Public Health England

NHS

NHS Breast Screening Programme

National radiographic workforce survey 2016

Public Health England leads the NHS Screening Programme

About Public Health England

Public Health England exists to protect and improve the nation's health and wellbeing, and reduce health inequalities. We do this through world-class science, knowledge and intelligence, advocacy, partnerships and the delivery of specialist public health services. We are an executive agency of the Department of Health, and are a distinct delivery organisation with operational autonomy to advise and support government, local authorities and the NHS in a professionally independent manner.

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About PHE Screening

Screening identifies apparently healthy people who may be at increased risk of a disease or condition, enabling earlier treatment or better informed decisions. National population screening programmes are implemented in the NHS on the advice of the UK National Screening Committee (UK NSC), which makes independent, evidence-based recommendations to ministers in the four UK countries. The Screening Quality Assurance Service ensures programmes are safe and effective by checking that national standards are met. PHE leads the NHS Screening Programmes and hosts the UK NSC secretariat.

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Contents

Introduction

The NHS implemented the first national breast screening programme following the publication and recommendations of the Forrest Report[i] (1986). National roll-out was phased in. By 2001, the programme screened around 1.5 million women aged 50 to 64 annually. Following implementation of the age extension in 2004 to 2005 (from 65 to 70 years) and the national age extension trial in 2010 (randomising women aged 47 to 49 and 71 to 73 for screening), the programme now screens around 2.1 million women annually. This requires a large, highly skilled and specialised workforce.

Anecdotally, services are struggling to recruit staff. Increasing incidence of breast cancer and demands from symptomatic breast services create additional demands on breast screening services. Many senior staff have worked in the programme since its inception and are nearing retirement. The recent breast imaging and diagnostic workforce report (2015)[ii] showed that:

- over one third of radiologists are due to retire over the next 10 years
- existing staff are delivering a significant proportion of clinical work as extra-contractual activity

The workforce report included consultant practitioners and advanced practitioners but not the other two tiers of the radiographic workforce: radiographic and assistant practitioners.

This report aims to complement the previous radiology workforce census and inform future workforce training and planning. It is a survey of the four-tier radiographic workforce in the NHS Breast Screening Programme. It analyses current staffing, vacancy rates, retirements, training routes and attitudes of radiographic staff to current workforce issues.

Methods

We sent an electronic survey to superintendent radiographers and programme managers at all 80 English screening services. The survey ran from 18 April to 9 May 2016. There was a further extension and responses were included two weeks after the initial submission deadline. We collected the data in SelectSurvey www.survey.ls.manchester.ac.uk and analysed it in Excel 2010.

Response rate

A total of 121 responses were received. Of these, 68 responses were excluded either because they were very incomplete or were duplicate submissions at service level. One response was excluded as it was not part of the English programme. The final response rate was 65% (52 out of 80 services) which is equivalent to the response rate in the national radiology workforce survey.

Region	**Units responded to survey**	**Total units in region**
East Midlands	8	8
East of England	5	11
London	3	6
NEY&H	6	12
North West	7	11
South East	9	15
South West	8	9
West Midlands	6	8
Total	**52**	**80**

Table 1: Number of units responding by region.

Results of workforce survey

Consultant practitioners

Consultant practice in clinical imaging has developed as part of the profession's career framework. It recognises the greater responsibility of some practitioners and the development of new and innovative roles to deliver high quality and patient centred care. The consultant practitioner (CP) forms part of the multi-disciplinary team. They may perform some of the duties previously provided by consultant radiologists. They are qualified to Masters degree level and undertake a full range of clinical skills. The Society and College of Radiographers (SCoR) suggests in guidance that doctoral level qualifications may be required. In addition, CPs are required to:

- lead on audit projects and research
- support training programmes
- teach radiology trainees
- take part in developing clinical and professional policy alongside radiology colleagues

Important findings on current staffing include:

- all regions have consultant practitioners in post
- around 40% (20 of 52) of services currently employ CPs with 29 currently in post
- approximately one fifth (9 of 52) of units do not currently have a CP or vacancy within their service due to lack of service need (figure 1)
- three services are currently training consultant practitioner staff

Region	Number of Consultant Practitioners in post	Number of services with Consultant Practitioners
East Midlands	3	2
East of England	1	1
London	2	2
NEY&H	4	3
North West	2	2
South East	2	2
South West	5	3
West Midlands	10	5
Total	**29**	**20**

Table 2: Consultant practitioners in post and number of services with CPs by region.

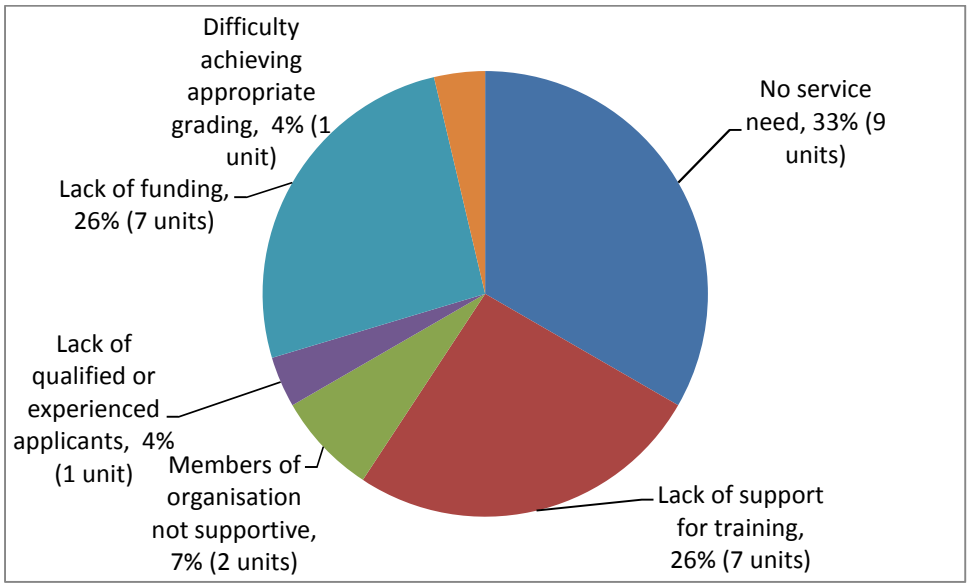

Figure 1: Reasons why services do not employ consultant practitioner staff.

Vacancy rate findings include:

- of around 35 whole time equivalent (WTE) posts, there are vacancies for eight CPs with an overall vacancy rate of 22%
- West Midlands has the highest proportion of CPs and the highest vacancy rates
- 14% of units have vacancies (7/52 units)

Sub-region	Number WTE in post	Number WTE vacancies
East Midlands	3	1
East of England	1	0.9
London	2	0
NEY&H	3.5	2
North West	2	0
South East	1.6	1
South West	4.9	0
West Midlands	9.5	3
CP total	**27.5**	**7.9**

Table 3: Consultant practitioners in post and vacancies by region.

Important workforce demographics findings included:

- age of CP was known for 29 out of 31 staff
- 65% (19 of 29) of CPs identified are aged 50-plus and are likely to retire in the next 10 to 15 years.
- more than 90% of CPs identified (27 of 29) are aged 40 plus

Advanced practitioners

Advanced practitioners are registered radiographers who have undertaken additional Masters level courses to perform some clinical practices at a higher skill level previously only performed by radiologists. They are qualified to undertake a range of clinical skills which are within the SCoR scope of practice. The seven main areas of advanced practice include:

- image interpretation
- breast ultrasound
- X-ray guided biopsy
- X-ray guided wire localisation
- ultrasound guided biopsy
- ultrasound guided wire localisation
- client examination and breaking bad news

Current staffing findings include:

- only one service does not employ advanced practitioners
- half of all units (26 of 52) are currently training advanced practitioners
- around 20% (36 of 188) of the current workforce is in training
- of 152 WTE staff, the average number of advanced practitioners is 2.9 WTE per unit
- West Midlands has the highest rate of advanced practitioners at 4.3 WTE per unit compared to the East Midlands with 2.1WTE per unit

Region	AdPr in post (trainee)	AdPr WTE (trainee)	AdPr in post (trained)	AdPr WTE (trained)	% of workforce trainees
East Midlands	5	4	20	12.4	20.0
East of England	1	1	14	11.6	6.7
London	3	2.6	6	5.7	33.3
NEY&H	6	5.6	17	13.1	26.1
North West	6	4.3	20	16.3	23.1
South East	7	7	23	19.8	23.3
South West	3	2.2	23	20.6	11.5
West Midlands	5	3.8	29	22.0	14.7
Total	**36**	**30.5**	**152**	**121.5**	**19.1**

Table 4: Advanced practitioners and trainees in post by region.

Vacancy rate findings include:

- of 152 WTE posts, the programme has vacancies for eight advanced practitioners, which is an overall vacancy rate of just 5%
- North West has the highest number of vacancies (table 5)
- just four out of the 52 units currently have vacancies for advanced practitioner posts

Sub-region	Number WTE in post (trainee & trained)	Number WTE vacancies	% of total number of posts vacant (WTE)
East Midlands	16.4	0	0
East of England	12.6	0.5	3.8
London	8.3	0	0
NEY&H	18.7	0	0
North West	20.6	4.3	17.3
South East	26.8	2	6.9
South West	22.8	1.3	5.4
West Midlands	25.8	0	0
Total	**152**	**8.1**	**5.1**

Table 5: Advanced practitioners and trainees in post and vacancies by region.

Workforce demographics findings include:

- 62% (107 of 172) of advanced practitioners identified in this survey, where age was known, are 50 plus and likely to retire in the next 10 to 15 years
- only 17% of the workforce is aged under 40
- age of the advanced practitioner was unknown in 16 cases

Region	Number advanced practitioners	No. <=30	31-39	40-44	45-49	50-54	55-59	60+
East Midlands	24	2	4	5	1	6	3	3
East of England	15	0	1	1	3	3	6	1
London	9	3	0	1	3	0	1	1
NEY&H	20	1	2	2	1	6	5	3
North West	23	0	2	4	2	8	5	2
South East	27	1	3	1	0	7	10	5
South West	24	1	2	2	3	8	6	2
West Midlands	30	0	7	1	6	7	8	1
Total	**172**	**8**	**21**	**17**	**19**	**45**	**44**	**18**

Table 6: Advanced practitioners in post by age and region.

Practitioners

Radiographic practitioners are state registered radiographers who undertake additional training, post-registration, to specialise in mammography within the NHSBSP. Their responsibilities also include the training and supervision of assistant practitioners.

Current staffing findings include:

- 615 practitioners are employed, which equates to 384 WTE (table 7)
- the numbers employed at service level vary due to the unequal distribution in screening populations geographically
- around two-thirds of the workforce are employed in less than full-time contracts

Region	Practitioners in post	WTE
East Midlands	80	52.8
East of England	48	30.7
London	54	36.6
NEY&H	67	47.1
North West	98	45.7
South East	118	80.6
South West	79	46.6
West Midlands	71	43.5
Total	**615**	**383.6**

Table 7: Number of practitioners in post and WTE by region.

Vacancy rate findings include:

- of around 384 WTE posts the programme has vacancies for approximately 70 practitioners with an overall vacancy rate for this post of 15%
- London has the highest proportion of vacant posts with nearly one quarter vacant (table 8)
- the lowest vacancy rate is in North East Yorkshire and Humber at 5%
- 65% (34/52) of units reported vacancies
- units were asked why they failed to recruit to vacant posts – nearly 40% of responses cited the national shortage of staff (reasons stated in figure 2)

Sub-region	Number WTE in post	Number WTE vacancies	% of total number of posts as vacancies
East Midlands	52.8	8.22	13.5
East of England	30.7	7.8	20.3
London	36.6	11.5	23.9
NEY&H	47.1	2.5	5.0
North West	45.7	8.8	16.1
South East	80.6	17.4	17.8
South West	46.6	7.2	13.4
West Midlands	43.5	5.8	11.8
Total	**383.6**	**69.2**	**15.3**

Table 8: Trained practitioners in post and vacancies by region.

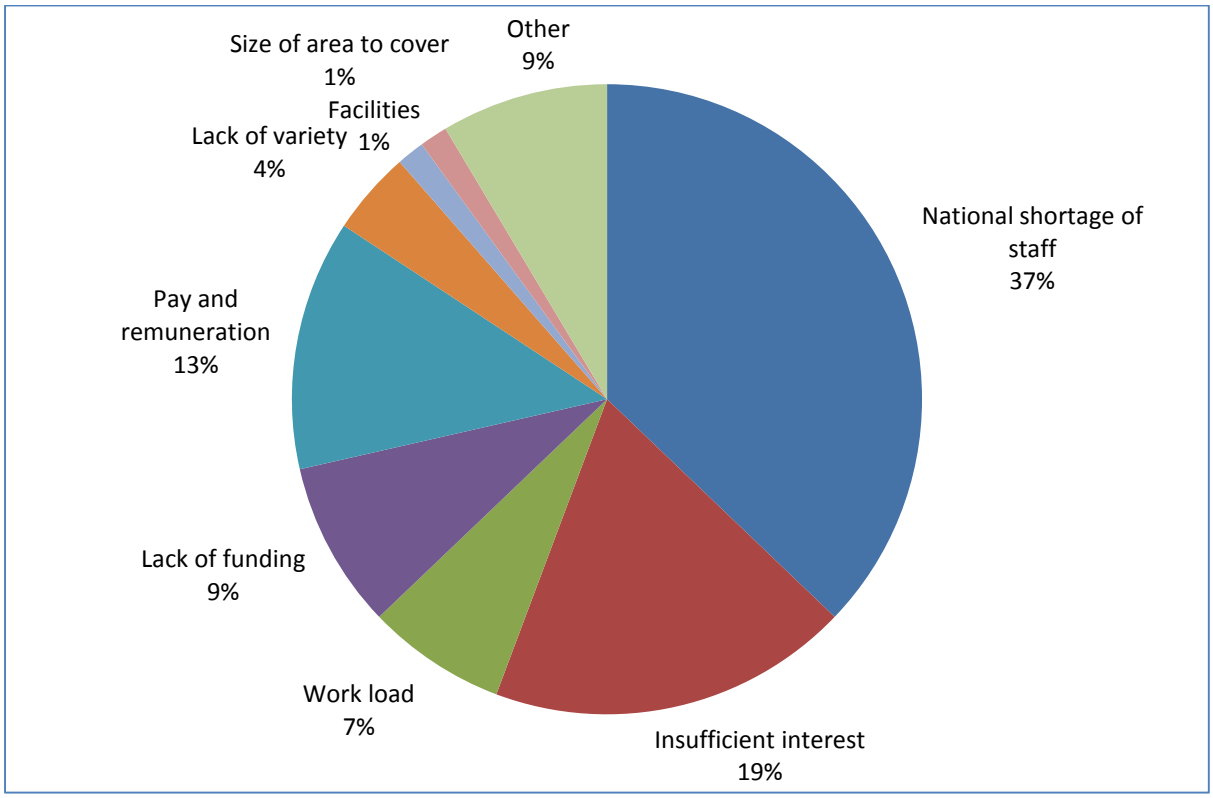

Figure 2: Reasons why services consider recruitment to vacant practitioner posts difficult.

Workforce demographics findings included:

- around half (302 of 612) of practitioners identified are aged 50 plus and likely to retire in the next 10 to 15 years.
- just under 30% of the workforce are aged under 40
- the highest proportion of the workforce aged 50 plus was in the South East (57%)

- the lowest proportion of the workforce by region aged 50 plus was in the North West (42%)
- age of practitioner was unknown in only three cases

Region	Number Practitioners	<=30	31-39	40-44	45-49	50-54	55-59	60+
East Midlands	80	8	13	9	9	13	16	12
East of England	55	7	10	7	6	11	8	6
London	41	2	10	2	5	8	7	7
NEY&H	67	5	16	6	6	10	15	9
North West	98	12	24	11	10	20	13	8
South East	118	8	17	15	11	18	32	17
South West	84	10	10	11	6	13	15	9
West Midlands	79	3	19	10	12	14	13	8
Totals	**612**	**55**	**119**	**71**	**65**	**107**	**119**	**76**

Table 9: practitioners in post by age and region.

Assistant practitioners

Assistant practitioners perform basic mammographic examinations on both static and remote sites under the supervision of a registered practitioner. They can also undertake basic quality control tests under supervision. They act as an operator under IR(M)ER 2000 regulations and are supervised by practitioners who have professional responsibility for the episode of care and, due to their boundaries, on scope of practice.

Current staffing findings include:

- 28% of the total mammographic workforce (trained or in training) are assistant practitioners (149.9 of 533.5 WTE)
- only three of 52 services do not employ assistant practitioners and these services have none in training
- just over one third of services have assistant practitioners in training (17 of 49)
- around 14% (27 of 196) of the current workforce are in training (table 10)
- London has the highest proportion of trainee assistant practitioners by region (27%)
- West Midlands has the lowest proportion of trainees by region (7.1%)

Region	AssPr in post (trainee)	AssPr WTE (trainee)	AssPr in post (trained)	AssPr WTE (trained)	% of workforce trainees
East Midlands	8	5.8	25	19.5	24.2
East of England	1	0.8	11	8.9	8.3
London	3	3	8	6.8	27.3
NEY&H	3	2	34	27.7	8.1
North West	4	4	15	12.1	21.1
South East	3	3	22	17.9	12.0
South West	3	1.6	28	12.6	9.7
West Midlands	2	2	26	22.2	7.1
Total	**27**	**22.2**	**169**	**127.7**	**13.8**

Table 10: Assistant practitioners and trainees in post by region.

Vacancy rates findings include:

- of 159.5 WTE posts, the programme has vacancies for 9.6 assistant practitioners which is an overall vacancy rate of 6% (table 11)
- around one fifth of units (11/52) have vacancies for assistant practitioners
- seven of the eight regions currently have units with assistant practitioner vacancies - most units plan to recruit staff to these posts within the next year

Services with vacancies were asked their opinions on why they had assistant practitioner vacancies. Responses included:

- lack of opportunities when trained
- heavy workload
- lack of variety in the role
- training period too long
- post is misunderstood
- availability of training

Region	No. WTE in post (trained and trainee)	No. vacancies (WTE)	% of total number of posts vacant (WTE)
East Midlands	25.33	1	3.9
East of England	9.7	0.8	8.2
London	9.8	3.5	35.7
North East Yorkshire	29.7	2	6.7
North West	16.1	0.5	3.1
South East	20.9	0	0
South West	14.2	0.8	5.6
West Midlands	24.2	1	4.1
Total	**149.9**	**9.6**	**6.4**

Table 11: Assistant practitioners (including trainees) and vacancies by region.

Workforce demographics findings included:

- one third (62 of 186) of assistant practitioners are aged 50-plus and likely to retire in the next 10 to 15 years (where age was known)
- around 30% of the workforce is aged under 40
- age of the assistant practitioner was unknown in 10 cases

Region	Number of assistant practitioners	No. <=30	31-39	40-44	45-49	50-54	55-59	60+
East Midlands	31	1	5	5	6	7	6	1
East of England	11	0	1	2	0	4	3	1
London	10	3	3	0	1	0	2	1
North East Yorkshire	35	5	6	4	6	12	1	1
North West	18	1	1	3	9	3	1	0
South East	23	3	6	2	5	4	1	2
South West	30	5	4	8	5	5	3	0
West Midlands	28	4	7	6	7	2	2	0
Totals	**186**	**22**	**33**	**30**	**39**	**37**	**19**	**6**

Table 12: Assistant practitioners in post by age and region.

Radiographic support staff

Many services employ radiographic support staff in addition to the mammography workforce to undertake support activities within a screening service. These staff have a wide range of roles and associated job titles but are not qualified to undertake mammography.

The survey found:

- around 80% (42 of 52) of units have radiographic support staff in place
- nationally, 133 support staff are in post, amounting to 98 WTE

Reasons for not employing support staff at 10 services included:

- five have no requirement for these staff
- one unit has difficulty recruiting to the role
- four units did not provide an answer

Region	Number of units with support staff	Number of staff in post	WTE
East Midlands	6	13	11.3
East of England	3	6	3.5
London	3	10	9.5
NEY&H	6	24	16.5
N West	6	27	18.5
S East	7	21	16.3
S West	5	21	14.3
W Midlands	6	11	8.3
Total	**42**	**133**	**98.2**

Table 13: Number of services with support staff, number in post and WTE.

Qualifications, training and career progression

Consultant practitioners

Qualifications
Over 80% of CPs have a full Masters degree or have completed Masters level courses. The remainder are currently completing a master's qualification.

Accreditation
Half of all units with CPs have staff who are accredited with the SCoR. A further four staff are currently working towards accreditation.

Comments from those without accreditation included:

- "too time consuming"
- "don't see the point"

Career progression
Advanced practitioners were asked if they would like to progress to CP level. Most services (31 of 52) had staff who wanted to progress, involving 40 radiographers.

Advanced practitioners

Qualifications
All advanced practitioners have completed at least one post graduate module (level seven) in advanced skills in mammography. The majority have not pursued a full post graduate certificate (28%), diploma (5%) or MSc (3%) in advanced medical imaging. Around half or more of all advanced practitioners in the East of England, London, North West and South East are qualified to at least post graduate certificate level (table 14).

Region	1+ post grad modules	Post grad cert	Post grad diploma	MSC	Other
East Midlands	15	5	3	1	1
East of England	5	4	1	2	
London	4	4		1	
NEY&H	11	6		1	
North West	9	9	1		1
South East	17	12	2	1	
South West	19	6			2
West Midlands	27	3	1		1
TOTAL	**107**	**49**	**8**	**6**	**5**

Table 14: Level of qualification of advanced practitioners by region.

Accreditation
Accreditation by advanced practitioners was variable. Of the 39 services that responded to this question, only 11 had staff who were accredited. It is possible that no staff are accredited at the 13 services which did not respond.

Career progression
We asked radiographic practitioners if they would like to train to undertake elements of advanced practice.

Forty two of the 50 units that responded have radiographers who would like to undertake advanced practice. This amounted to 84 potential staff who would like to increase their skill level.

Where the reasons for advanced practice not being implemented for these staff was given, there were 35 responses. These included:

- 24 units had no service demand for advanced practitioners
- nine had no backfill for training posts and/or lacked supervision
- one stated lack of funding for training
- one stated lack of unit/trust support

Time spent in advanced practice
Advanced practitioners are not required to undertake all of their sessional commitments in advanced practice. We asked each service the proportion of time allocated to advanced practice by their staff. Just over half of all advanced practitioners undertake less than 50% of their time undertaking advanced competencies (figure 3).

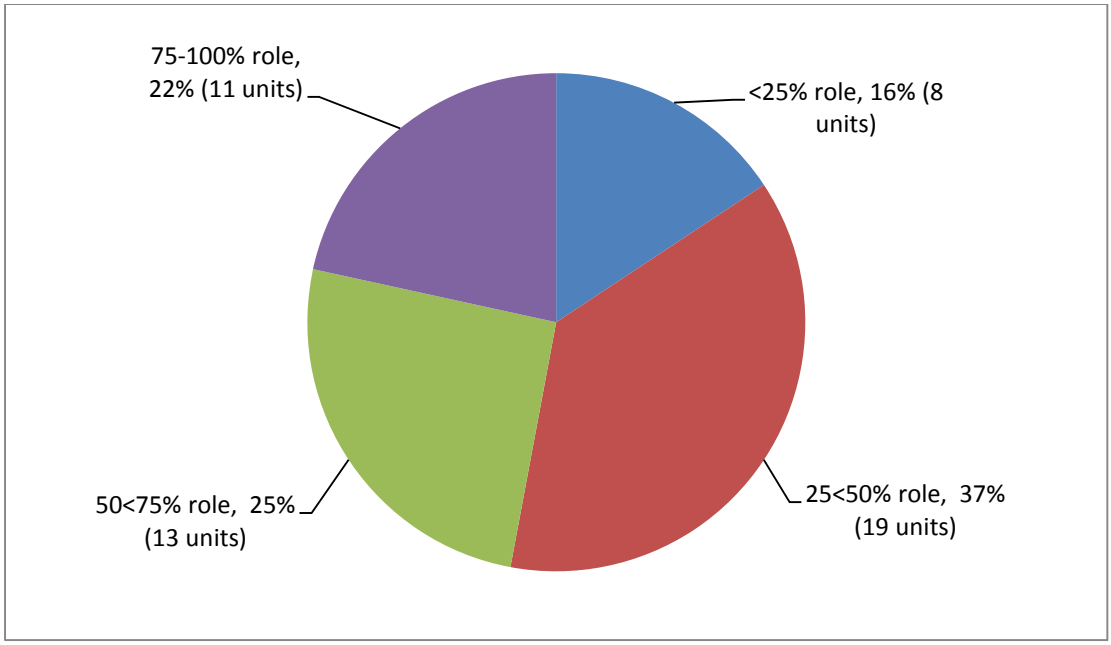

Figure 3: Proportion of total time spent by advanced practitioners undertaking advanced competencies.

Advanced practitioners at 10 of the 52 services have subsequently been unable to practice their skills. Reasons for this include:

- the successful recruitment of radiologists and subsequent lack of service need (four units)
- undertaking the superintendent or programme manager role (three units)
- no advanced practitioners required due to moving to another service (three units)

Assistant practitioners

Qualifications and training

Overall, 60% of assistant practitioners have previously worked in healthcare. This varied regionally from 30% in London to over 75% in the North West and East Midlands.

There are several educational routes to becoming an assistant practitioner. The majority have an NVQ (33%) or foundation degree qualification (28%). The distribution at regional level may partly reflect courses on offer at the nearest training centre (table 15).

Region	NVQ	Foundation degree	BTEC/Access	Cert in Higher Education	In House	Other
East Midlands	12	7	0	12	7	6
East of England	3	3	2	4	0	0
London	1	7	2	0	0	0
North East Yorkshire	5	8	0	10	4	0
North West	12	7	0	0	0	0
South East	6	11	2	4	2	0
South West	18	6	0	7	11	0
West Midlands	12	9	1	3	6	0
Total	**69**	**58**	**7**	**40**	**30**	**6**

Table 15: Level of qualification of assistant practitioners.

We asked services for their preferred route for educating and training assistant practitioners in the future. Most services (60%) said that they would like to see SCoR approved courses supported by in-house training. The remaining services were split equally between achieving a Certificate in Higher Education and a Foundation degree.

Assistant practitioners were asked to rate the training received. There were responses from around three quarters of assistant practitioners (143 of 196) and two-thirds rated courses as good or excellent. No particular educational course was over-represented where the level of satisfaction with the education was deemed 'satisfactory'.

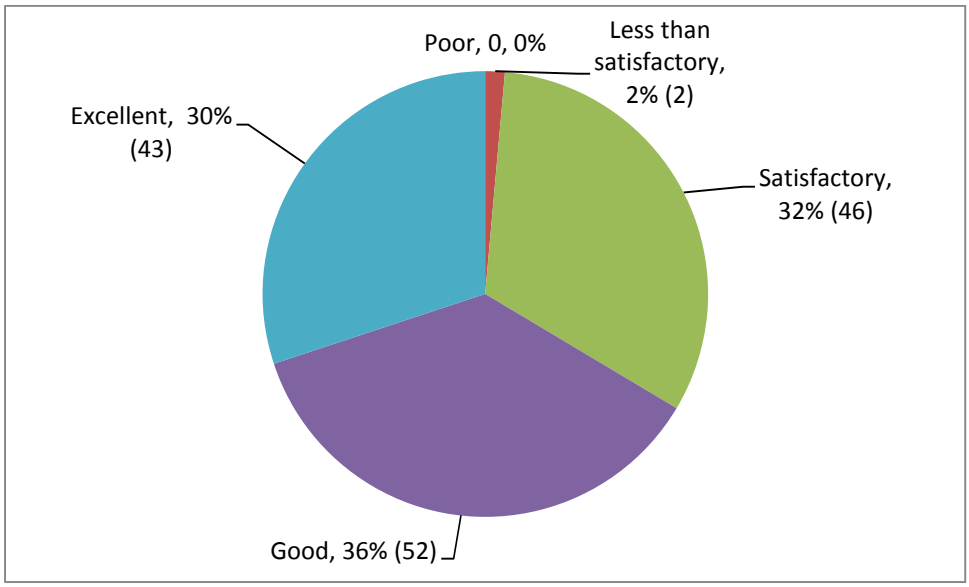

Figure 4: Level of satisfaction of training by assistant practitioners.

Services were asked to comment on aspects of the training process. Responses included the following:

- “Initially, in the first flush of assistant practitioners, there were plenty of training courses available. As time went on they became generic and untailored for the role”
- “Foundation degree is a full-on course with a lot of pressure”
- “Foundation degree is too long and there is a lot of pressure placed on the department during the training period. There is a high cost to department both for the course and payment during training. Previous trainees have withdrawn from the Foundation degree due to academic requirement”
- “NVQ new at the time and heavily documentation dependant”
- “Second year foundation degree too expensive – did one year only”
- “Limited feedback from tutors. Lots of educational support was required from colleagues at base. All of our APs were new to 'academic learning' and found this component challenging”
- “Found the university training course too broad as included a lot of additional radiology”
- “Not enough theory just for mammography”
- “Certificate in Higher Education was extremely academic and a lot of support was required”
- “Frustrations over lack of progression and changing guidance on training. Some APs find the practical element over long. Lot of work for NVQ”
- “The training was not specific to mammography and very much aimed at general assistant practitioners in a routine radiology setting. They have all been qualified for eight years plus and the route for training was deemed the best available at the time”
- “One trained first and found the course more difficult to tailor to the needs of the department. However, the other two trained together a year later and were able to support each other and have the support of the trained assistant”

Higher apprenticeships in mammography

We asked services if they would support the development of a higher apprenticeship for assistant practitioners in mammography. They were overwhelmingly positive with 84% (41/49) supporting this route where units responded. Services that responded positively were asked if they would be willing to participate in the development of the required standards and framework for such an apprenticeship. Around half of the services were interested.

Trainers

Of 48 services with assistant practitioners, 32 have formally appointed trainers from the screening radiographic team. Half of these staff are accredited practice

educators by the SCoR. The remainder offer training on the basis of experience in the programme.

Accreditation

There is higher uptake of accreditation by assistant practitioners than advanced practitioners. Nationally, around two thirds of units (31 of 48) have some accredited staff. Reasons given for staff not being accredited included:

- “Don’t see the relevance of accreditation”
- “Don’t want to be accredited”
- “Too time consuming”

Career progression

Assistant practitioners who want to become Health and Care Professions Council (HCPC) registered radiographic practitioners are required to undertake a degree in radiography. Most services have staff who would like career progression.

Twenty of the 52 units have assistant practitioners who would like to train further to become a radiographer. This includes 38 staff.

Just two former assistant practitioners left a radiology degree course within a year due to being too academically demanding and maintaining an acceptable work/life balance.

Screening and symptomatic practice

Most (48 of 52) services undertake both breast screening and symptomatic practice. Services were asked to estimate the impact (if any) of symptomatic demand on screening delivery. Responses were as follows:

- around one third (16 of 52) of all units find the pressure from workload in symptomatic practice regularly impacts on their screening service over more than six months (estimated) per year
- 11 units stated that the pressure from symptomatic practice often impacts on their screening service over two to six months per year (estimated)
- 11 units stated the pressure from symptomatic practice occasionally impacts on their screening service for less than two months per year (estimated)
- symptomatic practice did not impact on screening service delivery for the remainder of services (10)

In response to these intermittent pressures, services mainly asked staff to work additional clinics (31 services) or recruited agency staff (11 services).

Summary and discussion

This report mirrors findings of the radiology breast workforce census (2015). The backbone of the screening programme is the mammography workforce and current vacancy rates are 15%. The workforce is ageing with around half of all practitioners aged 50 plus and likely to retire in the next 10 to 15 years.

Advanced practitioners currently have lower vacancy rates (5%). However, 62% of the workforce are aged 50 plus and only 17% are aged below 40 years. Consultant practitioners have a high vacancy rate (22%) although this relates to eight WTE posts. Yet again, two thirds of consultant practitioners will retire in the next 10 to 15 years.

Unless there are mechanisms to ensure that suitable training is available and recruitment is encouraged, the future of the screening programme will be at risk. The programme currently screens 2.1 million women annually. The core screening population (50 to 70 years) is expected to increase by 8% by 2026 and demands from the age extension trial are likely to potentially increase the screening population by a further 28%. A co-ordinated strategy needs to be formulated by key stakeholders to ensure sufficient workforce is trained to meet future demands of the programme.

Radiographic skill mix has been adopted by most services with 49 of 52 services employing assistant practitioners and 51 of 52 services employing advanced practitioners. Currently, assistant practitioners constitute 28% of the total mammographic workforce. Consultant practitioners are employed in around 40% (20 of 52) of services.

Assistant practitioner (AP) level is probably the easiest staffing group to recruit with 40% entering the programme from outside professions related to healthcare. Whilst staff have a range of qualification routes historically, 60% of services would prefer SCoR courses supported by in-house training. To expand this workforce further, there may be some untapped demand by existing radiographic support staff training as APs.

There is enthusiasm for higher apprenticeships training of APs with 84% supporting the idea of this route. The scope to offer more of a career pathway for assistant level staff could encourage more recruitment and allow back-fill of practitioner posts to allow greater recruitment and development of the advanced and consultant practitioner levels. The current national profile for APs is currently band four with registered practitioners commencing on band five. The role of APs could be more attractive given some degree of career development. However, more recruitment of

APs requires in-house trainers. Currently two thirds of radiographic trainers are accredited practice educators by the SCoR. To allow a consistent level of support and mentorship nationally, this type of training may need to be expanded.

The desire for career progression is also evident by radiographic practitioners with 20% of the workforce currently in training to be advanced practitioners. The report identified 84 practitioners who would like to increase their scope of practice to advanced practitioner level incorporating 42 services. There is scope for development of practitioners within the programme but this requires adequate staff for mentorship in-house (by radiologists and consultant practitioners) and sufficient capacity within the service to back-fill mammographic duties. The scope of practice for advanced practitioners would need to be reviewed if more advanced imaging techniques were undertaken by these staff.

Most advanced practitioners have level seven qualifications but with over one third qualified to at least post graduate certificate level, some could be encouraged to progress to CP level. Around 60% of services have staff who want to progress to CP level (involving 40 staff). With one third of radiologists expected to retire over the next 10 to 15 years, training more CPs could be a cost effective way of maintaining breast screening workforce capacity. There is national scoping work for advanced clinical practice under way with a new framework. If educational requirements are mandatorily raised as a result, this may impact on the screening workforce, as only one CP nationally is currently educated to doctorate level.

CPs operate only at consultant level, while advanced practitioners generally undertake a mix of advanced and practitioner level tasks. Currently, just over half of all advanced practitioners spend less than half of their working time in advanced practice, which suggests they have capacity to provide more advanced skills. Time in advanced practice may be restricted by local service need (either due to adequate radiology staffing or shortage of mammographers) and the requirement for adequate radiology support/mentorship.

The escalator idea of encouraging career progression within the programme is supported by comments arising from the survey. The programme also needs to encourage the recruitment of newly qualified radiographers. Most APs are unlikely to leave paid work to undertake a three year degree course, followed by further post-graduate training to become a practitioner. It would be helpful to offer radiography undergraduates more exposure to the breast screening programme to highlight career opportunities and encourage new recruitment of a younger workforce. Reasons given for failure to recruit included insufficient interest in breast radiography.

The radiographic workforce undertake additional responsibilities at service level. The Picture Archiving Communications system (PACs) which stores breast images requires involvement of the mammographic workforce in 21 of 52 services with varying sessional commitments. In addition, senior radiographic staff are often in a managerial role which could be undertaken by general managerial staff with superintendent input. This could release more senior time for clinical or teaching roles.

The programme is working to determine the necessary workforce numbers required to operate the national screening programme. It will analyse the possible variations in service configurations; depending more heavily on radiologists or incorporating more consultant practitioners in models going forwards and further developing radiographic skill mix. Ensuring success and planning and building a workforce with adequate training for the future will require engagement and collaboration by key stakeholders (PHE, Health Education England, SCoR, Royal College of Radiologists, NHS England, breast training centres and others).

[i] Department of Health. *Breast Cancer Screening Report to the Health Ministers of England, Wales, Scotland and Northern Ireland by a Working Group* Chaired by Sir Patrick Forrest. London, HMSO, 1986
[ii] Royal College of Radiologists. *The Breast Imaging and Diagnostic Workforce in the United Kingdom: Results of a Survey of NHSBSP units and radiology departments.* November 2015