SCoR
THE SOCIETY & COLLEGE OF RADIOGRAPHERS

Diagnostic Radiography Workforce UK Census 2019

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1. Foreword

Each year the Society and College of Radiographers undertakes a UK-wide diagnostic radiography workforce census to gain intelligence about the clinical imaging radiography workforce.

The 2019 census continues to show some high vacancy rates, particularly in England where the average vacancy rate from those trusts responding is 10.2 %.

At the time of writing, we are in the midst of the COVID-19 pandemic. This unprecedented crisis has reinforced the need for an adequately resourced, trained, flexible and responsive radiography workforce.

Clinical imaging is integral to almost all pathways of care, both for informing diagnoses and in monitoring treatment outcomes. Timely imaging and reporting is, therefore, essential in delivering efficient patient pathways and supporting the goal of improving outcomes for patients; a sufficient and flexible workforce is required to support this goal. In its publication Transforming imaging services in England: a national strategy for imaging networks NHS England and NHS Improvement sets out the challenges required in delivering future imaging services[1], reflecting on high vacancy rates, a lack of equipment in comparison to other countries, an ageing equipment base, and the need for a more collaborative network approach requiring an adequately resourced and flexible workforce.

As demand continues to rise and the complexity of imaging increases, more diagnostic radiographers will be required to image patients and, in addition, more will be required at advanced practitioner level to contribute to the interpretation / reporting of imaging studies that are part of the diagnostic pathway of care. The Cancer Workforce Plan[2] recognises the contribution of diagnostic radiographers as a key workforce and states its ambition to provide 300 additional reporting radiographers by 2021. A progress update on the plan published in 2019 reports that 150 radiographer have completed or are undergoing this training.[3]

In Scotland, the 2018 Cancer Research UK position paper on the diagnostic workforce in Scotland[4] reports a yearly increase in demand for imaging of 10% and notes the need for investment and training to increase skill mix and further establish the role of reporting radiographers. The 2019 NHS Scottish Integrated Health and Social Care Workforce Plan[5] identified funded places for 30 new reporting radiographers over the next three years.

As we continue to meet the challenges and consequences for imaging services during and after the COVID-19 pandemic, it is undoubtedly an opportunity for the profession to influence governments. We urge service leaders to work with key stakeholders in regional networks to develop clear plans to support the growth of the workforce to meet the population's needs at the local level. This should include optimisation of skills mix by both implementing the assistant practitioner workforce and investing in advanced and consultant practice to support service innovation, as well as utilising technologies in order to maximise capacity and capability.

The level 6 BSc Honours Degree Apprenticeship standard for diagnostic Radiographers in England[6] and the mammography associate standard[7] opens up alternative routes into supporting growth in the workforce.
We would like to thank our service managers for submitting figures for the 2019 diagnostic workforce census. We will share this report widely with key stakeholders across the UK.

Thanks and stay safe
President, Gill Hodges

2. Executive summary

In November and December 2019, the College of Radiographers (CoR) carried out a census of the diagnostic radiography workforce in the UK. The objectives were to establish the size, structure, nature and vacancy rate of the workforce. Sixty-six providers of medical imaging responded to an online questionnaire. This document presents an analysis of the census results and compares them to similar censuses carried out in 2014, 2016, 2017 and 2018 (see references). The following bullet points highlight the main findings:

- The average number of diagnostic radiography establishment staff by whole time equivalent (WTE) per respondent is 93.2.
- Of the 63 respondents to the current vacancies question, 57 (90%) report vacant diagnostic radiography workforce posts.
- The average current vacancy rate across respondents is 9.6% at the census date of 1 November 2019. This varies by UK country: England 10.2% and Scotland 6.3%. (Only one response was received from Wales and one from Northern Ireland. Their figures are therefore not reported here.)
- The average three-month vacancy rate across all respondents is 6.7%.
- The percentage of the respondents' establishment headcount absent long term is 4.1%; this figure has been in the range between 3.4% and 4.5% over the last four censuses.
- By headcount, 3.7% of respondents' diagnostic radiography workers are due to retire in the next two years.
- Fewer than one per cent, by headcount, of band 5 or higher clinical staff at the respondents are not registered with the Health and Care Professions Council (HCPC), Nursing and Midwifery Council (NMC), Register of Clinical Technologists (RCT) or similar body.
- By headcount, 2.4% of diagnostic radiographers at the respondents require a work permit.
- 74% of respondents say the majority of their diagnostic radiography workforce work in a shift system.
- The main reasons respondents give for radiographers leaving their posts are promotion in other centre, retirement and personal reasons.
- By headcount, 5.6% of respondents' staff are in postgraduate training in MRI, CT, ultrasound, mammography, nuclear medicine and/or reporting.
- By headcount, 11.4% of diagnostic radiographers, sonographers and/or nuclear technologists at the respondents are in advanced practice and 0.8% in consultant-level practice.
- As of the census date, 72% of respondents were employing some diagnostic radiography and/or sonography agency staff.

3. Introduction

This report presents an analysis of an online census of the diagnostic radiography workforce in the UK run by the CoR in November and December 2019. It follows on from similar censuses in September 20141, May 20162, November 20173 and November 20184. The census was targeted at providers of medical imaging in England, the Channel Islands, the Isle of Man, Northern Ireland, Scotland and Wales, in the NHS and other healthcare sectors. Respondents were asked about the size and nature of their diagnostic radiography workforce. The results of this census will inform the work of professional bodies, workforce planners and commissioners/providers of radiography education.

4. Methodology

The 2019 workforce census captures data about the diagnostic radiography workforce in the UK at a census date of 1 November 2019. Radiology services managers (or equivalents) were asked to answer the census on behalf of all diagnostic radiography (medical imaging) services in their hospital/workplace. They were asked to include all diagnostic radiographers, sonographers, nuclear medicine technologists, PET-CT technologists, assistant practitioners and trainee assistant practitioners (together referred to as the 'diagnostic radiography workforce' in this report), but not to include radiographic assistants (helpers/healthcare support workers), clerical workers, clinical scientists, radiotherapy staff or third-party managed services where the staff are employed by the third party.

Respondents were asked about their:

- Contact details and details of the workplaces and medical imaging modalities on behalf of which they were responding
- Establishment figures by Agenda for Change (AfC) band – WTE and headcount
- Vacancy figures by AfC band – current and three-month
- Long-term absence figures by AfC band – career break, long-term sickness and parental leave
- Numbers expected to retire in the coming year and in the subsequent year
- Numbers of staff not registered with the HCPC, NMC, RCT or similar body.
- Use of a shift system
- Number of radiographers requiring a work permit to work in the UK
- Reasons for radiographers leaving their posts
- Time spent on non-clinical duties
- Numbers in postgraduate training
- Numbers in advanced and consultant practice
- Use of agency staff

Both NHS and non-NHS providers were asked to supply their workforce data by AfC band. Non-NHS providers, who may not use the AfC system, were asked to refer to the NHS AfC pay bands before responding. Thus, all data could be collected and analysed by AfC band.

Data collection was carried out in November and December 2019. We received 66 responses from medical imaging services. This compares to 89 responses to the previous census in November 2018.

Not every respondent answered every question. The 'n' number below each figure in this report indicates the number of respondents for that question in the 2019 census. Links to the full set of questions for the 2019 census and a spreadsheet of the principal background data are provided in the downloads section.

5. Profile of respondent workforce size

The NHS respondents are fairly evenly distributed in terms of the size of their diagnostic radiography workforce establishment WTE. The three non-NHS respondents are all small medical imaging providers with establishments of less than 20 WTE.

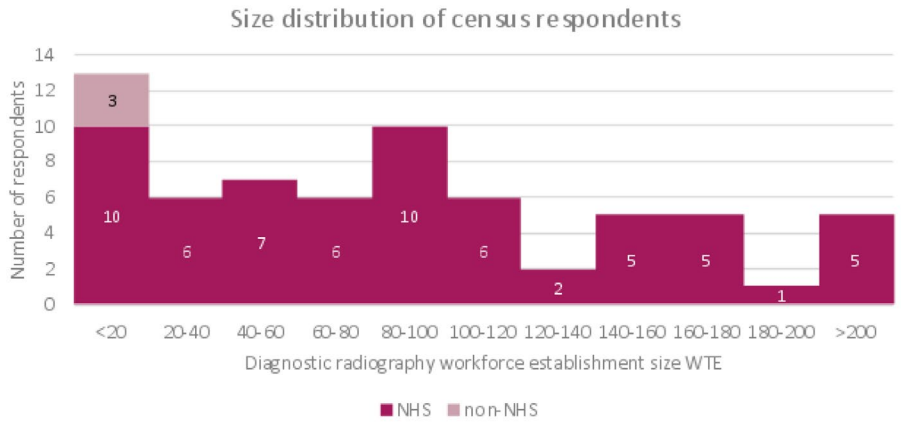

Figure 1 Diagnostic radiography workforce WTE size distribution of respondents (n=66)

6. Shape of workforce by Agenda for Change band

The mean number of diagnostic radiography establishment staff per respondent is 93.2 WTE. Figure 2 illustrates the average number of WTE staff by AfC band.

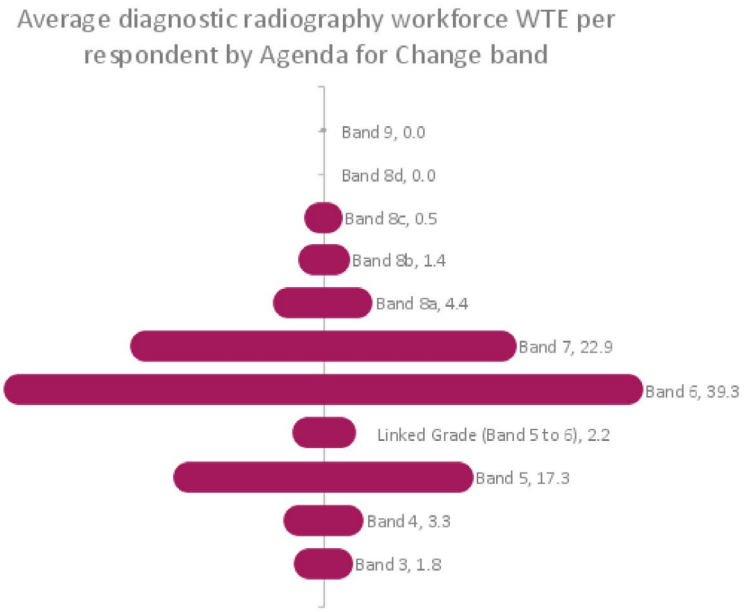

Figure 2 Average diagnostic radiography workforce WTE by AfC band (n=66)

7. Vacancy rate

7.1 Current vacancy rate

Of the 63 respondents to this question, 57 (90%) report vacant diagnostic radiography workforce posts.

The average current vacancy rate across respondents is 9.6% at the census date of 1 November 2019. (The current vacancy rate is defined as the total number of WTE vacancies as a percentage of the WTE establishment number of staff.)

This compares to an average vacancy rate of 7.8% in the September 2014 census, 13.1% in May 2016, 9.1% in November 2017 and 9.0% in November 2018. These differences in vacancy rate may be due in part to the different times of year at which the censuses were carried out. For example, the May 2016 census was before the largest annual intake of recently qualified radiographers, which is around June/July each year.

Figure 3 illustrates that the highest vacancy rates are at band 5 and the linked grade (band 5 to 6).

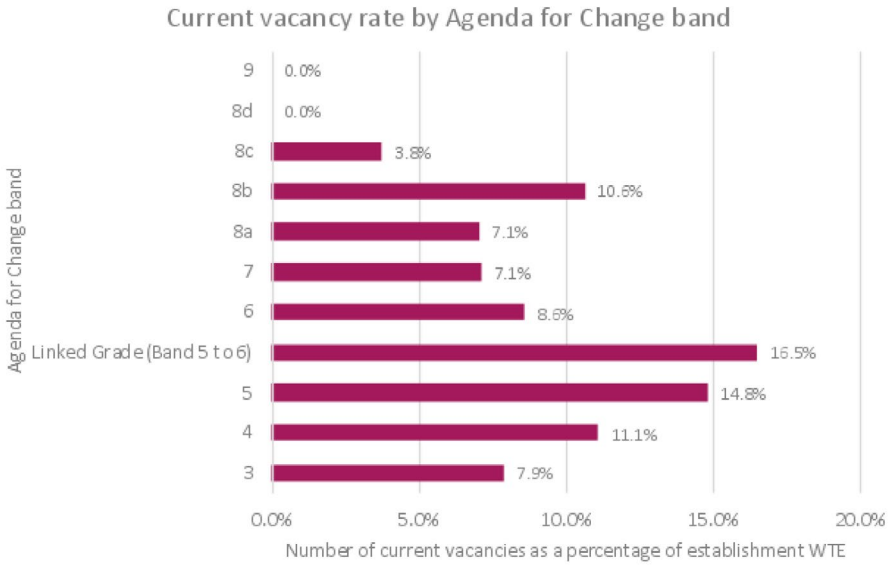

Figure 3 Current vacancy rate by AfC band (n=63)

7.2 Current vacancy rate by UK country and year

The average current respondent vacancy rate varies by UK country: England 10.2% and Scotland 6.3%. (Only one response was received from Wales and one from Northern Ireland; their figures are therefore not reported here.)

Figure 4 shows the average current vacancy rate trend from 2016 to 2019 among respondents. England generally has the highest current vacancy rate of the UK countries.

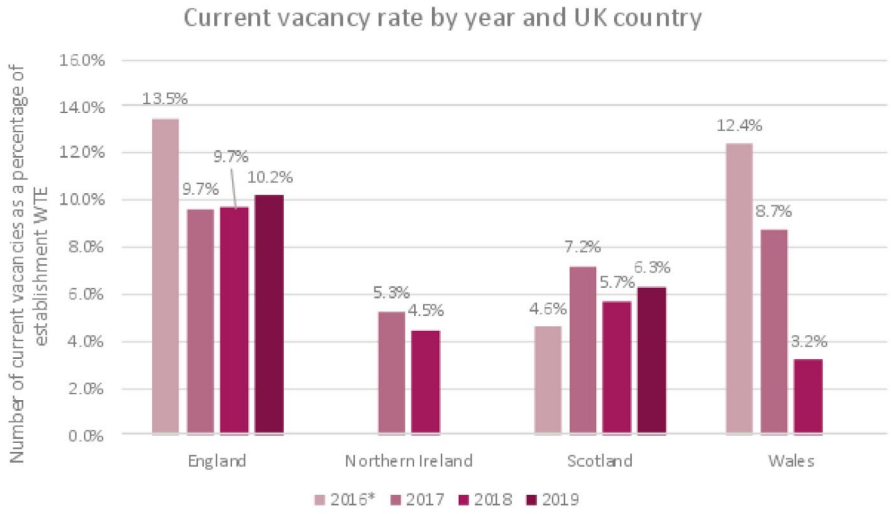

Figure 4 Current vacancy rate by UK country and year (n=63)

- Data is not available from the 2014 census as the data was not published by UK country.
- In 2017, 2018 and 2019, the census was carried out in November of that year. However, in 2016, the census was carried out in May before the largest annual intake of recently qualified radiographers which is around June/July each year. This may affect the vacancy figures for 2016.
- In years when fewer than three providers responded from a UK country, their average vacancy rate is not shown in the graph: Northern Ireland (2016); Northern Ireland (2019); Wales (2019).

7.3 Three-month vacancy rate

Of the 64 respondents to this question, 51 (80%) report vacancies that have existed for three months or longer. The average three-month vacancy rate across all respondents is 6.7%.

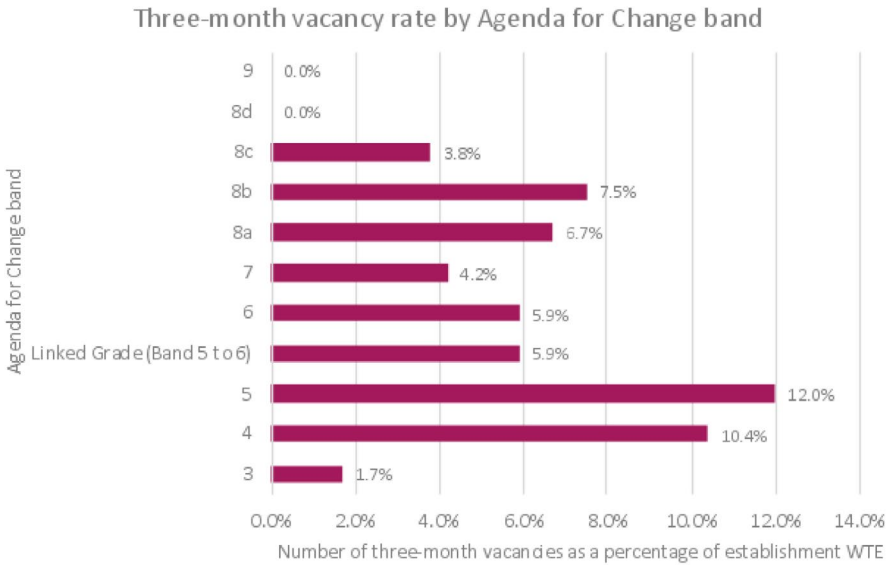

Figure 5 Three-month vacancy rate by AfC band (n=64)

8. Long-term absence rate

8.1 Long-term absence rate by Agenda for Change band

The average percentage of the respondents' diagnostic radiographic establishment headcount absent long term is 4.1% as of the census date of 1 November 2019 (comprising 0.2% on a career break, 1.6% absent due to long-term sickness and 2.4% on parental leave).

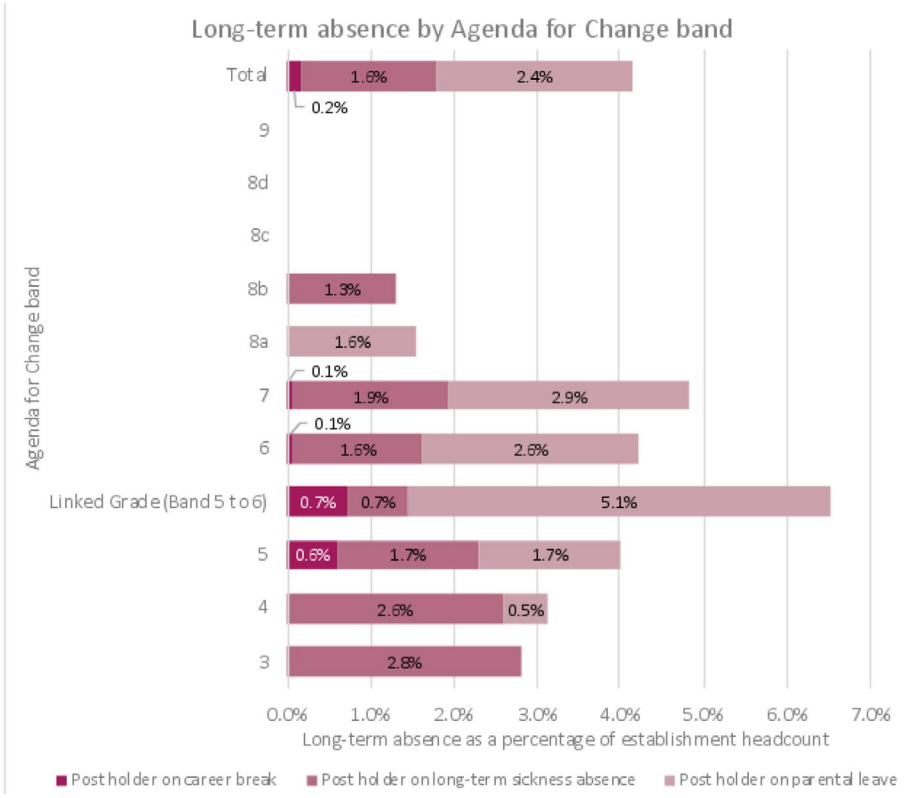

Figure 6 Long-term absence rate by AfC band (n=54)

8.2 Long-term absence rate by year

The long-term absence total of post holders on career break, long-term sickness absence and parental leave has been in the range between 3.4% and 4.5% over the last four censuses.

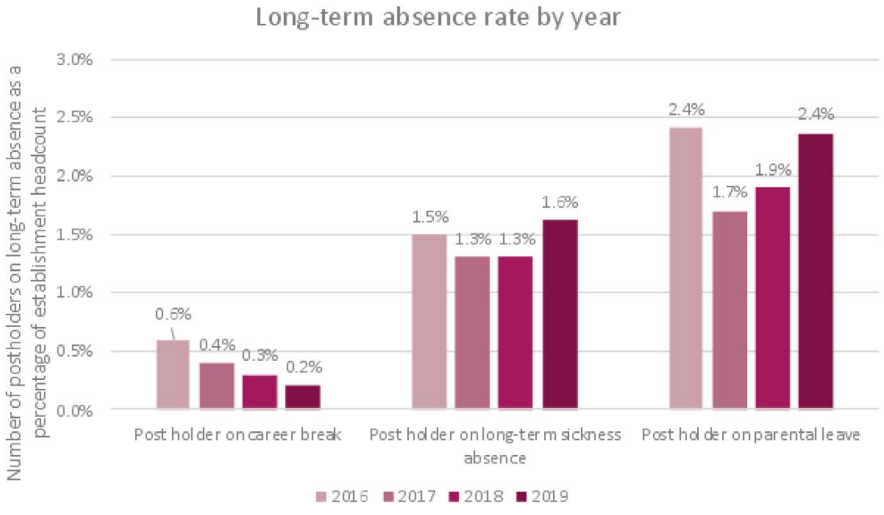

Figure 7 Long-term absence rate by year (n=54)

9. Predicted retirements

Respondents were asked to give the number of diagnostic radiography workforce posts in which the post holder is due to retire in the coming year (between 1 November 2019 and 31 October 2020) and the subsequent year (between 1 November 2020 and 31 October 2021). In total, 3.7% of respondents' diagnostic radiography workers are due to retire in the next two years.

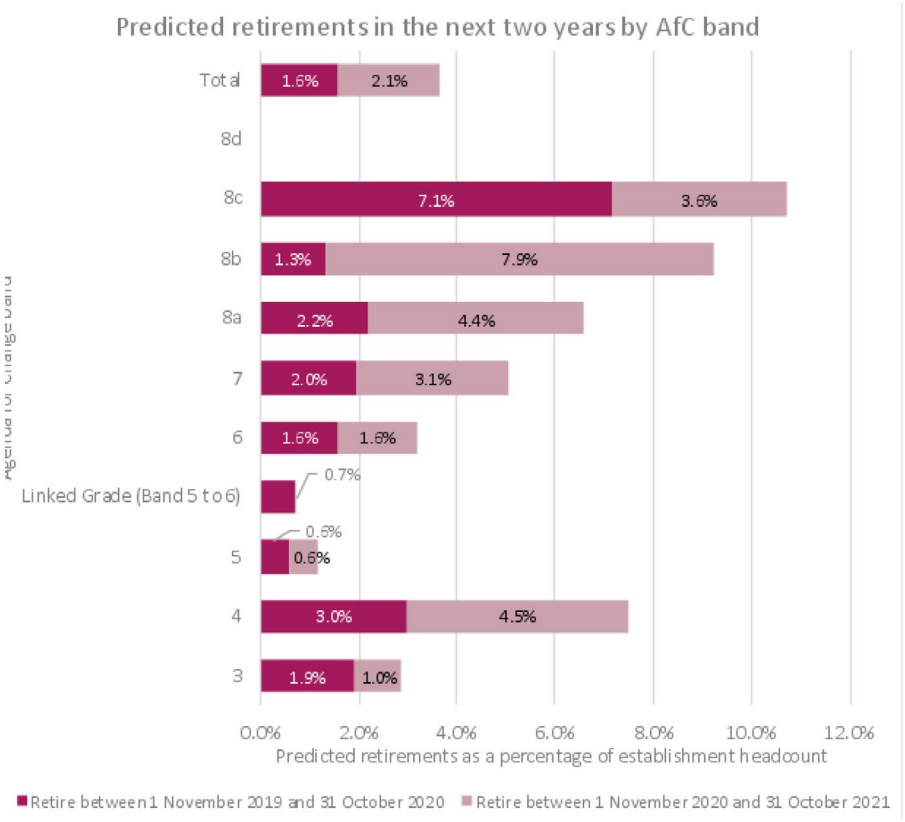

Figure 8 Predicted retirements in the next two years (n=53)

10. Registration status of clinical staff

Of the 59 respondents to the registration status question, ten (17%) have band 5 or higher clinical staff not registered with the HCPC, NMC, RCT or similar body. Fewer than one per cent, by headcount, of band 5 or higher clinical staff at the respondents are not registered with such bodies.

11. Diagnostic radiographers requiring a work permit

Of the 59 respondents to the work permit question, 29 (49%) have diagnostic radiographers requiring a work permit to work in the UK. By headcount, 2.4% of diagnostic radiographers at the respondents require a work permit.

12 Shift System

Of the 57 respondents to the shift system question, 42 (74%) say the majority of their diagnostic radiography workforce work in a shift system.

13. Reasons for leaving

The main reasons respondents give for radiographers leaving their posts are promotion in other centre, retirement and personal reasons.

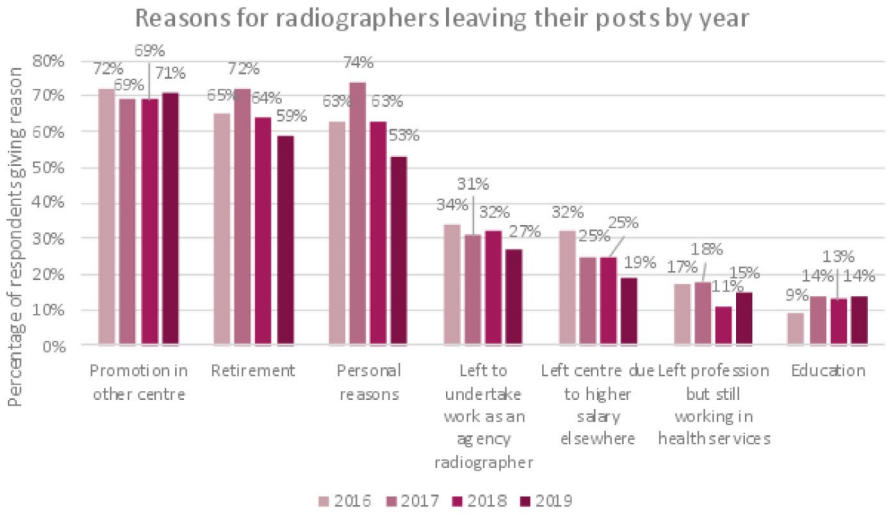

Figure 9 Reasons for radiographers leaving their posts by census year (n=59)

Other reasons for leaving given in the free text by two or more respondents are:

- Relocation (six respondents)
- Dissatisfaction with shift hours (two respondents)

14. Non-clinical duties

Respondents were asked to estimate the percentage of time staff of AfC band 7 (or equivalent) and above spend on non-clinical duties in an average working week and give the nature of these duties. In general, with the exception of bands 8d and 9, the higher the AfC band, the more time is spent on non-clinical duties.

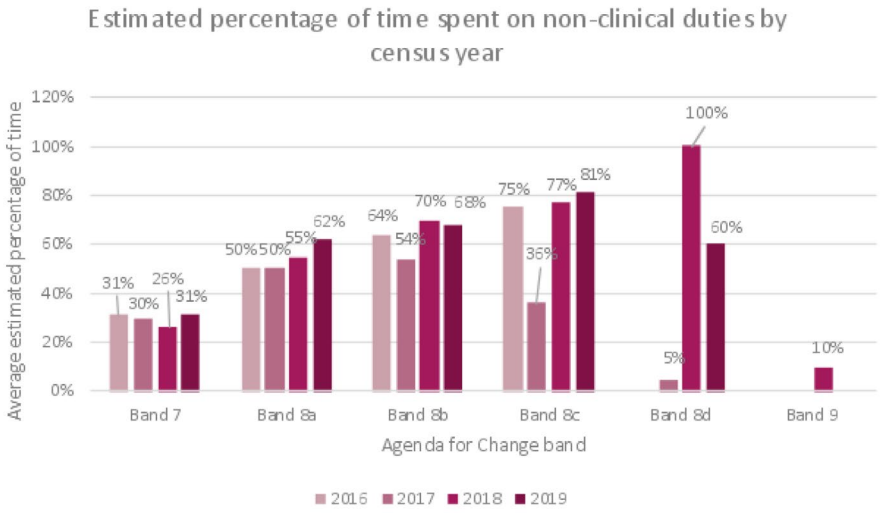

Figure 10 Estimated percentage of time spent on non-clinical duties (n=59)

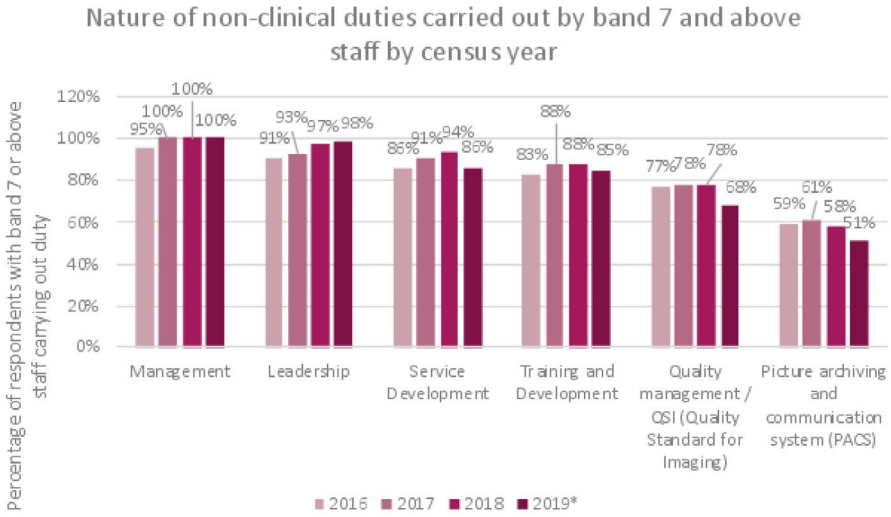

Figure 11 Nature of non-clinical duties carried out by band 7 and above staff (n=59)

*Figure 11 Note:

- In the 2019 census, the "Quality Management" answer option was amended to include QSI (Quality Standard for Imaging)

15. Postgraduate training

Respondents were asked the number of staff (headcount) currently in postgraduate training in CT, mammography, MRI, nuclear medicine, reporting or ultrasound. Overall, 5.6% of staff are in postgraduate training in one of these modalities.

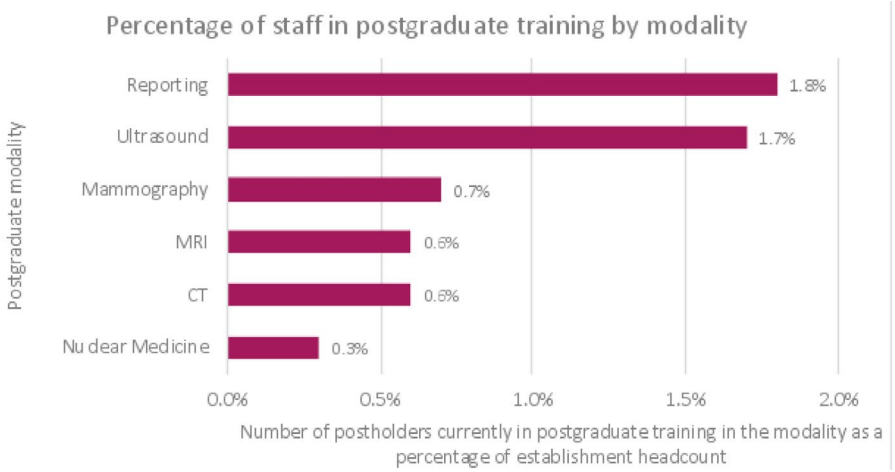

Figure 12 Percentage of staff (headcount) in postgraduate training (n=54)

Other areas of postgraduate study mentioned in the free-text comments by two or more respondents include:

- Reporting in areas other than x-ray (five respondents)
- Fluoroscopy (four respondents)
- Interventional mammography (two respondents)
- Leadership (two respondents)

16. Advanced and consultant practice

On average, each respondent has 12.7 diagnostic radiographers, sonographers and/or nuclear technologists (headcount) carrying out advanced practice and 0.9 carrying out consultant-level practice.

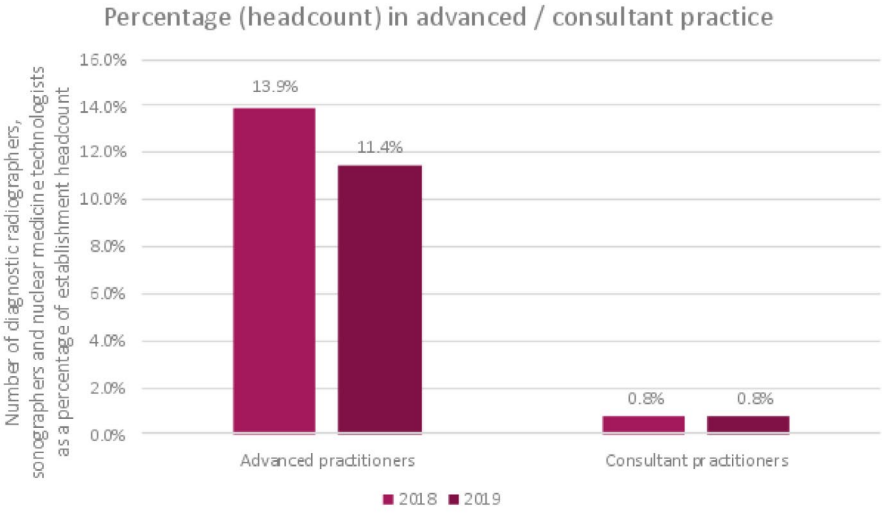

Figure 13 Number of diagnostic radiographers, sonographers and nuclear medicine technologists in advanced and consultant-level practice as a percentage of establishment headcount (n=54)

17. Agency staff

Of the 58 respondents to the questionnaire section about agency staff, 42 (72%) use either diagnostic radiography or sonography agency staff (or both) as of the census date.

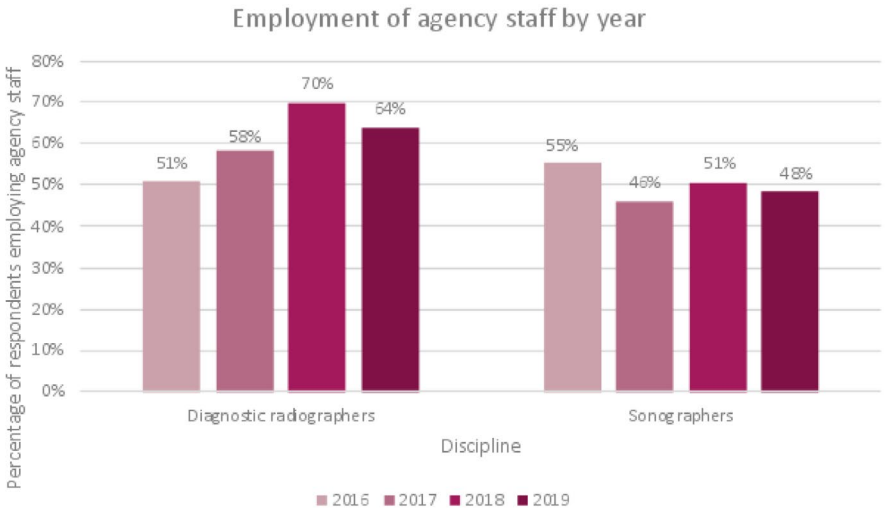

Figure 14 Employment of agency staff by census year (n=58)

Other reasons for using diagnostic radiography agency staff given in the free text by two or more respondents are:

Figure 15 illustrates that the main reason for using agency staff is existing vacancies.

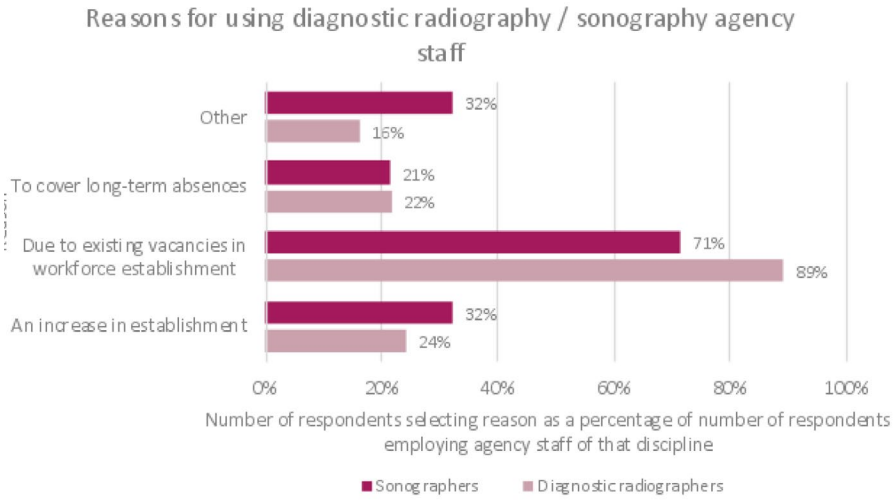

Figure 15 Reasons for using agency staff (n=42)

Other reasons for using diagnostic radiography agency staff given in the free text by two or more respondents are:

- Covering parental leave (two respondents)
- Increased demand (two respondents)
- Service improvement (two respondents)

Other reasons for using sonography agency staff given in the free text by two or more respondents
include:

- Covering parental leave (four respondents)
- Specialist skill mix provision (three respondents)

Figure 16 shows that more agency staff employed by the respondents are trained in the UK than elsewhere.

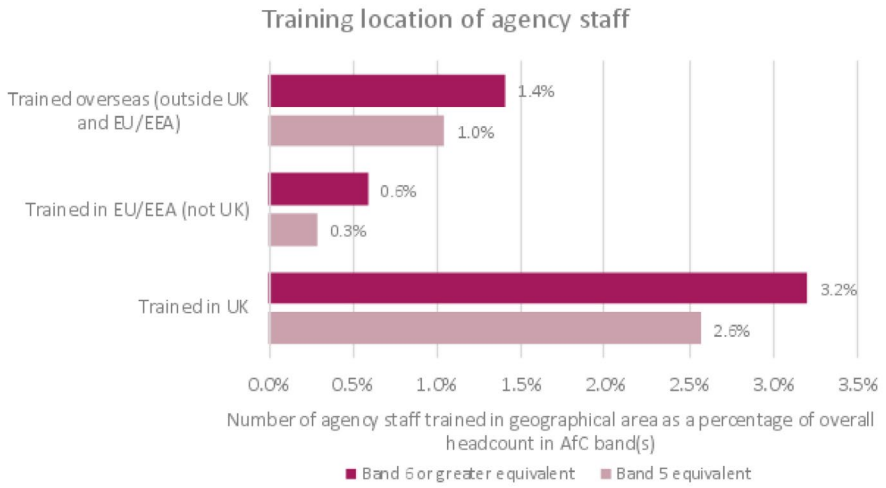

Figure 16 Number of agency staff (headcount) trained in the UK and elsewhere as a percentage of overall respondent headcount in those AfC bands (n=38)

18. General comments

At the end of the questionnaire, respondents were asked if they had any general comments relating to their submission. Themes mentioned by two or more respondents are given below, with the number of respondents in brackets after the theme, followed by an illustrative comment:

- **Workforce data submitted is not exact** (four respondents): "The data presented is an accumulation of data between two newly merged Trusts (four sites) therefore there may be some discrepancies."
- **Recruitment is difficult** (three respondents): "Difficulty recruiting to mammography posts Locally as well as nationally"
- **Work can be subcontracted rather that use agency/locum staff** (two respondents): "Although we have had no locum ultrasonographers in we have got a company in providing vascular technologists to support our vascular work – due to a mixture of long term sick and retirement. This company currently provide 22.5 hrs of scanning."
- **Use of agency staff** (two respondents): "Mapping maternity leave is hugely important, for the following reasons:
    - In NHS Scotland, the maximum you can replace with is 0.6 WTE for nine months (if you're lucky!)
    - Due to higher female employment rate in radiographers – this has a massive effect operationally on departments running effectively
    - Concurrent maternity leaves usually occur
    - Lack of back-fill for reduced contingency plan above and short period of time
    - In 2019 maternity leave has meant one year with a massive agency bill for me."

19. References

1. NHS England and NHS Improvement, 2019. Transforming imaging services in England: a national strategy for imaging networks https://improvement.nhs.uk/documents/6119/Transforming_imaging_services.pdf
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6. Institute for Apprenticeships: Diagnostic Radiographer (integrated degree) https://www.instituteforapprenticeships.org/apprenticeship-standards/diagnostic-radiographer-integrated-degree/
7. Institute for Apprenticeships: Mammography Associate https://www.instituteforapprenticeships.org/apprenticeship-standards/mammography-associate/

20. Downloads

Accessible from https://www.sor.org/learning/document-library?title=Diagnostic+Radiography+Workforce

- CoR diagnostic radiography workforce UK census 2019 questionnaire (PDF)
- CoR diagnostic radiography workforce UK census 2019 spreadsheet (Excel)

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