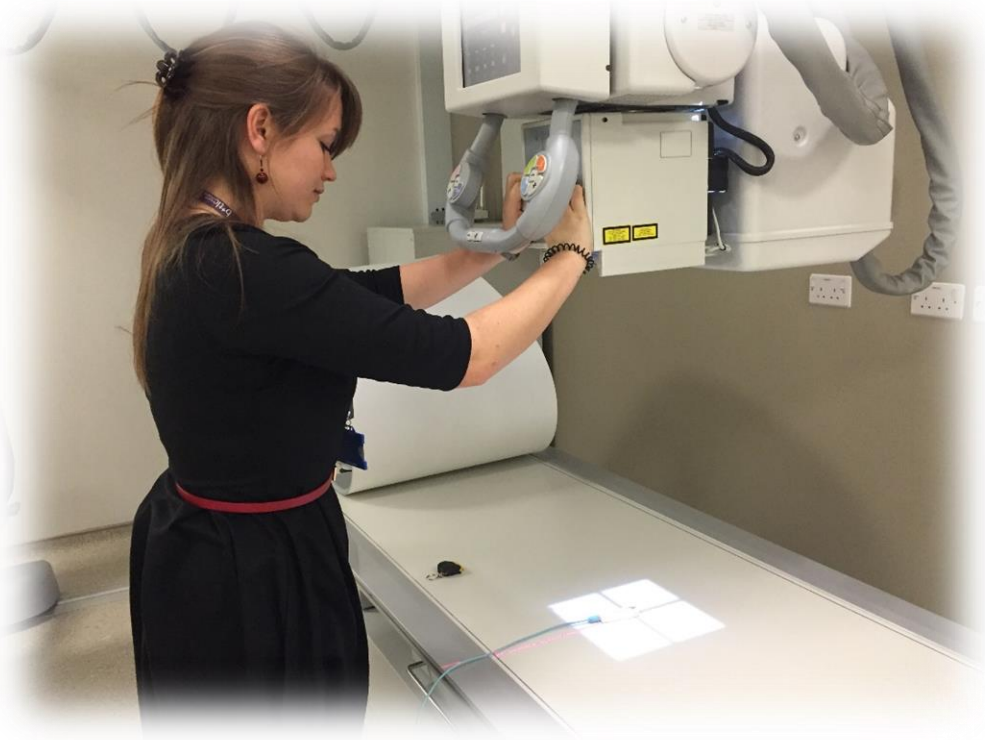


IPEM

Institute of Physics and
Engineering in Medicine



Diagnostic Radiology and Radiation Protection Workforce Survey Summary Report 2024

Introduction

The data in this report is compiled from IPEM's Diagnostic Radiology and Radiation Protection Workforce Survey 2024, carried out in May 2024 with a capture date of 16th May. An invitation to respond was sent to all heads of Diagnostic Radiology and Radiation Protection services in the UK, including both NHS and Independent providers.

The aim of this report is to show the number of staff working within Diagnostic Radiology and Radiation Protection across the UK and how the current workforce is coping. This includes headcounts, whole time equivalents of establishment, staff in post and vacancies, age profiles and staffing provision, broken down by NHS Agenda for Change banding where appropriate and by region.

Executive Summary

An invitation was sent to all Diagnostic Radiology and Radiation Protection services and at the time of compiling this report, we achieved a response rate of 90% covering 62 services, which includes 98% of all NHS services. Data was gathered on 2 professional groups: Clinical Scientists and Clinical Technologists, along with other clinical staff essential to the provision of the service and how many of the medical physicists have advanced certifications of competency (Medical Physics Experts, Radiation Protection Advisors, Radiation Waste Advisors, Laser Protection Advisors, Magnetic Resonance Safety Expert).

The survey data shows that the Diagnostic Radiology and Radiation Protection Workforce is currently in need of further resources, according to both European recommendations and service leads desirable staffing numbers, though staffing levels have increased since 2021. On top of establishment levels needing to increase, there is currently a high vacancy rate within the specialism.

- We estimate there are around 450 WTE Clinical Scientists and 170 WTE Clinical Technologists working in Diagnostic Radiology and Radiation Protection
- Staffing levels have increased by 31% for Clinical Scientists and 22% for Clinical Technologists since 2021 however staffing provision in Diagnostic Radiology and Radiation Protection is still currently too low
- Vacancy Rates within Diagnostic Radiology and Radiation Protection are quite high with 16% of Clinical Scientist posts and 13% of Clinical Technologist posts vacant
- The national staffing level is 56% of the average recommended staffing level. This is an increase from 51% in 2021.
- The national desirable staffing level is 79% of recommended staffing levels
- To meet desirable staffing levels and fill all vacant posts, an additional 166 WTE Clinical Scientists and 106 WTE Technologists are needed, this increases to an extra 478 WTE Clinical Scientists and Technologists to meet EU Report 174 recommended staffing levels
- 25% of Clinical Scientists and 29% of Clinical Technologists are over the age of 50
- In London the Clinical Technologists over 55 make up just under half of the workforce, in the Midlands 38% of Clinical Technologists are over 50 and in the South West this figure is 40%

Workforce Headlines

	Establishment in Whole Time Equivalence of Responding Centres	Estimated Total Establishment in Whole Time Equivalence across UK*	Vacancy Rate
Clinical Scientists	436.0	452.8	16%
Clinical Technologists	162.8	167.6	13%
Other Clinical Staff	35.4	35.4	12%

	Headcount of Responding Centres	Estimated Total Headcount Across UK*	In Post in Whole Time Equivalence of Responding Centres	Estimated In Post in Whole Time Equivalence across UK*
Clinical Scientists	408	428	364.5	381.3
Clinical Technologists	158	163	141.8	146.6
Other Clinical Staff	44	44	31.0	31.0

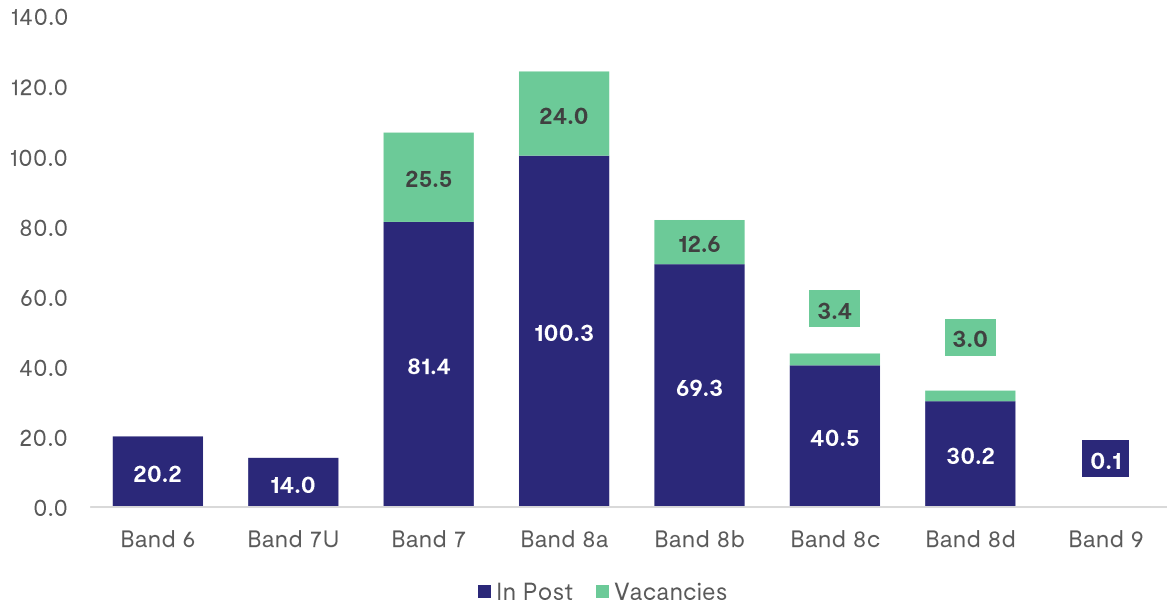
*Estimates made for missing centres are taken from previous responses to workforce surveys or average staffing provision has been used

Vacancy Rate Comparison

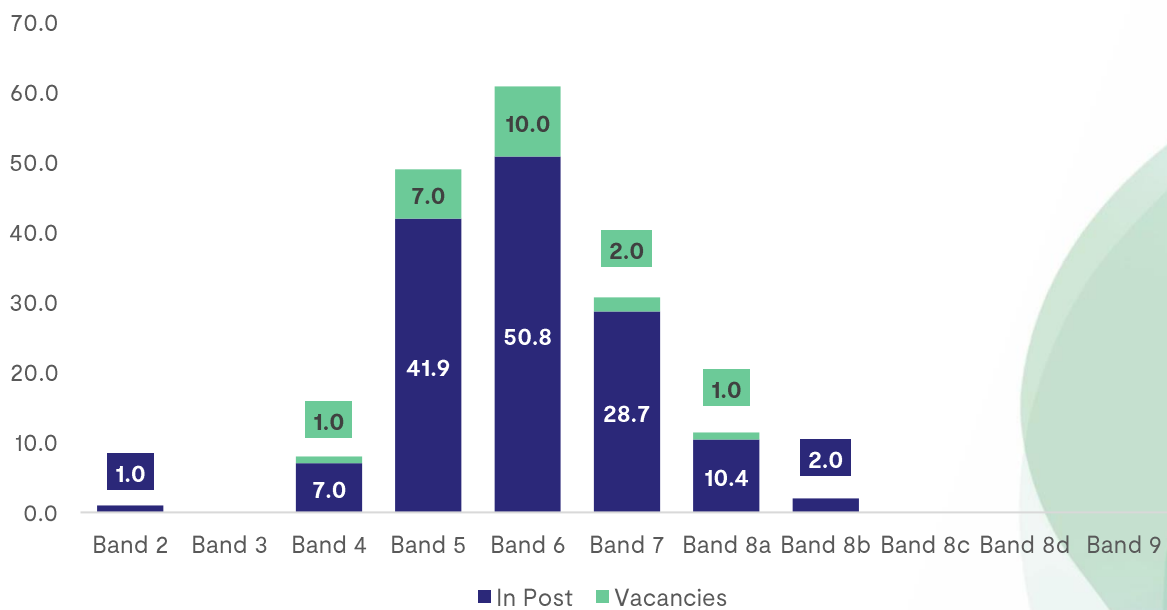
	Clinical Scientists	Clinical Technologists
Diagnostic Radiology and Radiation Protection	16%	13%
Radiotherapy	8%	8%
Nuclear Medicine	12%	14%

Establishment and Vacancies

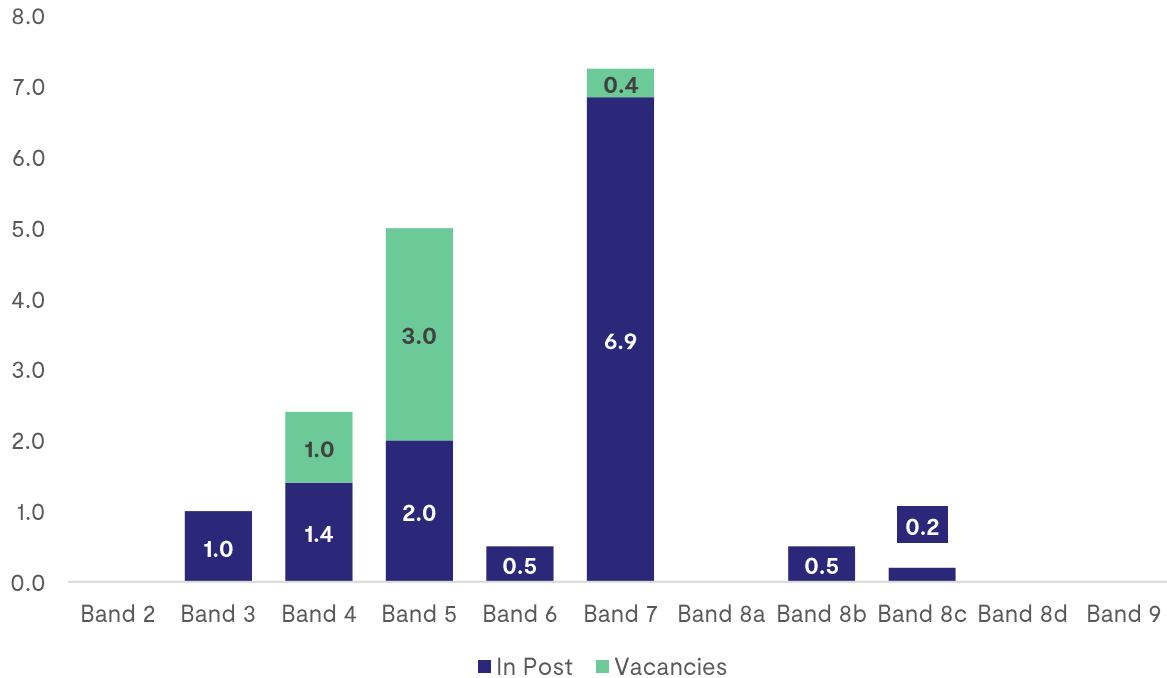
Responding Centres Clinical Scientist Establishment in Whole Time Equivalent by AfC Banding



Responding Centres Clinical Technologist Establishment in Whole Time Equivalent by AfC Banding

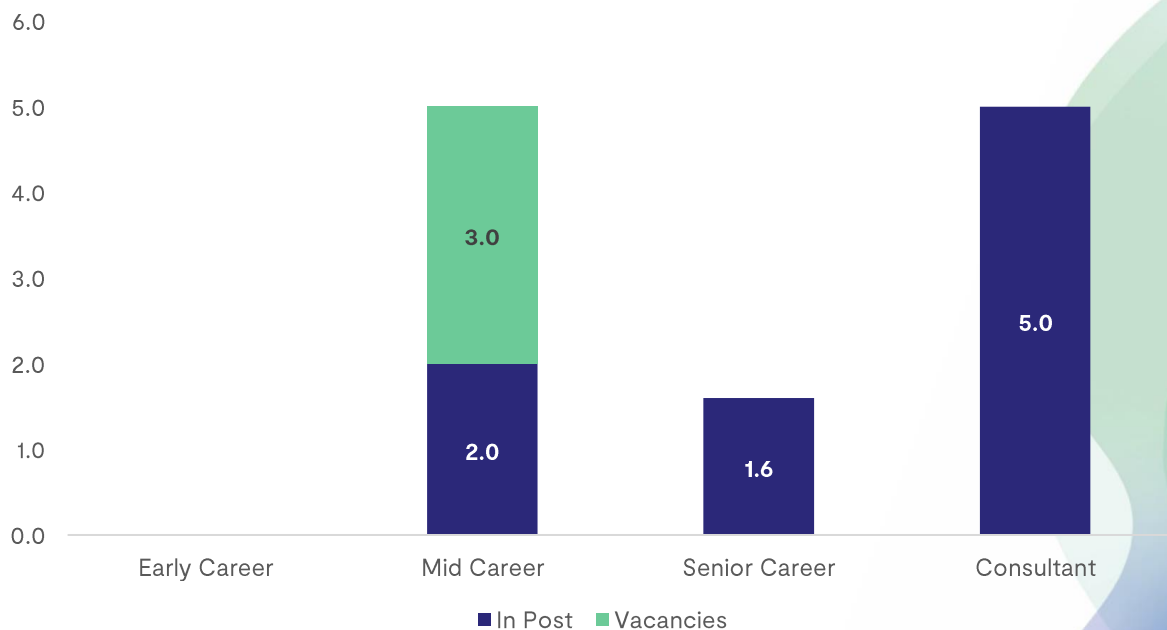


Responding Centres Other Clinical Staff Establishment in Whole Time Equivalent by AfC Banding



For Independent centres that responded where their workforce cannot be put into the Agenda for Change Banding that the NHS use, we gave the option to respond with seniority level which is shown in the following chart.

Responding Independent Centres Clinical Scientist Establishment in Whole Time Equivalent by Career Level

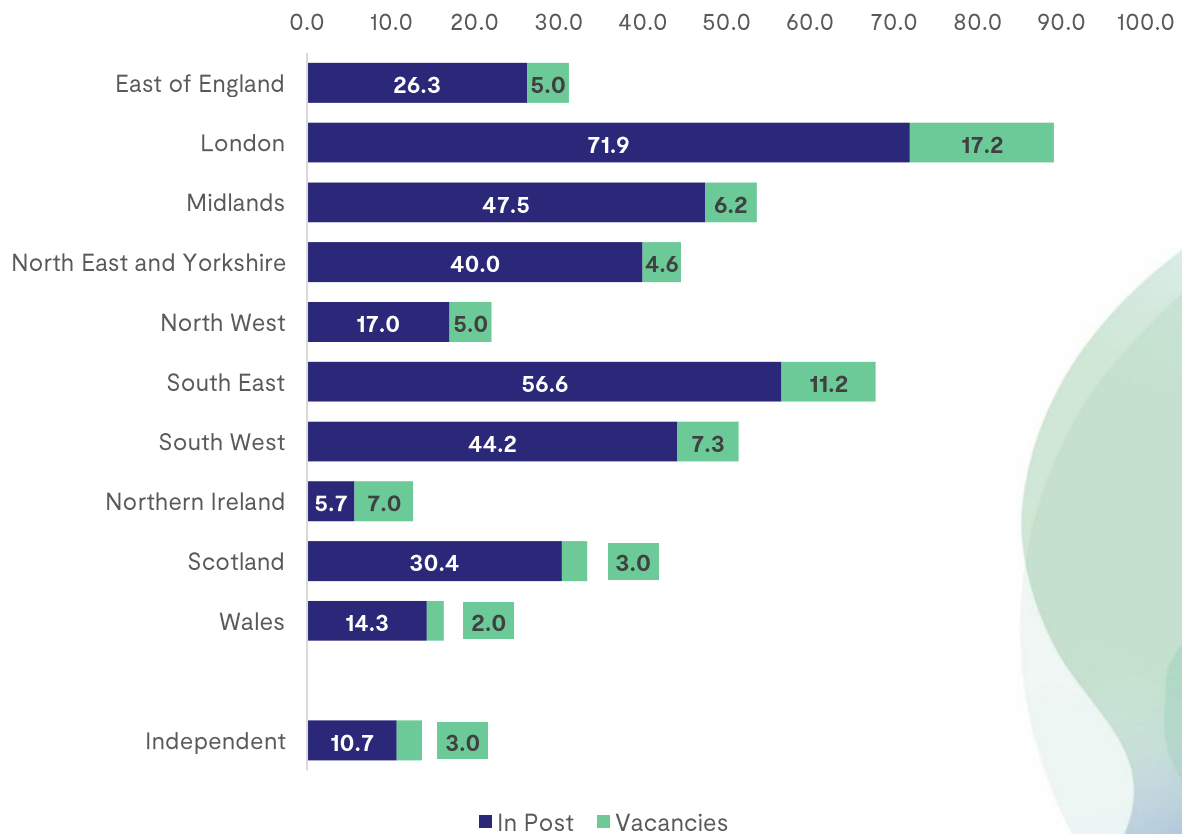


Establishment by Region

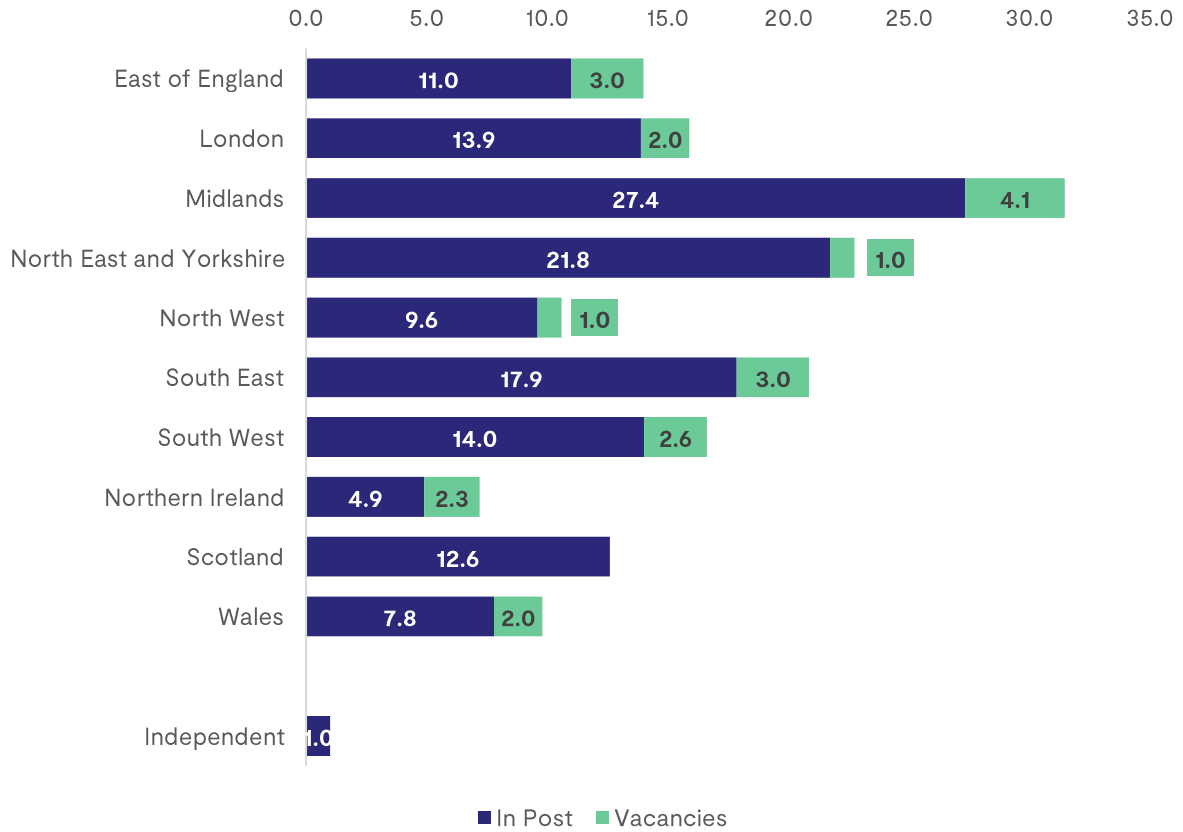
Region	Regional Service Response Rate
East of England	80%*
London	80%
Midlands	89%
North East and Yorkshire	100%
North West	100%
South East	90%*
South West	100%
Northern Ireland	50%*
Scotland	100%
Wales	100%
Independent	65%

*Only missing one small consultancy/service

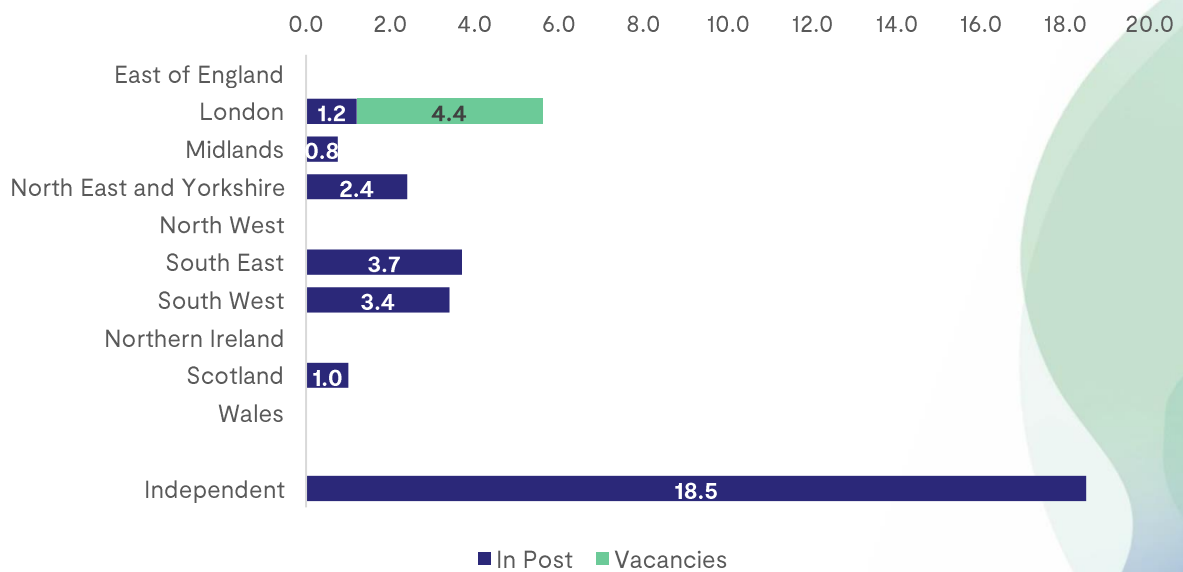
Clinical Scientists Establishment of Responding Centres in Whole Time Equivalent by Region



Clinical Technologist Establishment of Responding Centres in Whole Time Equivalent by Region

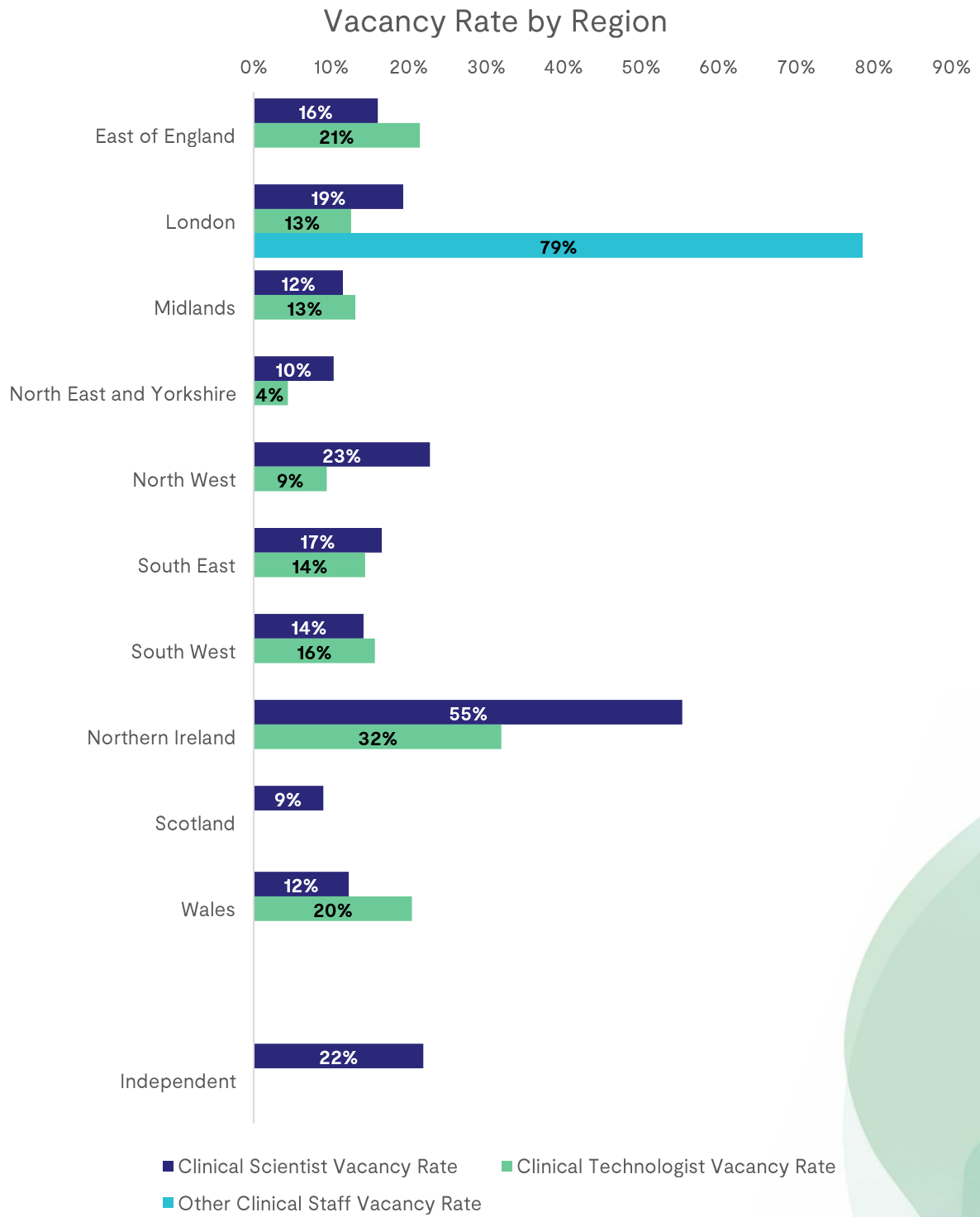


Other Clinical Staff of Responding Centres Establishment in Whole Time Equivalent by Region



*Other staff consist of Assistant Physicists, Associate Practitioners, Associate Healthcare Assistants, personal dosimetry support, temporary bank staff and part time trainers

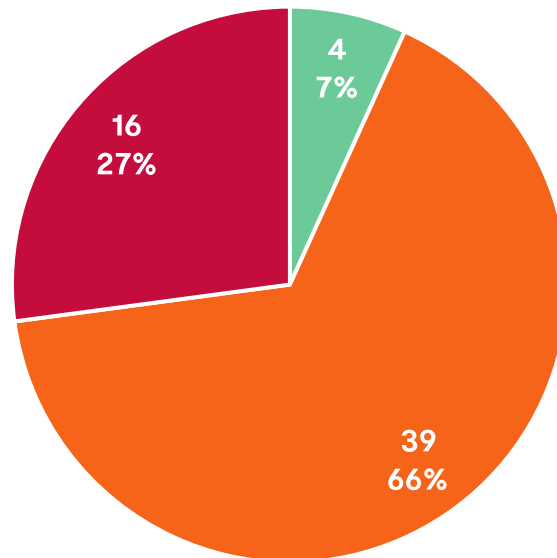
Vacancy Rate by Region



*Other staff consist of Assistant Physicists, Associate Practitioners, Associate Healthcare Assistants, personal dosimetry support, temporary bank staff and part time trainers

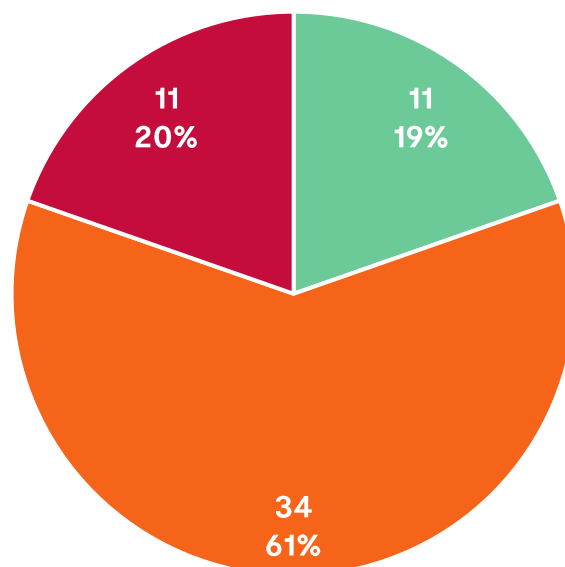
Staffing Provision

Clinical Scientist Staffing Provision Satisfaction



■ Sufficient ■ Too little ■ Far too little

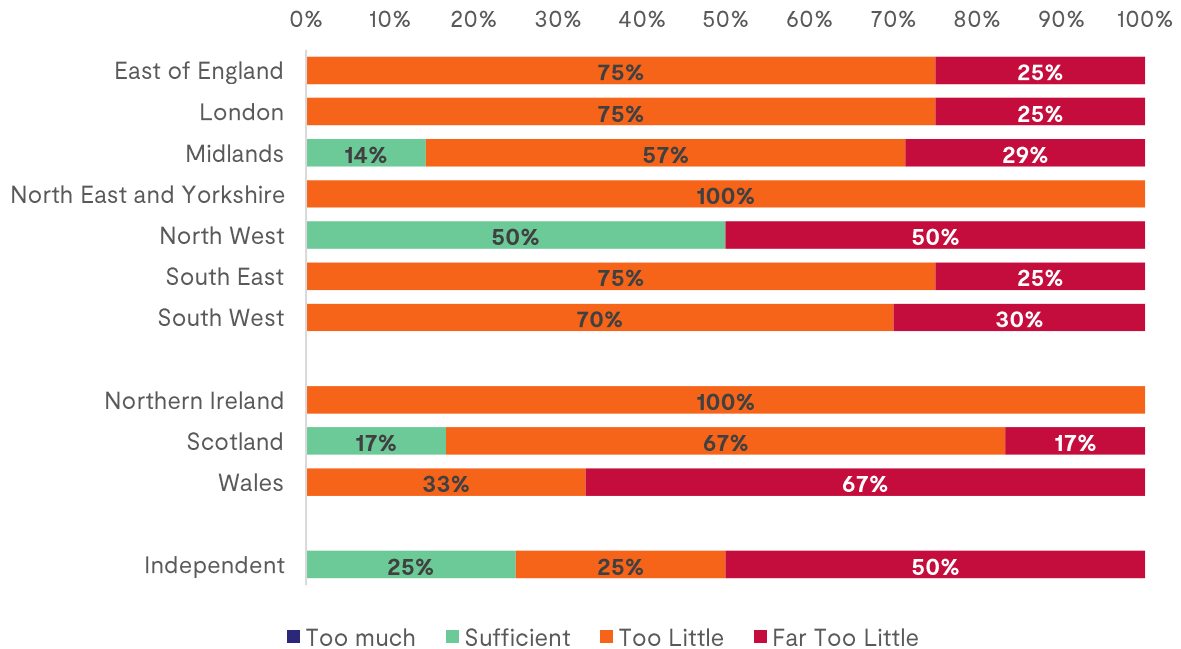
Clinical Technologist Staffing Provision Satisfaction



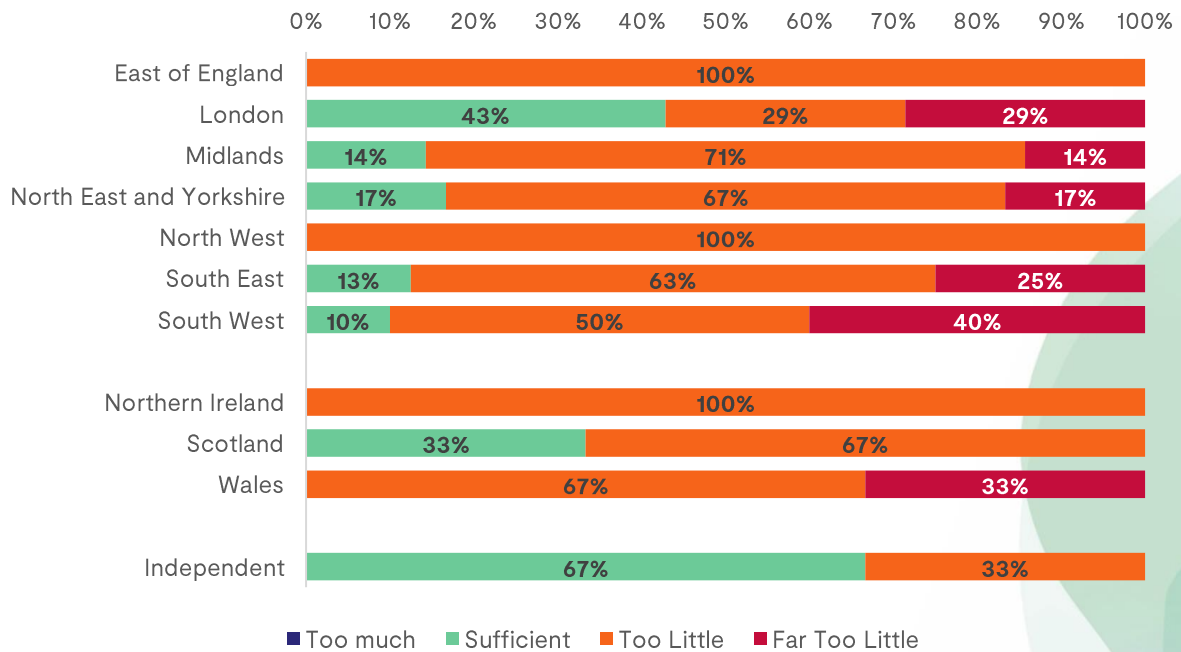
■ Sufficient ■ Too little ■ Far too little

Staffing Provision by Region

Clinical Scientist Staffing Provision by Region



Clinical Technologist Staffing Provision by Region



Recommended Whole Time Equivalent Levels

When asked to complete the service information questions for the staffing calculator, 56 centres responded, which includes 97% of NHS services and 81% of the overall services. The below data shows the establishment against the recommended staffing levels for those that responded.

	Current Establishment	Recommended	To Meet Recommended and Fill Vacancies	% Increase to Meet Recommended and Fill Vacancies
EU Report 174 Medical Physics Support	564.6	1042.3	477.7	85%
EU Report 174 MPEs	110.9	409.0	298.1	269%
EFOMP Medical Physics Support Over Band 7	428.7	746.2	317.1	74%

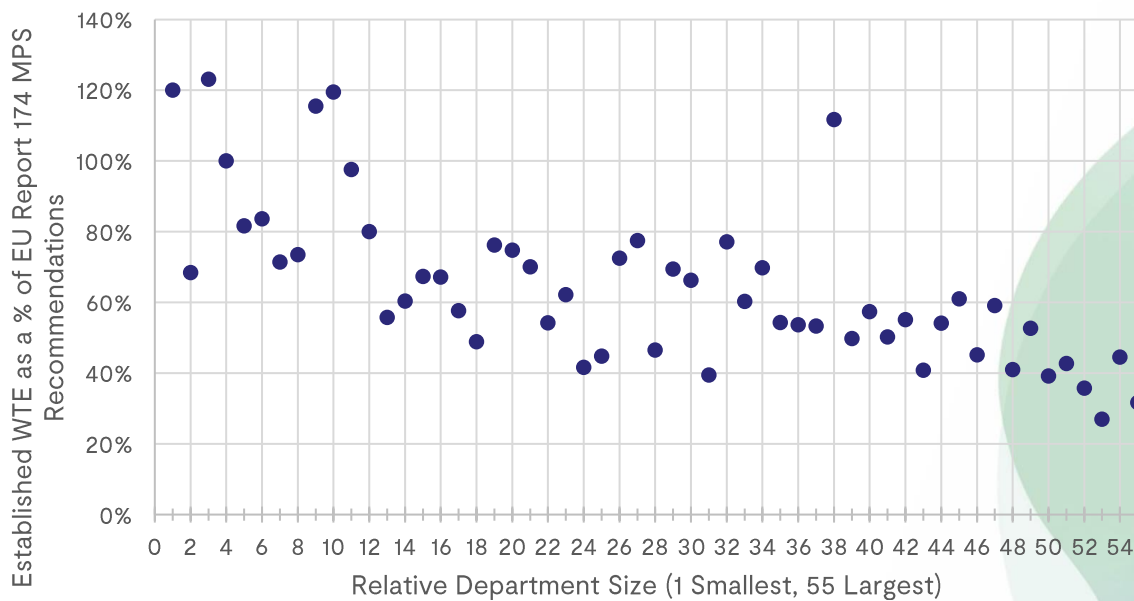
Recommended staffing levels have increased since 2021, as a significant amount of equipment has been purchased over the last 3 years which the recommended staffing levels take into account.

	Medical Physics Service overall WTE over/under EU Report 174 recommendations	MPE component of Medical Physics Service WTE over/under EU Report 174 recommendations	Medical Physics Service Band 7 and above WTE over/under EFOMP recommendations
East of England	-32.1	-23.3	-25.2
London	-85.0	-54.8	-55.5
Midlands	-69.1	-46.5	-54.2
North East and Yorkshire	-56.1	-36.9	-41.6
North West	-33.7	-16.5	-19.2
South East	-88.4	-48.4	-62.2
South West	-22.5	-27.8	-15.6
Northern Ireland	-17.8	-12.5	-9.0
Scotland	-41.9	-17.7	-19.1
Wales	-33.6	-13.8	-14.6
Independent	2.5	0.0	-0.9
Total	-477.7	-298.1	-317.1

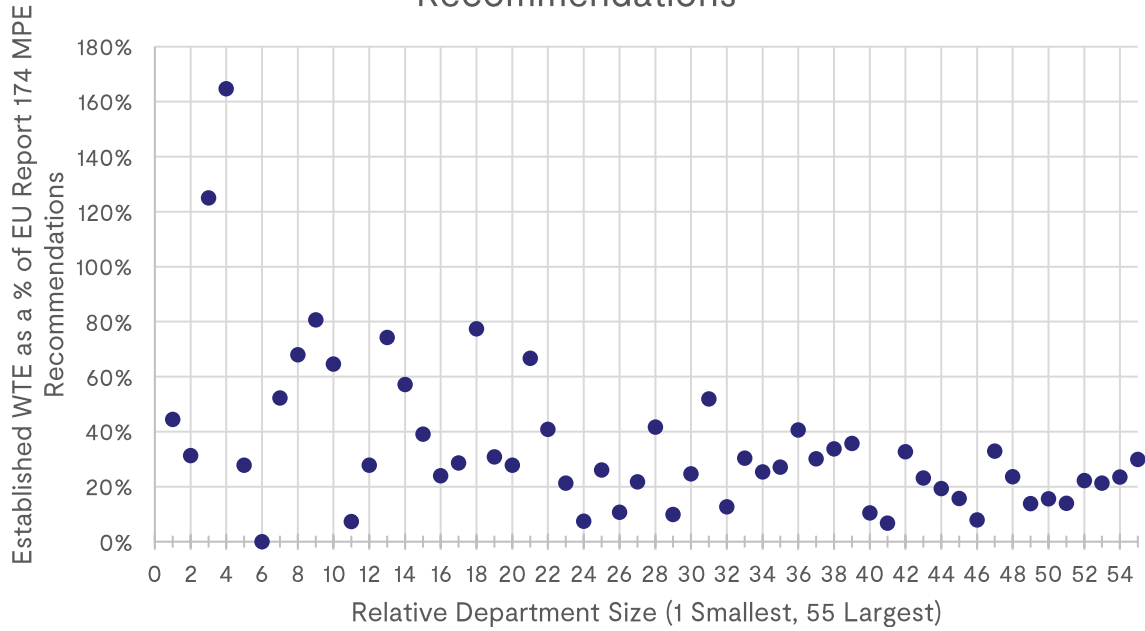
	Medical Physics Service overall WTE % of EU Report 174 recommendations	MPE component of Medical Physics Service WTE % of EU Report 174 recommendations	Medical Physics Service Band 7 and above WTE % of EFOMP recommendations
East of England	59%	24%	58%
London	55%	28%	62%
Midlands	55%	25%	53%
North East and Yorkshire	52%	19%	51%
North West	49%	32%	52%
South East	45%	27%	46%
South West	75%	26%	77%
Northern Ireland	53%	14%	62%
Scotland	52%	43%	66%
Wales	44%	36%	57%
Independent	600%	100%	53%

NHS Service Ranking by Department Size showing Percentage of Recommendations

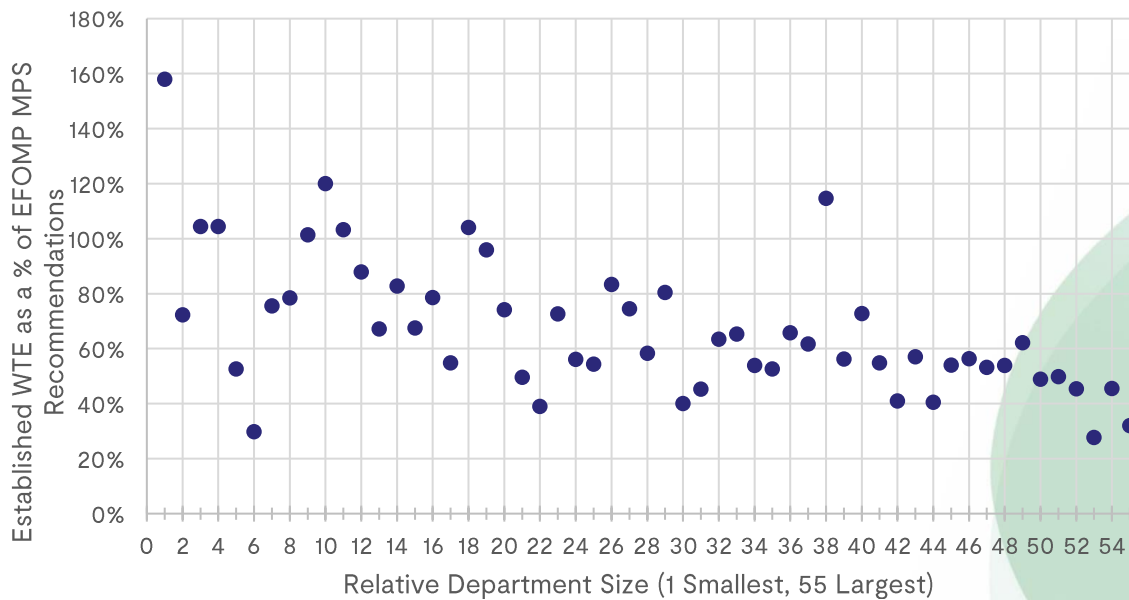
NHS Services Percentage of EU Report 174 MPS Recommendations



NHS Services Percentage of EU Report 174 MPE Recommendations



NHS Services Establishment as a Percentage of EFOMP Band 7 and over MPS Recommendations



Desirable Staffing Levels

	Current Establishment WTE	Desirable CS Establishment WTE	To Meet Desirable WTE	% increase
CS	404.8	562.7	157.9	39%
CT	159.8	256.5	96.7	60%

Desirable Clinical Scientists by Region

	Current Establishment WTE	Desirable Establishment WTE	To Meet Desirable WTE	% increase
East of England	31.3	44.8	13.6	43%
London	89.1	119.7	30.6	34%
Midlands	53.7	74.0	20.3	38%
North East and Yorkshire	44.6	65.7	21.1	47%
North West	22.0	28.0	6.0	27%
South East	67.8	78.6	10.8	16%
South West	51.5	67.7	16.2	32%
Northern Ireland	12.7	17.7	5.0	39%
Scotland	33.4	48.0	14.6	44%
Wales	16.3	29.5	13.2	81%

Desirable Clinical Technologists by Region

	Current Establishment WTE	Desirable Establishment WTE	To Meet Desirable WTE	% increase
East of England	14.0	23.0	9.0	64%
London	15.9	22.4	6.5	41%
Midlands	31.5	40.6	9.1	29%
North East and Yorkshire	22.8	38.5	15.8	69%
North West	10.6	13.0	2.4	23%
South East	20.9	42.0	21.1	101%
South West	16.6	33.5	16.9	101%
Northern Ireland	7.2	10.2	3.0	42%
Scotland	12.6	20.3	7.7	61%
Wales	9.8	17.0	7.2	73%

Experts

	Headcount	WTE	Average WTE per person
MPE	201	118.2	0.6
RPA	149	77.9	0.5
RWA	38	12.2	0.3
LPA	38	12.7	0.3
MRSE	15	5.3	0.4

*RWA, LPA and MRSE may sit within in other physics teams not counted in this survey

Count of services by number of experts

Number of experts	RPA	RWA	MPE	LPA	MRSE
0	3	33	3	35	49
1	22	20	5	19	12
2	13	9	13	6	0
3	12	0	18	1	1
4	5	0	8	1	0
5+	7	0	15	0	0

*RWA, LPA and MRSE may sit within in other physics teams not counted in this survey

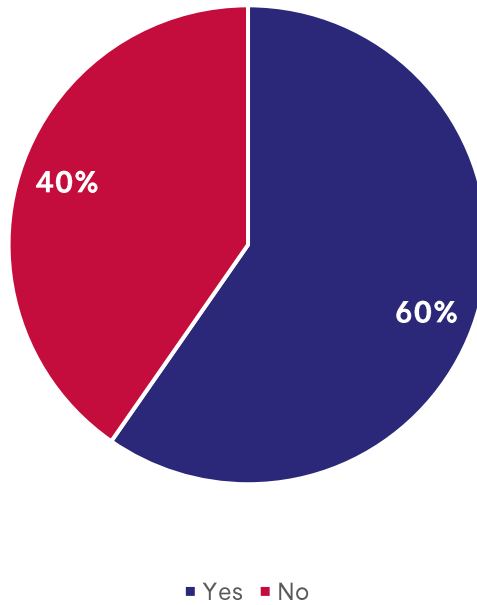
Desirable Experts

	WTE	Desired WTE	To meet desired
MPE	118.18	319.2	201.02
RPA	77.91	222	144.09
RWA	12.2	72	59.8
LPA	12.71	68	55.29

*RWA and LPA may sit within in other physics teams not counted in this survey

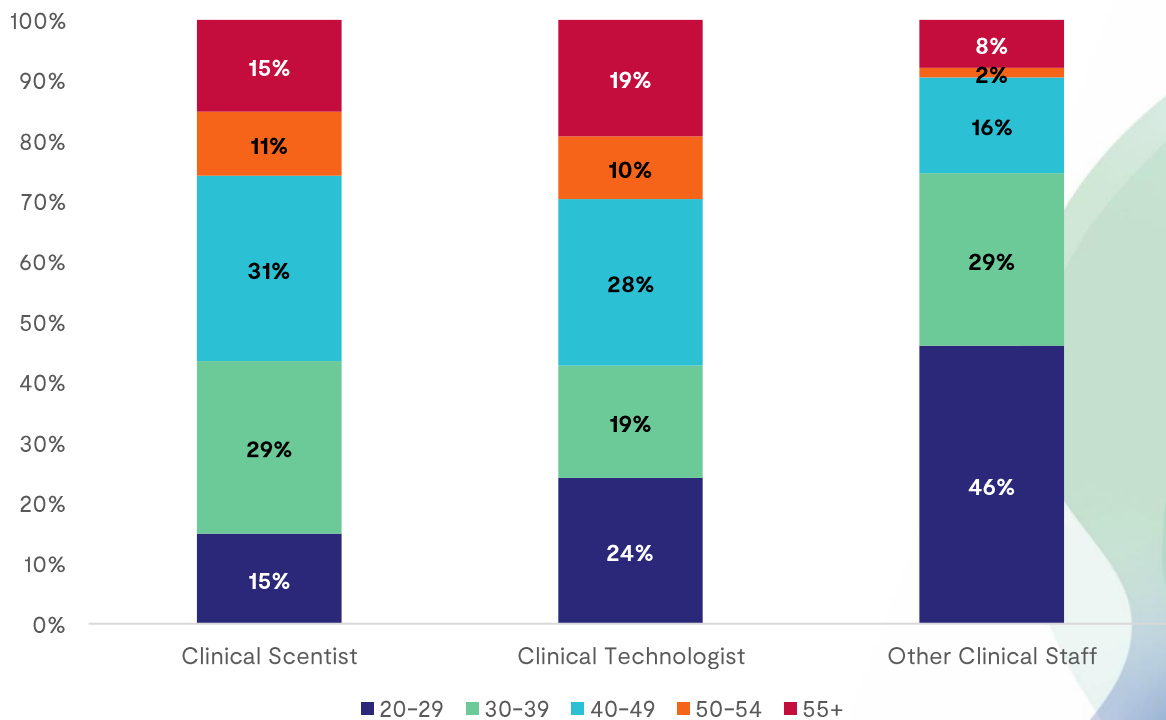
Admin Support

Percent of Services with Dedicated Admin Support



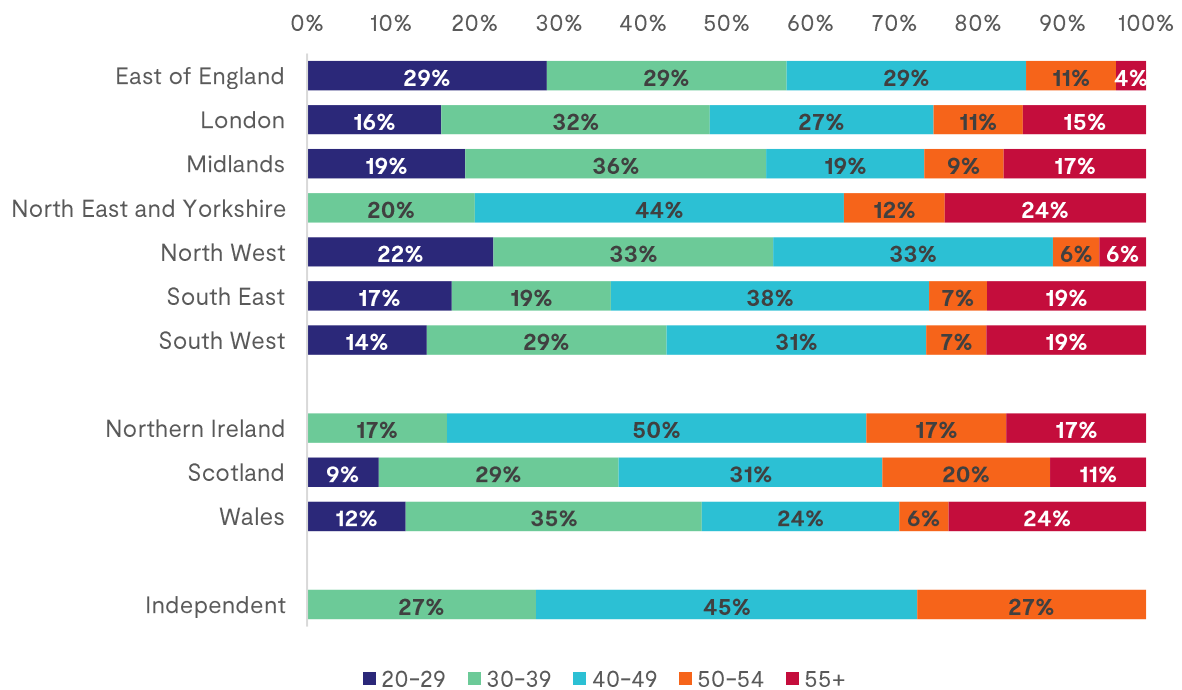
Age Profile

Diagnostic Radiology and Radiation Protection Age Profile

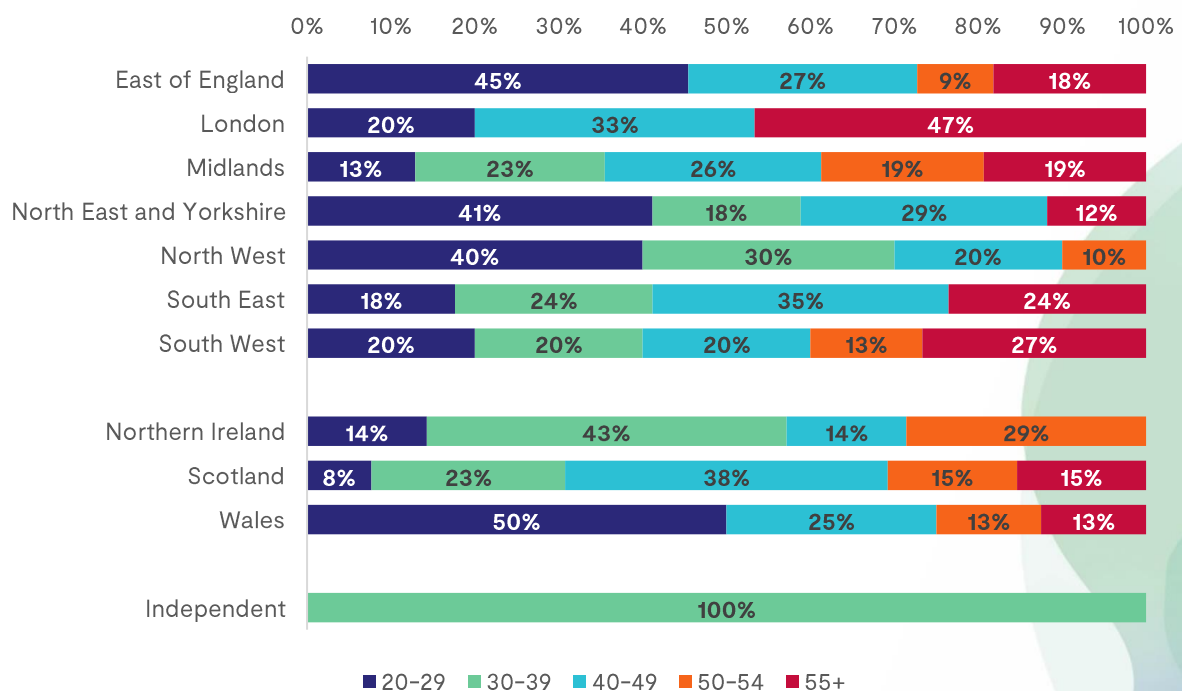


Age Profile by Region

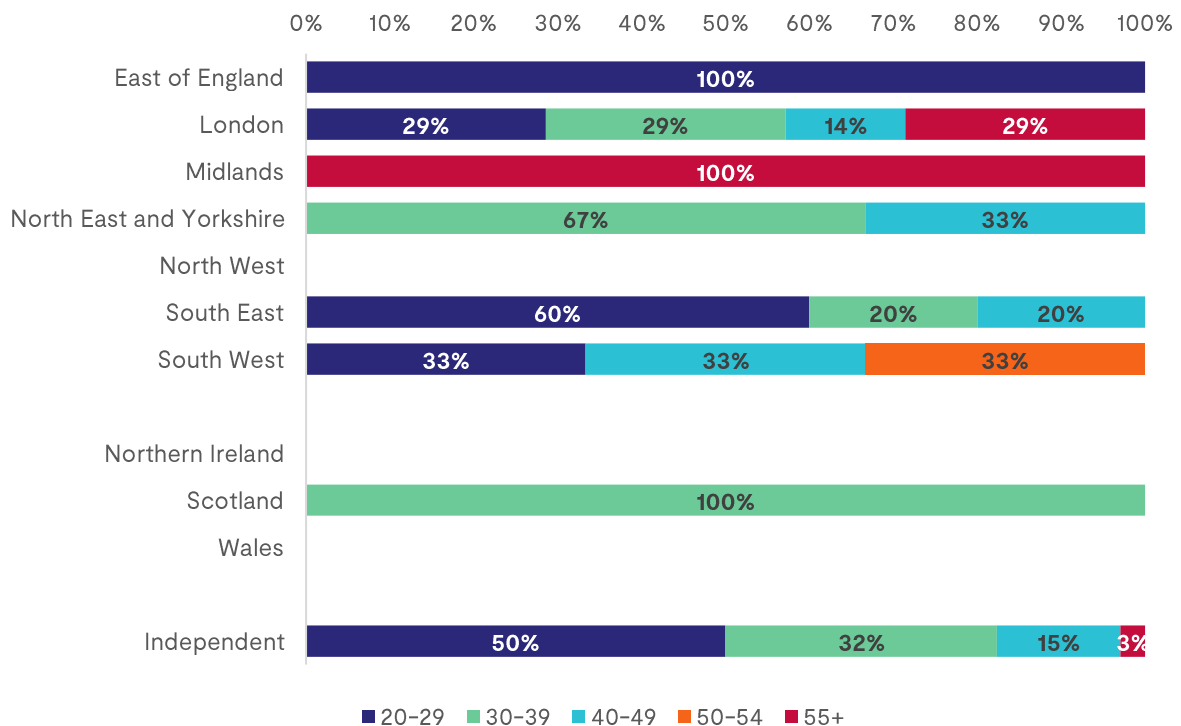
Clinical Scientist Age Profile by Region



Clinical Technologist Age Profile by Region



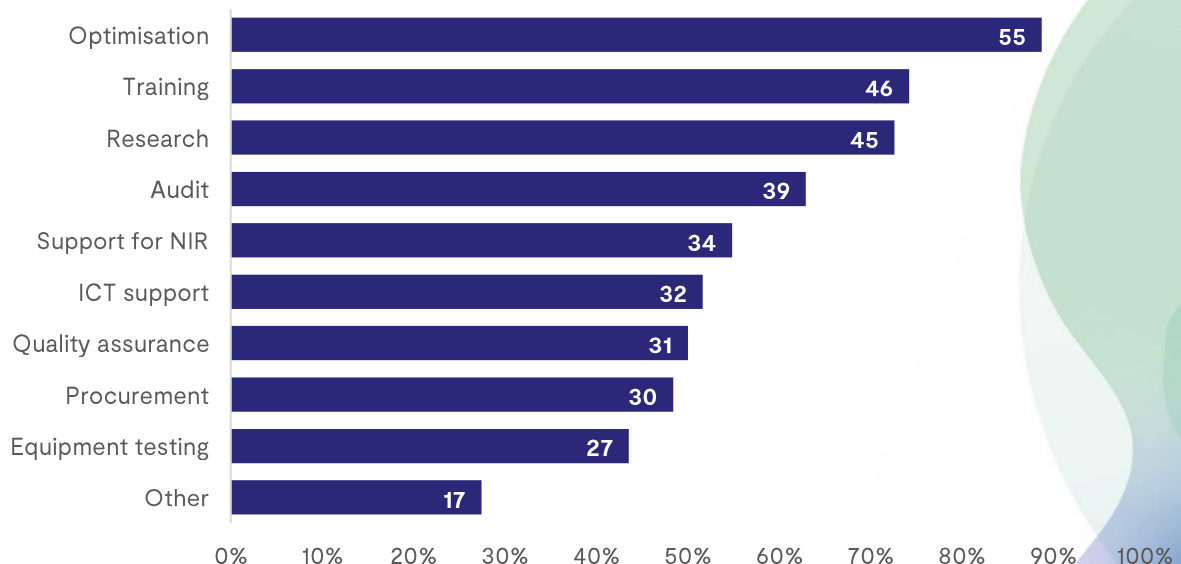
Other Clinical Staff Age Profile by Region



Further Resources

Respondents were asked which of the following areas do they feel require more resource within their service and below is the ranking of those options. Other includes RPA/RWA provision especially to radiotherapy, incident investigation, leadership and governance and staffing for introduction of new technologies.

Respondents Requiring Further Resource



Summary

The Diagnostic Radiology and Radiation Protection workforce remains significantly below desirable or recommended staffing levels. Since 2021, the overall recommended staffing level has increased, which is expected as the NHS has invested in additional diagnostic capacity for example via community diagnostic centres. The number of established posts has increased since the 2021 survey, however, this remains far below professional body recommendations.

The number of filled posts has not kept pace with imaging service expansion and the vacancy rate for clinical scientists has increased from 9% in 2021 to 16% in 2024. To meet the shortfall from existing WTE to desirable staffing levels, a significant expansion for recruitment and training new technologists and scientists is required.

The age profile of the workforce is also a concern, especially in certain regions where up to half the professional group is approaching retirement age. Without a succession plan to replace the aging workforce once they retire, there is a real possibility of some individual services being critically understaffed in the future.

Current European Medical Physics Service recommendations, EU Report 174 and EFOMP, for Diagnostic Radiology and Radiation Protection show current staffing levels are well below where they should be, however while these are an indication that services are understaffed, after reviewing the factors for the recommendations and the disparity between service lead's desirable staffing levels within the NHS and the recommendations output we propose IPEM develop our own staffing calculator for Diagnostic Radiology and Radiation Protection to help guide and increase staffing in UK services which are chronically understaffed.