked with over 200 colleagues from around the UK to develop a programme on the e-Learning for Health (e-LfH) platform for all levels of breast imaging staff.

The Academy Online provides an easy to access training resource for anyone involved in breast cancer screening, diagnosis and treatment. It is freely available to all NHS staff, 24 hours a day. Currently, 150 sessions are uploaded, covering breast imaging, surgery, pathology, nursing, oncology and risk & prevention.



The programme aims to complement face-to-face clinical training and also to provide valuable CPD resources for qualified staff. The sessions form a vital part of a number of formal training programmes, run by a variety of providers. There are sessions suitable for all levels of staff, from trainees through to senior clinicians.

The Academy Online sessions also provided vital support for ongoing training programmes and CPD during the pandemic. When the restrictions ended face to face learning for post-graduate mammography students at the University of Salford, Head of Radiography Dr Claire Mercer and her team used the online resources to support a rapid transition to digital learning.

Dr Mercer shared her positive experience in a blog:

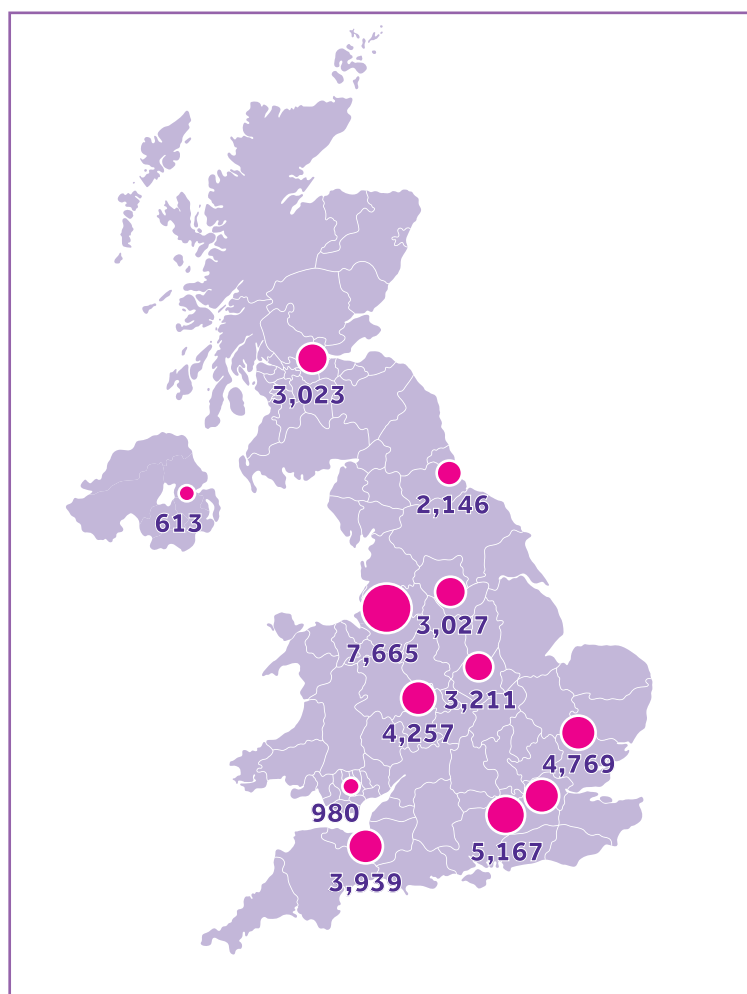
<https://nationalbreastimagingacademy.org/news/online-resources-help-post-graduate-mammography-training-to-remain-on-track/>

From the launch of the Academy Online in April 2020 to 30th September 2022, there have been 44,493 session launches and 19,727 hours spent on the programme by 2491 individual users around the UK.

This table provides an overview of user groups:

Professional Group	Number of individual users	Percentage of total users
Diagnostic Radiographer	1254	50.3%
Non-Trainee Doctor (Consultants and Speciality Doctors including Breast Clinicians)	262	10.5%
Trainee Doctor	219	8.8%
Medical Student	99	4.0%
Diagnostic Radiography Student	66	2.6%
Associate Practitioner	65	2.6%
Education	53	2.1%
Advanced Clinical Practitioner	22	0.9%
Other Students (e.g. Nursing)	65	2.6%
Other	386	15.5%

Map showing location of Academy Online users



"I just wanted to say what a wonderful set of resources you have all established. We are using these resources now within our postgraduate education programme in order to support our distance learning activities and we are finding these are working really well to support our students. The content is to a really high standard. You couldn't have developed these at a better time."

"Good content especially for those just learning to carry out these procedures."

'I am thrilled with the NBIA, during COVID and lockdown our radiographic staff were able to use it for CPD.'

"Very informative, great for anyone looking at working within a breast imaging department."

To watch a vlog about the Academy online resources, go to:

https://www.youtube.com/watch?v=rVUWSqzly_8

Overview: Dr Megan Bydder, Academy Online Lead

"We're really proud of the collaboration and hard work that has created the Academy Online resources. Colleagues across the country have enthusiastically shared their knowledge and expertise to deliver this valuable resource. And the user feedback has been extremely positive."

"For trainees undergoing formal training programmes such as the Mammography Associate apprenticeship, postgraduate mammography training, the breast clinician credential and the national breast radiology fellowship, the sessions have become a valuable part of their training. This was particularly the case when face to face teaching had to become virtual because of the pandemic."

"Qualified practitioners are also using the resources for CPD and to enhance their knowledge and skills. They can access the sessions at any time, to fit their working schedule and training requirements."

Find out more at: <https://nationalbreastimagingacademy.org/academy-online/>

Build to Beat Breast Cancer Appeal

The NBIA has launched a fundraising campaign with Prevent Breast Cancer and Manchester Foundation Trust Charity to raise funds for a purpose-built training centre, so that high quality hands-on clinical training can be delivered to larger numbers of breast imaging trainees.

The 'Build To Beat Breast Cancer' appeal will raise £3.5m for phase 1 of a new National Breast Imaging Academy training facility, providing access to specialist training programmes for the additional mammographers, radiographers and breast clinicians needed to deliver sustainable breast screening and care services across the country.

The new building will be an extension of the Nightingale Centre and Prevent Breast Cancer Research Unit at Wythenshawe Hospital, which is part of Manchester University NHS Foundation Trust. It will provide significant additional resources, including:

- Dedicated space and facilities to deliver outstanding multidisciplinary training in a clinical environment
- Seminar rooms and PACS workstations enabling training to be delivered in line with other radiology academies across the country
- Adequately resourced and funded multidisciplinary trainers to provide high-quality training
- Cost-effective training as resources will be shared across multidisciplinary groups
- The capacity to screen and treat more patients - an extra 13,000 patients each year
- The space needed to undertake more research studies into breast cancer diagnosis and treatment.



A patient's story

Sharon Brennan tells how a routine mammogram saved her life after she was diagnosed with breast cancer in 2016 at The Nightingale Centre at Wythenshawe Hospital in Manchester.

Now 60 years old, Sharon Brennan, a nurse from Chorley, has celebrated six years of being cancer free and is focusing on fundraising for breast cancer research and raising awareness of the importance of routine mammograms.

Sharon said: "I was diagnosed with breast cancer in 2016. This was a huge shock as I had no symptoms, and it was only picked up via a routine mammogram. My life turned upside down and the next few weeks were a whirlwind."

She continued: "Surgery followed a few weeks later, and I was scheduled to have three weeks of radiotherapy, but it was a higher grade tumour [where cancer cells grow and spread more quickly] than they expected so I had further tests to decide if I needed chemotherapy. Fortunately, I didn't, so radiotherapy followed. Every day I count my blessings as I am very aware that this could have been a very different story."

Sharon's story highlights the importance of routine mammograms, with early diagnosis and ultimately early and effective NHS treatment being the key to her survival. She is now an active fundraiser and ambassador for the charity Prevent Breast Cancer.

Clinicians' views

"Unless we act now and create a building in which to train staff, we will be unable to meet the increased demands over the coming months and years – and more lives will be lost to this disease.

"Even before the coronavirus crisis, many breast services were struggling to diagnose and treat people as quickly as we would want, and the pressure on breast imaging was a big part of this. Given the massive surge in demand we are seeing, without a huge investment in training, we will simply be unable to meet the service needs."

Dr Mary Wilson, Programme Lead for the National Breast Imaging Academy

"Now, more than ever, is a crucial time for fundraising and training, and we urgently need a national academy to train more breast cancer doctors, nurses, radiographers and mammography apprentices, as screening is key to saving lives.

"There is currently an acute shortage of breast imaging experts but the demand for these services continues to rise. As a result, we need more space to undertake our research and to build a workforce for the future, trained and ready to go.

"The National Breast Imaging Academy will help rebuild breast cancer teams across the country, and fulfil our vision as a charity that changes in breast cancer screening, early diagnosis, and prevention strategies can make the disease preventable for the next generation."

Lester Barr, consultant breast surgeon and founder of Prevent Breast Cancer



Developing new initiatives

The NBIA and HEE launched a bursary scheme in 2021 to support innovation education projects.

Awards of £10,000 have been made to six projects, ranging from developing new resources to support radiographic mentors, medical student training and upskilling of non-breast and symptomatic-only breast radiologists to ultrasound machine training videos, a study evaluating learning of abbreviated MRI and simulation training for tomosynthesis-guided procedures.

These projects are now underway at:

- Great Western Hospital NHS Foundation Trust
- Imperial College Healthcare NHS Trust
- King's College Hospital
- Newcastle upon Tyne NHS Foundation Trust
- North Bristol NHS Trust & St George's University Hospitals NHS Foundation Trust
- University of Salford.

The six projects offer an innovative response to the challenges faced by the entire breast imaging workforce. Optimising the use of technology and developing new teaching and learning resources will make a significant difference to colleagues and ultimately to patients. The NBIA will support the six teams in sharing their innovative approaches across the breast imaging field when their projects are completed

Raising the profile of breast imaging training and career opportunities

The NBIA team has worked closely with HEE and other partners to promote training and professional development opportunities across breast imaging.

Activity has included news articles, blogs, vlogs, case studies by a wide range of practitioners and clinicians, conference posters and information stands. NBIA colleagues have also spoken at UK and international conferences and taken part in national panel debates on the issues facing the breast imaging workforce.

Future plans



The NBIA will continue to develop all its vital training programmes and resources over the coming years. For the apprenticeship, this includes a structured course for apprentice mentors to be introduced in 2023 and development of a Level 5 qualification. Work is also underway to create an observership scheme for UK and international colleagues interested in a career in breast imaging.

Delivering successful outcomes

Since the first NBIA trainees were appointed in 2019, the programme has made a significant contribution to tackling workforce shortages across breast imaging in England. HEE have provided ongoing support for the project and to date have awarded £7,856,000 to support training posts and trainers across the country.

The NBIA undertook a review of the impact of the new training pathways on the breast imaging workforce from pre-pandemic levels, together with a recent economic evaluation of the programme.

"We assessed the impact of the Breast Radiology Fellowship, the Breast Clinician Credential, the Mammography Associate Apprenticeship and the Academy Online on workforce numbers and trainee development," says Dr Mary Wilson, NBIA Programme Lead.

"We also included an external economic evaluation of the programme by Economics by Design on behalf of Health Education England (HEE) published in August 2022 (https://nationalbreastimagingacademy.org/ap-p/uploads/2022/11/NBIA_Economic-Analysis_EbD_Final_220822.pdf). This measured the economic impact of the overall programme nationally, together with the specific benefit to each initiative by the NBIA, given that significant training occurs at other sites."

Breast Clinician Credential and Radiology Fellowship

NBIA Medical Recruitment by HEE region

	North West	London*	South East	South West	Midlands	East of England	North East & Yorkshire
No. of Fellows	7	1	8	5	7	3	0
No. of Breast Clinicians	3	1	1	6	0	5	4
Total	10	2	9	11	7	8	4

*London, with the lowest medical vacancy rate, has the fewest NBIA medical trainees.

Mammography Associate Apprenticeship

The NHS Breast Screening Programme Radiographic Survey 2016 estimated that 186 assistant practitioners were needed across England. With 160 Mammography Associates enrolled to date, this will deliver a potential workforce increase of 75%, assuming a 90% retention rate.

Academy Online

140 new e-learning sessions have been developed with support from over 200 colleagues across the UK. These have been used by colleagues across all the training programmes, and much more widely.

By 30th September 2022, the resources had been accessed 44,493 times, by 2,491 users across the UK.

External Economic Evaluation

This was commissioned by HEE in 2022. Over a ten-year period (2020–2029) the new training initiatives are predicted to produce a £50 million saving to the health economy. The evaluation was undertaken by costing these initiatives against traditional practice.

Initiative	Savings from 2020-2029
Mammography Associate apprenticeship	£18 million
Breast Clinician Credential	£9 million
Radiology Fellowship	£12 million
Academy Online e-learning modules	£11 million
Total	£50 million

The contribution of the NBIA to each initiative was calculated and the overall benefit attributable solely to the NBIA was estimated to be £39 million.

Adds Dr Mary Wilson: “The NBIA has provided a national focal point to address the workforce issues in breast imaging, enabling trainers from across the country to work collaboratively. By supporting and developing new pathways it has already provided a significant uplift in the multidisciplinary workforce and these new initiatives are predicted to save the health economy £50 million over a 10 year period.

“However, significant staff shortages remain across all disciplines and ongoing investment will be needed for many years to address this.”





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