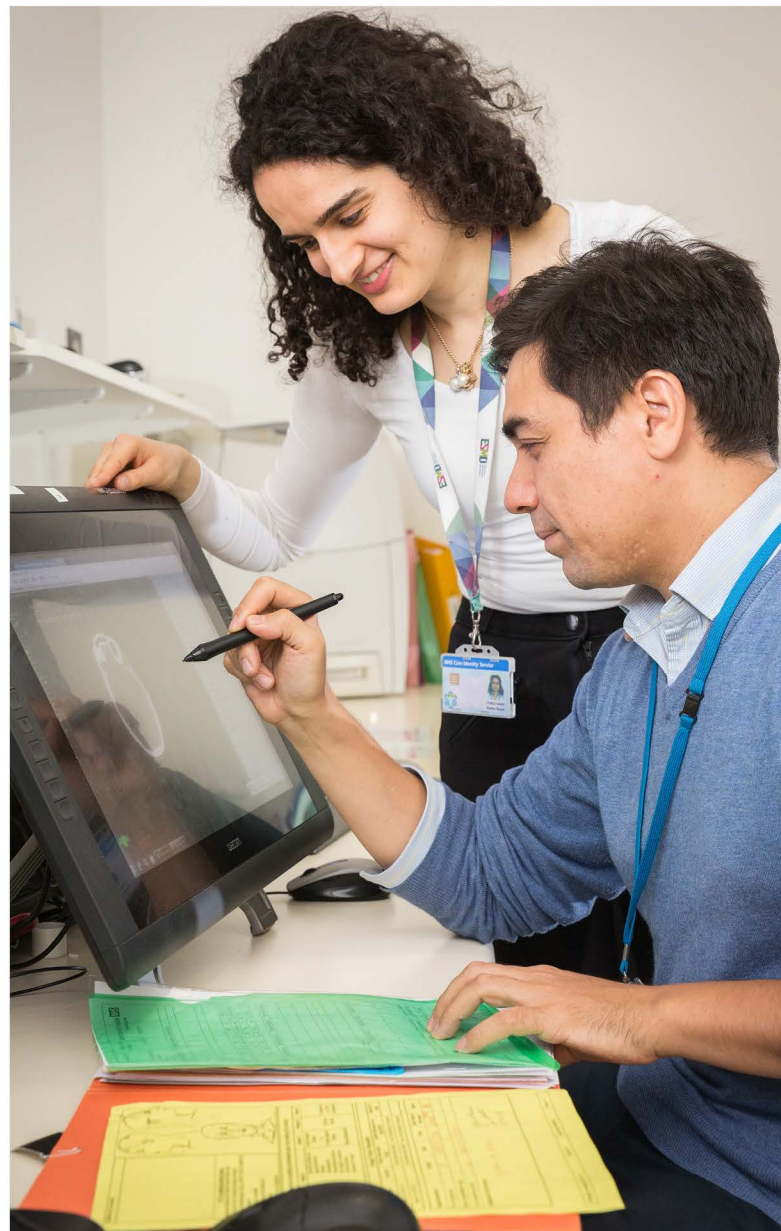


Clinical oncology UK workforce census report 2019



Foreword

Demand for cancer services has never been higher. Cancer is one of the leading causes of mortality in the UK, and the number of new cases continues to rise. Consultant oncologists play a central role in cancer care; managing and treating cancer patients, leading multidisciplinary teams, developing cancer therapies to extend life expectancy and reduce side-effects, and training the future oncology workforce. This 11th annual clinical oncology workforce census provides detailed information on the oncology workforce numbers, patterns and trends. It also estimates the extent to which the workforce supply and demand for non-surgical cancer treatments in the UK are aligned. This UK report is supported by devolved nations reports, which can be found at www.rcr.ac.uk/oncology/census

Findings from the 2019 census are concerning. The current shortfall of 207 whole-time equivalent (WTE) consultant clinical oncologists (a 19% shortfall) is predicted to rise to 318 WTEs (a 26% shortfall) by 2024. New consultant numbers are not nearly able to keep pace with vacancy rates. Consultants are retiring earlier than ever before, not helped by the pension tax reforms. Despite cancer centres increasingly turning to overseas recruitment, locums and skill-mix to mitigate workforce shortages, the gap between workforce supply and demand continues to increase and is unsustainable. We urgently need to increase UK specialist training places, improve staff retention and strengthen long-term workforce planning.

System developments form part of the solution, and the immense challenges of the COVID-19 pandemic are also an opportunity for service redesign. Optimal information technology can provide new ways to communicate with patients and our teams, and enable effective collaboration in clinical networks. While we must continue to concentrate our efforts on designing services that are patient focused, this is also a chance for us to make the workforce as effective as possible.

Thank you very much to all the heads of service who have again provided information to give a 100% survey completion rate, and to the Data, Audit and Surveys team at the RCR, who collected and analysed the data and compiled the reports. If we are to achieve our ambitions for world-class cancer outcomes, including those outlined in the *NHS Long Term Plan*, we must act on the findings of this census and invest anew in our cancer workforce.¹

Dr Tom Roques

Medical Director, Professional Practice, Clinical Oncology

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We are unable to meet acceptable working standards with current staffing levels; this is placing huge stress on consultants.

1. Executive summary

1.1. Objectives

The objectives of The Royal College of Radiologists' (RCR) 2019 clinical oncology UK workforce census are to:

1. Provide comprehensive, accurate and timely information on the number, distribution and working patterns of consultant and staff and associate specialist (SAS)-grade clinical oncologists employed in UK NHS cancer centres
2. Forecast future workforce numbers and working patterns by analysing census data and trends together with RCR specialty training data
3. Estimate the extent to which the workforce supply and demand for non-surgical cancer treatments across the UK are aligned
4. Gain insight into the methods used to manage any shortfalls in the oncology workforce.

The data and trends identified in this report should inform local and national oncology workforce training, planning and policy.

1.2. Key findings

Demand for cancer services has never been higher. Consultant oncologists play a central leadership role in managing and treating cancer patients, developing cancer therapies to extend life expectancy and reduce side-effects, and training the future oncology workforce. The census data show that there were 1,506* consultant-grade clinical and medical oncologists employed by 62 cancer centres in the UK in 2019. Census findings indicate that this is insufficient to meet the demand for cancer services and workforce shortages are putting cancer services at risk. Consultant clinical oncologists have taken early retirement with widespread reporting that punitive pension tax has driven many NHS medical professionals to retire earlier than planned.² This has resulted in the loss of valuable expertise and there are insufficient UK trainees to fill vacancies.

**The workforce figures in this report are given as headcount unless otherwise stated.*

1. Workforce shortages in clinical oncology are increasing year on year, putting cancer services at risk

- **Workforce growth has slowed considerably**, with an increase of only five whole-time equivalent (WTE) consultant clinical oncologists in 2019. This increase is the **lowest level seen over the past five years** and equates to less than 1% growth, insufficient to keep pace with the growing demand for cancer services.
- **Vacant consultant clinical oncologist posts have more than doubled over the past five years to 93 in 2019**, equal to a **vacancy rate of 10%**. Almost half of the vacancies are long term, with posts unfilled for a year or more. Cancer centres report that there are not enough suitable candidates to fill vacancies.
- **The expected supply of consultant clinical oncologists from UK specialist training in 2020 (n=48) is woefully inadequate and will fill only half of the current vacancies (n=93), and this means no cover at all for upcoming retirements.**
- **The current shortfall** of 207 WTE consultant clinical oncologists (a 19% shortfall) **is predicted to rise to 318 WTEs (a 26% shortfall) in 2024**. The increasing gap between workforce supply and demand for cancer services is unsustainable.

2. Consultant clinical oncologists have taken early retirement, resulting in increased workforce shortages and the loss of valuable expertise

- **The trend over the past five years has been towards earlier retirement; half of the clinical oncologists who retired in 2019 were aged below 59.** Early retirement results in the loss of valuable experience, knowledge and expertise from a stretched workforce. At a national level, strategies for improving staff retention are not yet having any noticeable impact.³
- Census data show that, over the past five years, **clinical oncologists working full-time tend to retire a year or two earlier than their counterparts working less than full-time.** This difference indicates that **flexible roles may improve staff retention for consultants approaching retirement age.**
- **If all consultant clinical oncologists could be incentivised** to work less than full-time (six PAs per week) from age 60 and **retire at the age of 65** (instead of the current average of 59 years), an estimated 80 WTE consultants, equivalent to **9% of the workforce, would be retained over the next five years.**

3. Cancer centres are increasingly turning to overseas recruitment, locums and skill-mix to mitigate workforce shortages

- **More than half of the 62 UK cancer centres** (60%, n=37) **attempted overseas recruitment** in 2019, double the number attempting overseas recruitment in 2018 (n=17). However, **only half of those who tried were successful**, indicating that overseas recruitment for consultant clinical oncologists remains very challenging.
- The **number of locum consultant clinical oncologists has steadily increased** from 17 (**2% of the workforce**) in 2015 to 47 (**5% of the workforce**) in 2019.
- **Approximately half of cancer centres** (44%, n=27) **planned to restructure teams to try to absorb the workload** following failed attempts at recruiting consultant clinical oncologists.

4. Some specialist roles appear to be particularly vulnerable to workforce shortages

- There has been a **steady decrease in academic** and mixed NHS/academic **consultant clinical oncologists**, from 10% of the workforce (n=76) in 2014 to 7% of the workforce (n=65) in 2019. This reduction is **concerning given the importance of research to the advancement of clinical oncology** and patient care.
- **Half of cancer centres** across the UK (n=30) have **at least one vacant consultant clinical breast oncologist post.** Vacancies are set to increase further, as two consultants are forecast to leave the workforce over the next five years for every one that joins (see Section 3.3).

5. Demand for acute oncology services (AOS) to support acutely ill cancer patients and provide specialist advice for clinical colleagues is increasing – yet only one in five cancer centres offers 24/7 AOS

- **More than half of UK cancer centres** (60%, n=37) provide a **specialist assessment and admission unit** for acutely ill cancer patients during **standard working hours.**
- However, only **one in five** cancer centres (19%, n=12) provides a **24-hour specialist assessment and admissions unit.**

- **Only one-third** (31%, n=19) of cancer centres have a **dedicated consultant clinical or medical oncologist to support daytime AOS**. Most (53%, n=33) rely on on-call consultant oncologists (clinical or medical) to provide support.
- **Almost all cancer centres** (95%, n=59) provide patients (and carers) with **24/7 telephone access to acute oncology specialists** for advice.

1.3. Closing the gap

The oncology workforce is currently understaffed by 207 consultant clinical oncologists. This represents an estimated 81% of the minimum workforce needed to run effective cancer services. Furthermore, as the demand for acute and routine cancer services continues to rise, oncology workforce shortages are set to increase. Based on census data, understaffing of at least 318 WTEs (a workforce gap of 26%) is forecast by 2024. There is no simple solution to the severe oncology workforce shortage, but the following vital measures will improve the situation for cancer patients.

- Doubling specialist training numbers and ensuring there are sufficient trainers with the capacity and skills to teach them
- Improving staff retention, for example through better working conditions and smarter job planning
- Streamlined pathways for recruiting skilled doctors from overseas
- Continued enhancement of the culture of collaboration within oncology services to further embrace multidisciplinary working and radiotherapy networks
- Clinical consensus on the most common patient pathways, and for these to be commissioned accordingly, potentially through Best Practice Tariff arrangements (this would enable centres within radiotherapy networks to collaborate more effectively).

2. The UK oncology workforce in 2019

Demand for cancer services has never been higher. Cancer is one of the leading causes of mortality in the UK, and the number of new cases of cancer continues to rise.

This section provides an overview of the non-surgical cancer workforce in October 2019. Information is provided on the size of the workforce, workforce trends, specialisms and the prevalence of less-than-full-time (LTFT) working.

2.1. Workforce overview

Non-surgical cancer services in the UK are delivered by multidisciplinary teams of consultant clinical and medical oncologists, staff and associate specialist (SAS)-grade doctors, allied health professionals (including nurses and radiographers) and others. Non-surgical cancer teams assess, prescribe and treat cancer using a wide range of therapies and interventions, such as radiotherapy, chemotherapy and immunotherapy.

Table 1 shows that there were 1,506 consultant-grade oncologists employed by 62 cancer centres in the UK in 2019. This includes NHS and academic posts.

Table 1. Clinical and medical oncology workforce (headcount) – UK, 2019

	Clinical oncology	Medical oncology*	Total
Consultant-grade	938	568	1,506
Higher-specialty trainee	465	292	757
SAS-grade**	96	Not known	Not known

*2018 data (Royal College of Physicians' (RCP) 2019 data not available at the time of publication).⁴

**SAS-grade includes associate specialists, specialty doctors and trust-grade staff.

Growth in the UK clinical oncology workforce has slowed considerably over the past year; the workforce has grown by 16 consultant clinical oncologists to a total of 938 in post in October 2019. The increase of 16 consultant clinical oncologists is the net effect of 52 consultant clinical oncologists joining the workforce and 36 leaving over the past year. While workforce attrition has remained relatively steady over the past five years (see Section 3.3 for details), the number of new joiners in 2019 (n=52) is the lowest level seen over the past five years (the highest number of new joiners was 86, in 2015). Difficulties with recruitment are discussed in more detail in Section 3.2.

The vast majority (93%, n=873) of consultant clinical oncologists are employed in NHS posts. The remainder (7%, n=65) are employed in academic or mixed NHS/academic posts. Over the past five years, there has been a steady decrease in academic and mixed NHS/academic consultant clinical oncologists, from 10% of the workforce (n=76) in 2014 to 7% of the workforce (n=65) in 2019. The reduction in academic capacity is concerning as research is critical for improvements in patient care as it generates evidence on ways to prevent, diagnose and treat cancer more effectively. The Royal College of Physicians (RCP) similarly reports a decrease in the proportion of consultant medical oncologists employed in academic or mixed NHS/academic posts, from 41% (n=175) of the workforce in 2014 to 34% (n=193) of the workforce in 2019.⁴

Of the 938 consultant clinical oncologists in post in 2019, 95% are employed in substantive posts and 5% in locum posts. The number of locums has increased over the past few years,

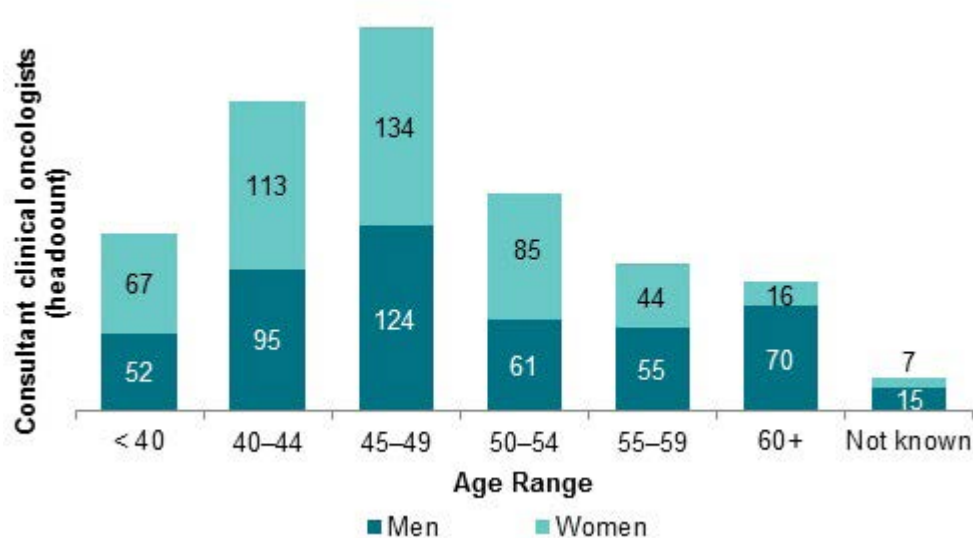
from 17 (2% of the workforce) in 2015 to 47 (5% of the workforce) in 2019. (Locums are discussed in more detail in Section 3.1.)

The number of consultant clinical oncologists (WTE) per million population is highly variable between UK cancer centres, ranging from eight to 24 per million population. Figures are detailed in Appendix C. These figures should be interpreted with caution; they give a broad indication of the supply of consultant clinical oncologists relative to population size, but do not take into account local factors, including the number of consultant medical oncologists, which affect the demand for clinical oncology expertise.

Workforce demographics

Demographic data and trends can help inform workforce planning. Figure 1 provides an overview of the consultant clinical oncology workforce by age and gender. Half of consultant clinical oncologists fall into the 40–49 age group, and half of consultants are women. The number of female consultant clinical oncologists has been rising steadily for over a decade; women now outnumber men in most age groups, although men still outnumber women in the two oldest age groups (55–59 and 60 plus).

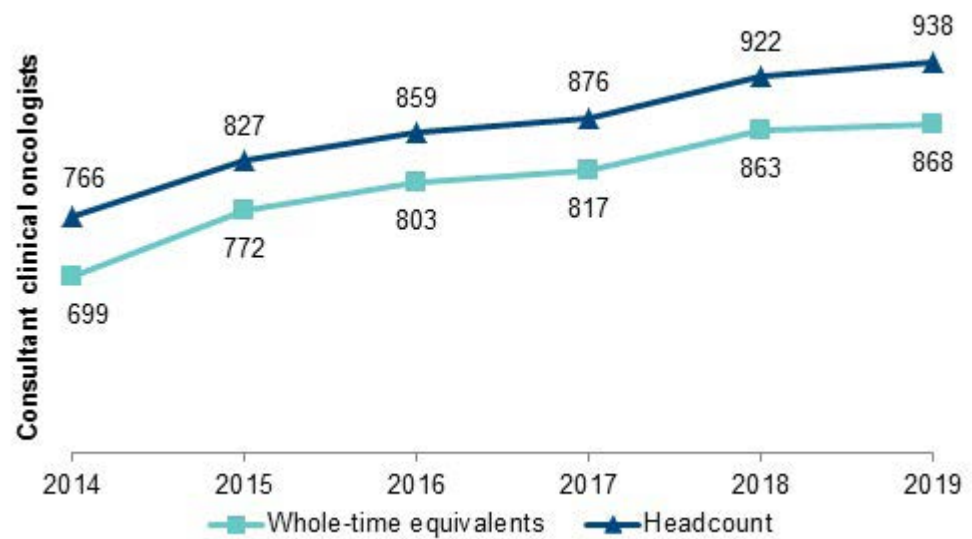
Figure 1. Consultant clinical oncology workforce, by age and gender – UK, 2019



2.2 Consultant workforce: five-year trend

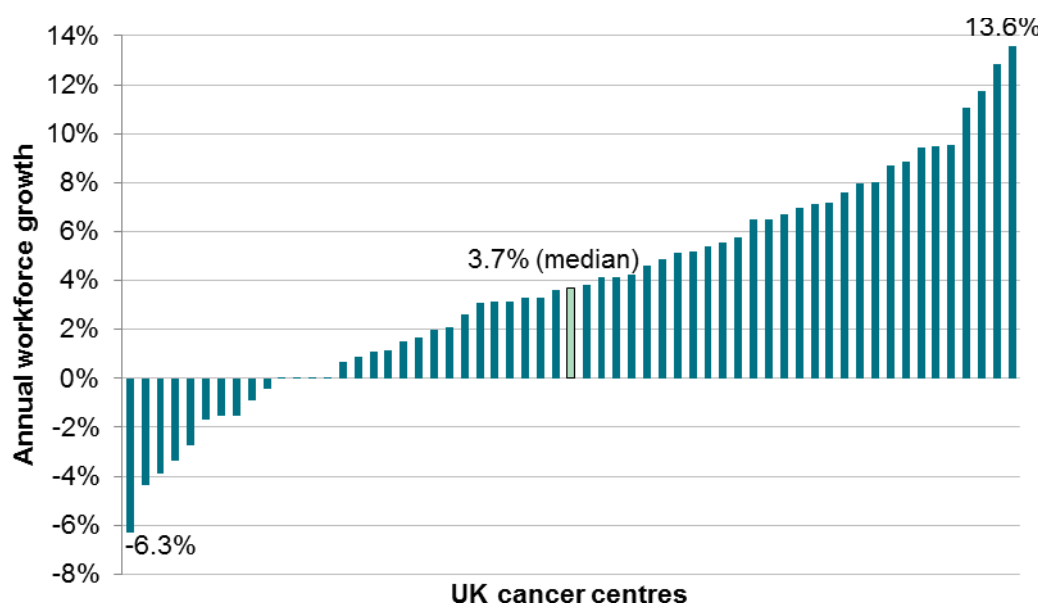
Taking into account the contracted hours of LTFT doctors, the UK total of 938 consultant clinical oncologists equates to 868 WTEs. Over the past five years the WTE consultant clinical oncology workforce has grown by an average of 4% per year; however, growth over the past year (to October 2019) slowed considerably to less than 1% – growth of only five WTE consultants. This is illustrated in Figure 2.

Figure 2. Consultant clinical oncology workforce – UK, five-year trend (2014–2019)



Clinical oncology workforce growth over the past five years (2014–2019) has been very variable across UK cancer centres. A quarter of cancer centres (24%) reported workforce growth averaging 7% or more, per year over the past five years, while another quarter (24%) reported no growth or a decline. This variability in workforce growth across the UK is illustrated in Figure 3.

Figure 3. Consultant clinical oncology workforce – average annual growth, UK cancer centres – five years (2014–2019)



Growth in the UK clinical oncology workforce needs to be set against the demand for cancer services, discussed in Section 5.

2.3. Programmed activities

A full-time post consists of ten or more programmed activities (PAs), equivalent to a 40-hour working week in England, Northern Ireland and Scotland and a 37.5-hour working week in Wales.

The census data show that, in 2019, full-time UK consultant clinical oncologists were contracted for an average of 11.4 PAs per week, equivalent to a 46-hour working week, and LTFT consultants were contracted for an average of 8.5 PAs per week, equivalent to a 34-hour working week. Data from the census tells us that contracted hours have increased by approximately two hours per week for full-time consultant clinical oncologists and four hours per week for LTFT consultant clinical oncologists over the past five years.

The census collects data on the following types of PAs:

- **Direct clinical care (DCC):** Work directly relating to the prevention, diagnosis or treatment of illness, but also the associated planning, administration, travel and meetings. DCC time also covers the recruitment of patients to clinical trials and monitoring of those patients.⁵
- **Supporting professional activities (SPAs):** Activities undertaken to comply with clinical governance and revalidation requirements, including mandatory training, audit and quality improvement, continuing professional development and appraisal. SPAs also include activities such as teaching, training and the supervision of specialist trainees.⁵
- **Additional programmed activities:** Covers additional responsibilities not undertaken by the generality of consultants, such as those associated with the roles of a clinical or medical director, audit lead or training programme director.⁵
- **Research programmed activities:** Covers responsibilities such as those of a principal investigator, the lead applicant on a research grant or supervision of postgraduate MD (Res) or PhD students.⁵

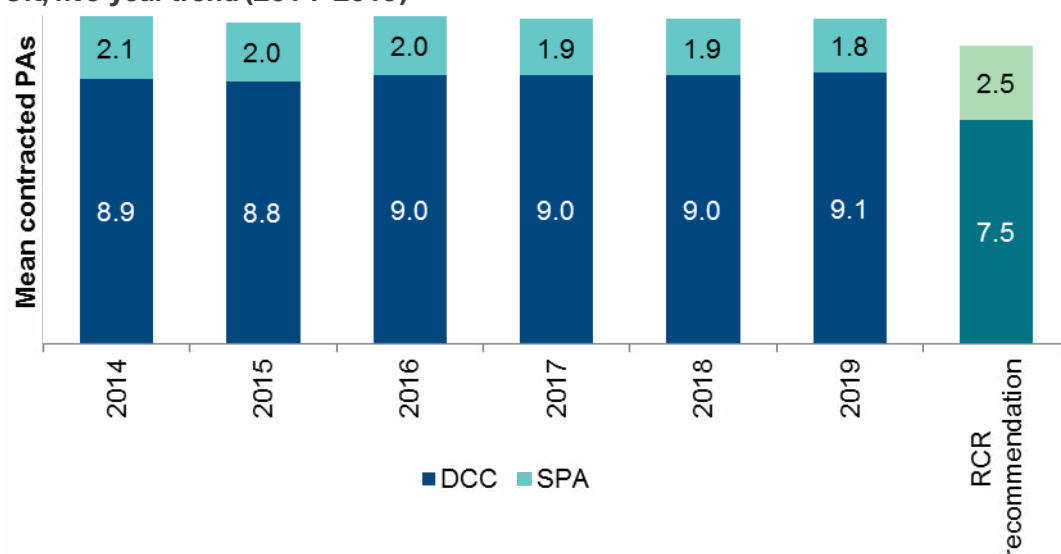
The census does not collect data on unpaid hours worked in addition to contracted PAs.

Almost a quarter (23%) of full-time consultant clinical oncologists were contracted to work over 12 PAs in 2019, equivalent to more than 48 hours per week. If full-time consultants were limited to a ten PAs per week contract (with the current average of 1.8 SPAs), an additional 113 consultant clinical oncologists would be needed to cover the excess workload.

Direct clinical care (DCC) and supporting professional activities (SPAs)

The RCR recommends that the DCC element of the job plan for a full-time consultant should not usually exceed 7.5 PAs and should be balanced by 2.5 SPAs.⁵ However, with increased demand for cancer services, consultant clinical oncologists are under pressure to increase the proportion of programmed activities spent delivering DCC. Consequently, as shown in Figure 4, DCC activities have risen and SPAs have decreased over the past five years. In 2019, full-time NHS consultant clinical oncologists were contracted for an average of 9.1 DCC activities and 1.8 SPAs per week; this is equivalent to six hours more DCC activities and three hours fewer SPAs per week than the RCR recommendation.

Figure 4. Contracted DCC and SPAs, full-time NHS consultant clinical oncologists – UK, five-year trend (2014–2019)



Insufficient SPA time appears to be a problem for LTFT consultant clinical oncologists in particular; they have an average of 1.4 SPAs per week in their job plans, which falls short of the recommended minimum of 1.5 SPAs.^{5,6} More than one-third (37%) of LTFT consultants (n=117) have as little as one SPA (or fewer) per week in their job plans, meaning their weekly SPA time falls two hours (or more) below the minimum recommended level.

Inadequate SPA time compromises the ability of doctors to keep their knowledge up to date and revalidated, and to undertake audit and quality-improvement activities, which improve services and facilitate better patient experiences and outcomes. Furthermore, vacant posts with inadequate SPAs are unlikely to be attractive to potential candidates.

Additional PAs

Additional PAs are allocated to cover responsibilities such as those of a clinical or medical director, audit lead or training programme director. As illustrated in Figure 5, additional PAs have decreased by half an hour per week (0.1 PA) over the past year to an hour and a quarter (0.3 PA) in 2019. This contrasts with the previous two years, which saw consultant clinical oncologists taking on additional PAs in their job plans. The census did not capture reasons for changes in job plans.

Research PAs

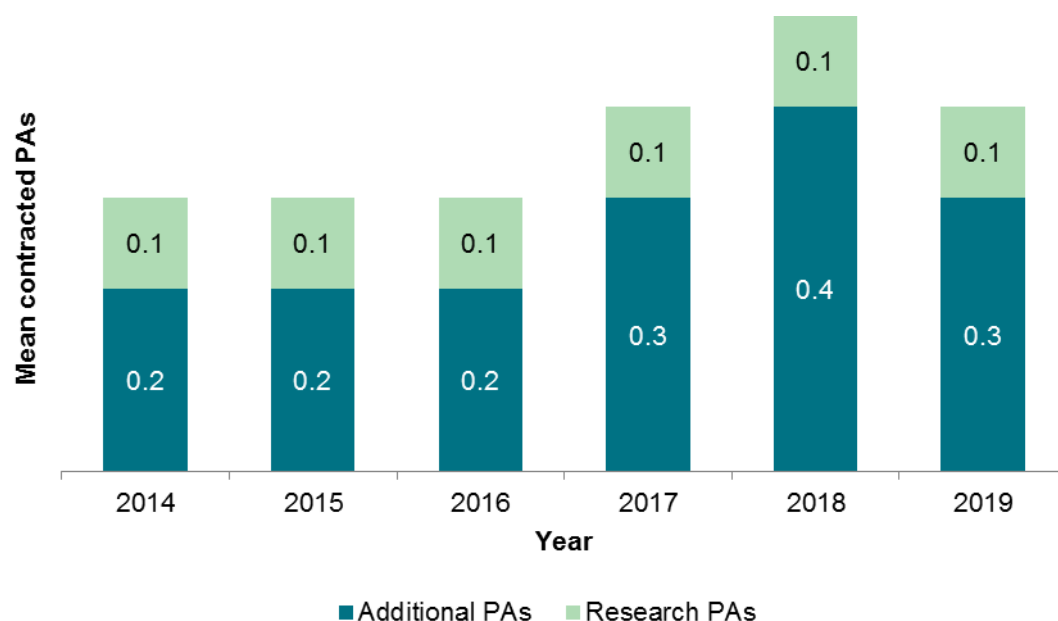
Research supports improvements in care for people living with cancer by generating evidence on ways to prevent, diagnose or treat cancer more effectively. Research is essential for best clinical practice.

As part of DCC PAs, consultant oncologists recruit patients to clinical trials and monitor and treat those patients within trials. Additional PAs, often called research PAs, are required to cover increased research responsibilities such as those of a principal or chief investigator.

In 2019, 108 NHS consultant clinical oncologists (12% of the workforce) had research PAs in their job plans. For these 108 consultants, the median number of contracted research PAs was one, equal to four hours per week. The average across all full-time NHS consultant clinical oncologists is just 0.1 PA, equivalent to half an hour per week.

As shown in Figure 5, census data show no change in the number of research PAs over the last five years. Many NHS consultants encounter difficulties in undertaking research alongside their service commitments, such that research activities are conducted in the consultant's own time or dropped from their job plan altogether.⁷

Figure 5. Research and additional programmed activities, UK full-time NHS consultant clinical oncologists – five-year trend (2014–2019)



**Academic and mixed NHS/academic consultants are excluded from the above chart.*

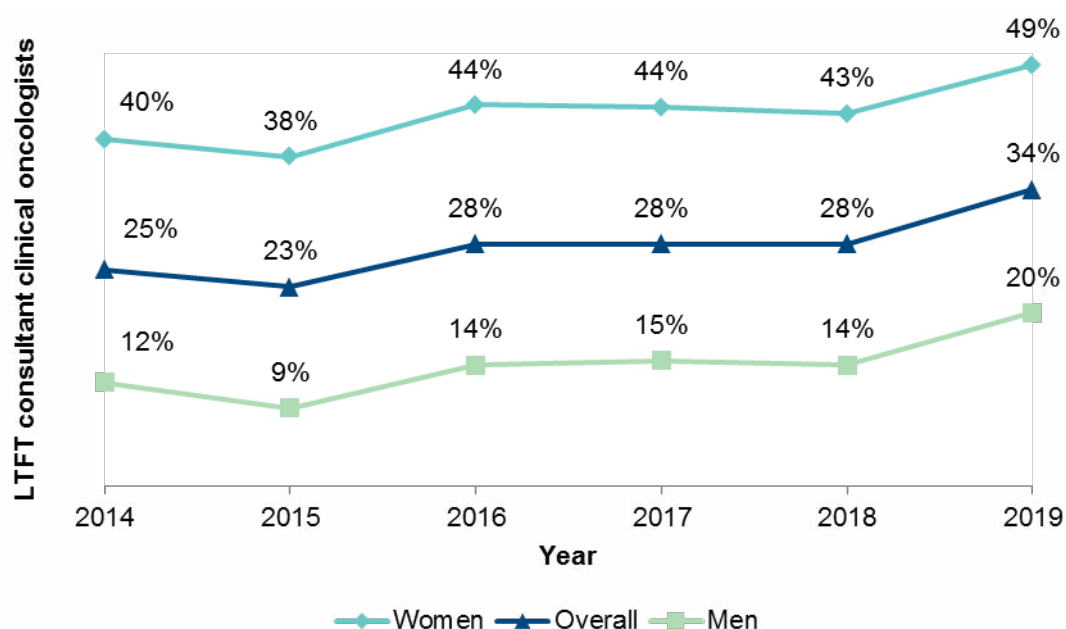
Travel requirements

Consultant clinical oncologists often work at more than one site, so spend time travelling between sites on a regular basis. This can support ambitions for patient-centred treatment provided close to home, but reduces the time available for core clinical work. Census data show that in 2019, almost half of NHS consultant clinical oncologists (44%) were required to travel to more than one site in a working day on a regular basis. Travel requirements vary significantly between UK countries, for example in Wales almost three-quarters (72%) of NHS consultant clinical oncologists are required to travel to more than one site in a working day on a regular basis. Job plans for affected consultants should incorporate adequate time for travel between sites, in order that clinical commitments are not compromised.

2.4. Less-than-full-time working

LTFT working is defined as working fewer than ten contracted PAs per week, equivalent to a 40-hour working week in England, Northern Ireland and Scotland, and a 37.5-hour working week in Wales. As shown in Figure 6, LTFT working across the UK has become more common among both men and women over the past five years, but remains more prevalent among female consultants. The increase in LTFT working has been particularly notable over the past year; approximately half (49%) of female consultant clinical oncologists and one-fifth (20%) of male consultant clinical oncologists now work LTFT.

Figure 6. Frequency of LTFT working, consultant clinical oncologists – UK, five-year trend (2014–2019)



Although the census did not directly capture reasons for LTFT working, the six percentage-point increase in LTFT working seen over the past year may be a result of consultant clinical oncologists reducing their hours to improve their work–life balance and wellbeing, or may be due to concerns about pension tax penalties.² In addition, consultant clinical oncologists may seek portfolio careers, comprising multiple roles. For example, census data show there

has been a small increase in the number of consultants holding two part-time contracts, from eight consultants in 2018 to 13 consultants in 2019.

Workforce planning for clinical oncology must factor in the growing demand for LTFT working. In 2019, the total UK workforce capacity reduction due to LTFT working equated to 70 WTE consultant clinical oncologists (or 7% of the workforce). Levels of LTFT working differ across UK countries, ranging from 2% capacity reduction in Northern Ireland to 14% capacity reduction in Wales, as shown in Table 2.

While many more consultant clinical oncologists have chosen to work LTFT over the last few years, there has not been a corresponding increase in the workforce capacity loss due to LTFT working. This is because those working LTFT in 2019 are working more hours (on average) compared with previous years. LTFT consultant clinical oncologists were contracted for an average of 7.4 PAs in 2017, equivalent to a 30-hour week; this has increased to an average of 8.5 PAs in 2019, equivalent to a 34-hour working week.

Table 2. Impact of LTFT working on consultant clinical oncologist workforce capacity – UK countries, five-year comparison (2014 and 2019)

Country	2014 LTFT impact (WTE)*	2019 LTFT impact (WTE)*	2019 LTFT impact (percentage)**
England	-53	-58	-8%
Northern Ireland	-2	-1	-2%
Scotland	-4	-4	-5%
Wales	-8	-7	-14%
UK total	-67	-70	-7%

*This is the additional number of WTE consultant clinical oncologists who would be in the workforce if all LTFT consultants switched to full-time working. This capacity reduction should be factored in to workforce planning.

**Workforce capacity reduction = $100\% - (WTE\ consultants / consultant\ headcount)$. This accounts for both the frequency and extent of LTFT working.

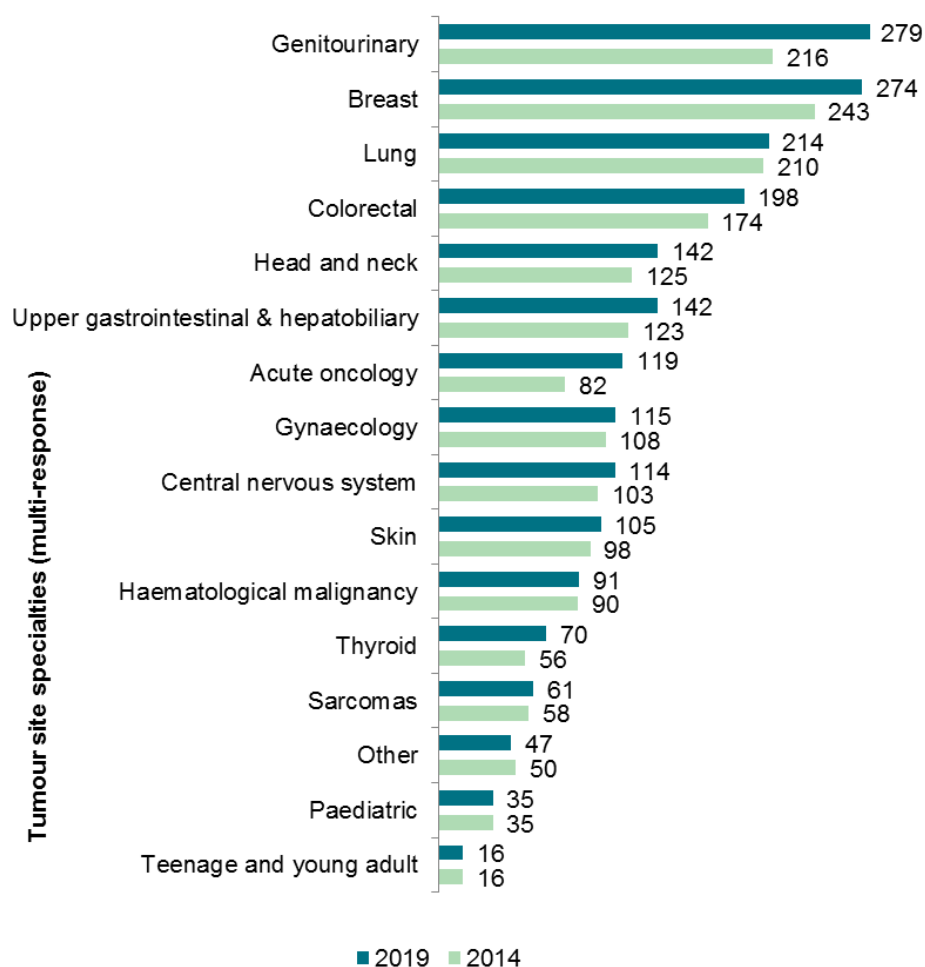
Given the demand for flexible and LTFT roles, NHS employing organisations should ensure availability of and support for flexible career options, to maximise staff wellbeing and retention. Census data show that full-time clinical oncologists tend to retire a year or two earlier than their LTFT counterparts, indicating that flexible roles may improve staff retention for consultants approaching retirement age.

2.5. Tumour site specialties and predominant workload

The census collects data on consultant clinical oncologists' tumour site specialties. The distribution of the oncology workforce across tumour site specialties largely mirrors the most prevalent cancer types.⁸

Along with the overall 4% annual increase in consultant clinical oncologists over the past five years, there has been similar workforce growth across most site specialties, as illustrated in Figure 7. The most substantial rises (which outpaced overall workforce growth) were for genitourinary and acute oncology specialists. In contrast, there was low growth of 1% per annum for gynaecology, skin and sarcoma specialists. Of concern, there has been no (or negligible) increase in lung, haematological malignancy, paediatric, and teenage and young adult specialist workforce over the past five years.

Figure 7. Tumour site specialties of consultant clinical oncologists* – UK, five-year comparison (2014 and 2019)



*The sum of tumour site specialties exceeds the headcount of consultant clinical oncologists as most consultants have two site specialties.

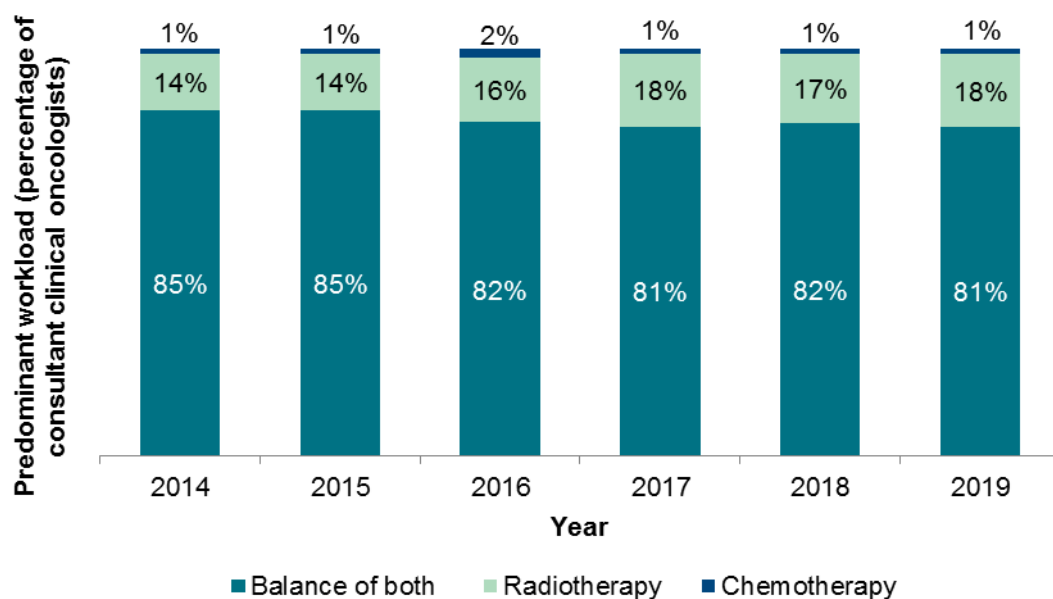
The RCR recommends that a consultant clinical oncologist should normally undertake no more than two broad areas of site-specialist practice, as it is difficult for a clinician to remain up to date in a wide scope of practice.⁵ In 2019, almost one-third of NHS consultant clinical oncologists (30%, n=261) had three or more tumour site specialties. This raises questions regarding the feasibility of keeping up to date with three or more site specialties, with reduced SPA time, while fulfilling increased clinical and other commitments.

Predominant workload

The 2019 census data show that the majority of consultant clinical oncologists (81%) have a workload which involves using both chemotherapy and radiotherapy to treat and manage cancer patients. One-in-six consultant clinical oncologists (18%) has a predominant workload of radiotherapy. In contrast, there are very few consultant clinical oncologists (1%) who have a predominant workload of chemotherapy.

Over the past five years, there has been a small increase (from 14% to 18%) in the proportion of consultant clinical oncologists with a predominant workload of radiotherapy, as shown in Figure 8.

Figure 8. Predominant workload of consultant clinical oncologists – UK, five-year trend (2014–2019)



3. Vacancies, recruitment and leavers in 2019

Census data indicate increased difficulty for UK cancer centres in recruiting the staff they need, with the number of consultant clinical oncologists joining the workforce in 2019 (n=52) being the lowest level seen over the past five years. Cancer centres reported a lack of suitable UK candidates, significant challenges of recruiting from overseas and budget constraints as key barriers. Cancer centres reported concerns over lack of resilience in the system; for example, one cancer centre reported, 'Staffing issues are very difficult; we have an entire tumour site being covered by two retired consultants.'

3.1. Vacancies

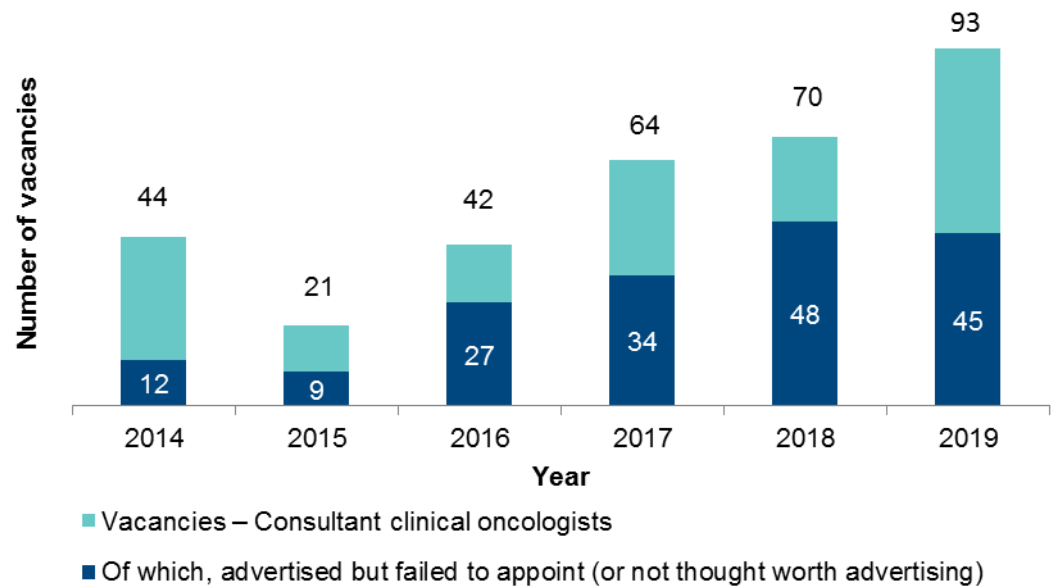
In 2019, three-quarters of cancer centres (77%, n=48) reported having at least one vacant consultant clinical oncology post. Overall, 93 vacant clinical oncology posts were reported across UK cancer centres. This is the highest number of vacancies reported over the past five years, and equates to a vacancy rate of 10%. Vacancy rates were broadly similar across UK countries at between 8% and 11%, except for Scotland at 4%.

Feedback from respondents indicates that vacancies reported through the annual census significantly understate the true extent of clinical oncology workforce shortages. Heads of service highlighted the following four reasons for this.

- **Funding restrictions:** '[It is an] ongoing effort to find funding for more posts.' 'Many of our known vacancies are unfunded.'
- **Lack of suitable candidates:** 'We would have advertised a second substantive clinical oncology post but haven't as we already have one vacant post.'
- **Diversion of funding:** 'After failing to appoint a clinical oncologist into one of our empty posts, we appointed a medical oncologist. While this has helped our capacity issues, it has not helped the pressure on consultant clinical oncologists in providing radiotherapy treatment.' 'We have expanded our use of advanced nurse practitioners (ANPs) and staff grades to cope with the limited consultant [oncology] resource.'
- **Time lag:** '[We are] waiting for an internal candidate to achieve CCT [complete their specialist training], before advertising the vacancy.' 'Two other clinical oncology posts are in development, but not yet fully funded.'

Consultant clinical oncologist vacancies are frequently challenging to fill. In 2019, approximately half (48%, n=45) of reported vacancies had been advertised but not successfully filled (or funded but not thought worth advertising), indicating a lack of suitable candidates. This is shown in Figure 9, together with five-year trend data.

Figure 9. Status of consultant clinical oncologist vacancies – UK, five-year trend (2014–2019)



Most vacancies have remained unfilled for long periods. Figure 10 shows the period for which consultant clinical oncologist posts have remained unfilled in 2019. Almost half (46%, n=43) of the 93 vacancies remained unfilled for a year or more.

As examples of just how hard cancer centres are finding it to recruit consultants, one cancer centre reported, 'We have been unsuccessful for over two years in trying to fill these vacancies', while another reported 'Trying to get cover for paediatrics has been extremely difficult and we have had a vacancy for over 18 months, despite numerous attempts to attract suitable candidates.'

Figure 10. Vacancies, period unfilled, consultant clinical oncologist posts* – UK, 2019

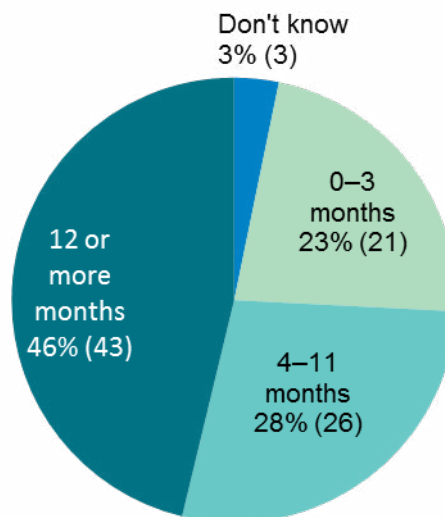


Table 3 shows the site specialties sought for the vacant consultant posts in 2019. Most frequently, two site specialties were sought for each post. Breast and genitourinary consultant clinical oncologists were most in demand, indicating a continued shortage of specialists in these common cancer sites. Gynaecology had the highest vacancy rate, at 14%.

Table 3. Site specialties sought for vacant UK consultant clinical oncologist posts* – UK, 2019

Site specialty	Vacancies	Vacancy rate
Breast	36	12%
Genitourinary	32	10%
Lung	24	10%
Colorectal	22	10%
Gynaecology	18	14%
Upper gastrointestinal, including hepatobiliary	13	8%
Head and neck	13	8%
Acute oncology	11	8%
Skin	10	9%
Central nervous system	9	7%
Haematological malignancy	6	6%
Thyroid	5	7%
Other	4	8%
Total	203	10%

*On average, two site specialties were sought for each post.

Methods used to manage workforce shortages

Most cancer centres provided details on their plans for dealing with consultant vacancies that they were unable to fill.

- 32 of the 62 cancer centres planned to recruit locum cover.
- 27 planned to restructure teams to absorb the workload.
- 16 planned to significantly amend the job description and re-advertise the post.
- 20 planned to recruit from overseas.

Many cancer centres commented on how they were using skill-mix and team flexibility to ease workforce shortages. For example, one cancer centre explained, 'When recruiting we

often do not get people with the tumour site skills we need, but recruit them and then have to move around what is covered internally.'

Locum cover for vacant posts

Census respondents reported that the primary reason for employing locum consultant clinical oncologists, accounting for more than three-quarters (79%, n=37) of appointments in 2019, was to cover vacant posts (less frequently, locums are employed to cover maternity leave and long-term sickness). The number of locums has steadily increased from 17 (2% of the workforce) in 2015 to 47 (5% of the workforce) in 2019. However, even with this substantial rise, only around half of the 63 long-term vacancies (those vacant for six months or more) are covered by locums, meaning that many cancer centres are struggling with long-term workforce shortages.

3.2. Recruitment from the UK and overseas

Of the 53 consultant clinical oncologists (48 WTEs) recruited to the clinical oncology workforce over the past year, more than two-thirds of new appointments (70%, n=37) were clinical oncologists who had completed their specialist training in the UK. The remainder comprised clinical oncologists who undertook their specialist training overseas (15%, n=8) and those who were previously working as UK staff and associate specialist (SAS)-grade doctors (6%, n=3). The origin of five consultants (9%, n=5) is not known.

The number of new entrants from UK training (n=37) in 2019 was fewer than anticipated; the 2018 census forecast that 53 consultant clinical oncologists would join the workforce post UK training in 2019.⁹ The reason for the low number of new appointments from UK specialist training in 2019 is not known. Some clinical oncologists chose to take time out before taking up a consultant post. However, it could simply reflect the natural peaks and troughs in the numbers completing UK specialist training from year to year.

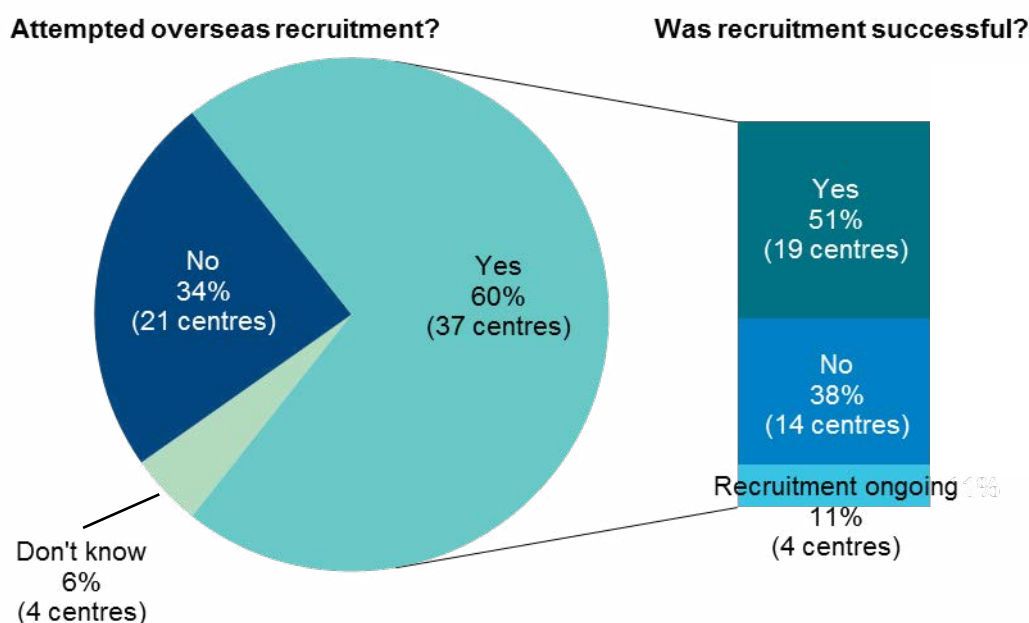
Overseas recruitment

With insufficient supply from UK specialist training to fill vacant posts, UK cancer centres are increasingly turning to overseas recruitment to reduce workforce shortages. However, overseas specialist training in oncology tends to be split into radiation oncology and systemic therapy, unlike UK clinical oncology specialist training, which covers both aspects of non-surgical oncology. This difference makes it particularly challenging to fill UK consultant clinical oncologist posts with candidates trained overseas.

Cancer centre heads of service also report that overseas recruitment is often an expensive and slow process, with difficulties including the visa processes, English language requirements, budget constraints, HR employment processes, cultural differences and political uncertainty. Despite all these challenges, census data show that, over the past year, there has been a significant rise in the number of cancer centres attempting overseas recruitment to fill vacant consultant or SAS-grade clinical oncology posts. In 2019, 60% of UK cancer centres (n=37) attempted overseas recruitment, double the number attempting overseas recruitment in 2018 (n=17). As shown in Figure 11, of the 37 cancer centres that attempted overseas recruitment in 2019:

- Half (51%) were successful (n=19) – this compares favourably with the 29% of cancer centres (n=5) reporting success in 2018
- Over one-third (38%) were unsuccessful (n=14)
- Four cancer centres (11%) were still in the process of attempting overseas recruitment at the time of census data collection.

Figure 11. Overseas recruitment activity – UK cancer centres, 2019



Census data show that overseas recruitment is primarily from non-EEA countries, with doctors who graduated from medical school in India accounting for approximately a quarter of overseas recruitment in the past five years.

3.3. Retirements and other leavers

In the 12 months to October 2019, 36 consultant clinical oncologists (equivalent to 28 WTEs) left the workforce, equal to 3.2% attrition. This is in line with attrition over the past five years, which has averaged 3.2% per year.

Retirements

The most frequently cited reason for consultants leaving is retirement. Table 4 shows the median retirement age over the past five years. The general trend has been towards earlier retirement. In 2019, the median age of retirement was 59 years, a notable decrease from the median age of 64 years in 2016.

Table 4. Median retirement age,* consultant clinical oncologists – UK, five-year trend (2014–2019)

	2014	2015	2016	2017	2018	2019
Median age	63	64	64	60	60	59

**In the context of the RCR census, 'retirement' means retiring from working as a clinical oncologist permanently.*

Improving staff retention should be a priority given current workforce shortages. However, the trends seen in the 2019 clinical oncology census of early retirement indicate that, at a national level, strategies for improving retention, particularly among older consultants, are not yet having any noticeable impact.

Key factors that influence consultants' decisions on whether to retire early from NHS work are the ability to work flexibly, job satisfaction and concerns about pension tax penalties.^{2,10}

4. Workforce supply (WTE): five-year forecast

The size of the consultant clinical oncology workforce is impacted by entrants from UK specialist training and recruitment from overseas, set against attrition from retirements and other leavers.

4.1. Supply from UK specialist training

An adequate supply of UK trainees is vital to address oncology workforce shortages. Unfortunately, RCR census and training data indicate there are several factors that have reduced the supply of applicants for consultant posts in recent years.

- **Approximately 10%** of those who completed their specialist training in clinical oncology in the UK and gained a Certificate of Completion of Training (CCT) over the five-year period 2008–2013 **have not taken up a UK consultant post**.
- **The average length of time taken to complete specialist training in clinical oncology in the UK has gradually increased**, as summarised in Table 5. RCR training data show that trainees who gained a CCT over the past five years (2014–2019) took an average of seven years to complete their specialist training, six months longer than those who gained a CCT in the preceding five years (2008–2013).
- **Increased numbers of CCT holders choose to delay taking up UK consultant posts for a variety of reasons.** Census and training data show that in 2019 trainees started their specialist training in clinical oncology at (median) age 30, typically completed their training at age 36–37 and took up their first consultant clinical oncologist post at (median) age 38.

Table 5. Average length of clinical oncology specialist training – UK, ten-year trend (2010–2019)

Time period	Full-time	LTFT	Overall
2008–2013	5 years, 11 months	8 years, 2 months	6 years, 6 months
2014–2019	6 years, 4 months	8 years, 6 months	7 years, 0 months
Difference	+5 months	+4 months	+6 months

- **There has been a gradual increase in the number of LTFT trainees.** In the past five years, on average, 30% of trainees were LTFT (at the point of completing their training) compared with 24% in the preceding five years.
- **Supply in regions with low levels of trainees has been hindered** by the strong preference of many clinical oncology trainees to take up consultant posts in the region where they undertook their specialist training.

Based on RCR training and census data, the number of UK-trained consultant clinical oncologists who will join the workforce in the next five years is estimated to be an average of 48 WTE consultants per year, as shown in Table 6.

Table 6. Estimated training completions (CCTs) and subsequent appointments to UK consultant clinical oncologist posts – UK, next five years (2020–2024)

UK country	Estimated CCTs*	Estimated subsequent consultants**	Estimated WTE consultants***
England	237	211	195
Northern Ireland	12	11	10
Scotland	26	23	22
Wales	14	12	11
UK total, next five years	289	257	239
UK average per year	58	51	48

Due to rounding, numbers in this table may not add up precisely to the totals provided.

*CCTs based on:

1. Trainee numbers (October 2019)

2. The average length of training of seven years and the average trainee attrition rate of 13%.

**Estimated post-training attrition of 11% (UK average) is based on a comparison of RCR training data with census data over the five years 2013–2018.

***Based on the current scale of LTFT working in each UK country (see Section 2.4).

The annual supply from UK specialist training (of 48 newly appointed WTE consultant clinical oncologists) falls far short of the number of consultants required to fill the 93 vacancies reported in 2019 (see Section 3.1), let alone cover shortfalls from retirements.

4.2. Supply from overseas recruitment

Migration makes a small but essential contribution to the oncology workforce, and the *NHS Long Term Plan* acknowledges that overseas recruitment will remain vital to achieving overall staffing numbers needed in the NHS.¹ Census data show that approximately ten consultant clinical oncologists who undertook their specialist training outside of the UK have been recruited to UK NHS consultant posts each year, for the past three years.

It is estimated that 50 WTE consultant clinical oncologists will be recruited to substantive posts in the UK by 2024, assuming that the current rate of overseas recruitment remains constant.

Other recruitment

There is supply, albeit much smaller, through other routes to the UK consultant clinical oncology workforce. Census data show that a few doctors (three in 2019) previously working in UK staff and associate specialist (SAS)-grade posts take up consultant-grade clinical oncology posts in the UK each year. Also, a few consultants return to practice after taking time out. Supply from these routes is estimated to total approximately 15 WTEs over the next five years, in line with the previous five years.

4.3. Retirement scenarios

If it is assumed that the median retirement age observed through the 2019 census remains unchanged at 59 years (see Section 3.3), an estimated 194 WTE consultants (22% of the current consultant workforce) are expected to retire in the next five years. This level of attrition will put considerable additional strain on the remaining workforce. In addition, older consultants have a wealth of experience, knowledge and expertise and are a valuable source of training and mentoring for more junior colleagues.

The following scenarios demonstrate the potential positive impact of retention strategies on workforce attrition, summarised in Table 7.

Table 7. Effect of retention strategies and retirement age on the UK consultant clinical oncology workforce – next five years

Age of retirement	Estimated consultant retirements, next five years
Scenario 1: 59 years	194
Scenario 2: 65 years	70 (124 fewer than scenario 1)
Scenario 3: 65 years plus all consultants age 60–64 working LTFT	114 (80 fewer than scenario 1)

Scenario 1: Median age of retirement remains at 59, representing no change from 2019.

Scenario 2: If consultant clinical oncologists are incentivised to continue to work on their current contracted hours and retire at the age of 65, this will more than halve the number of retirements, with estimated retention of 124 WTE consultants (in comparison with the current situation, Scenario 1).

Scenario 3: If consultants are incentivised to work on LTFT contracts of six PAs (equivalent to a 24-hour week) from age 60 and retire at the age of 65, this will reduce retirements by more than one-third, with estimated retention of 80 WTE consultants (in comparison with the current situation, Scenario 1).

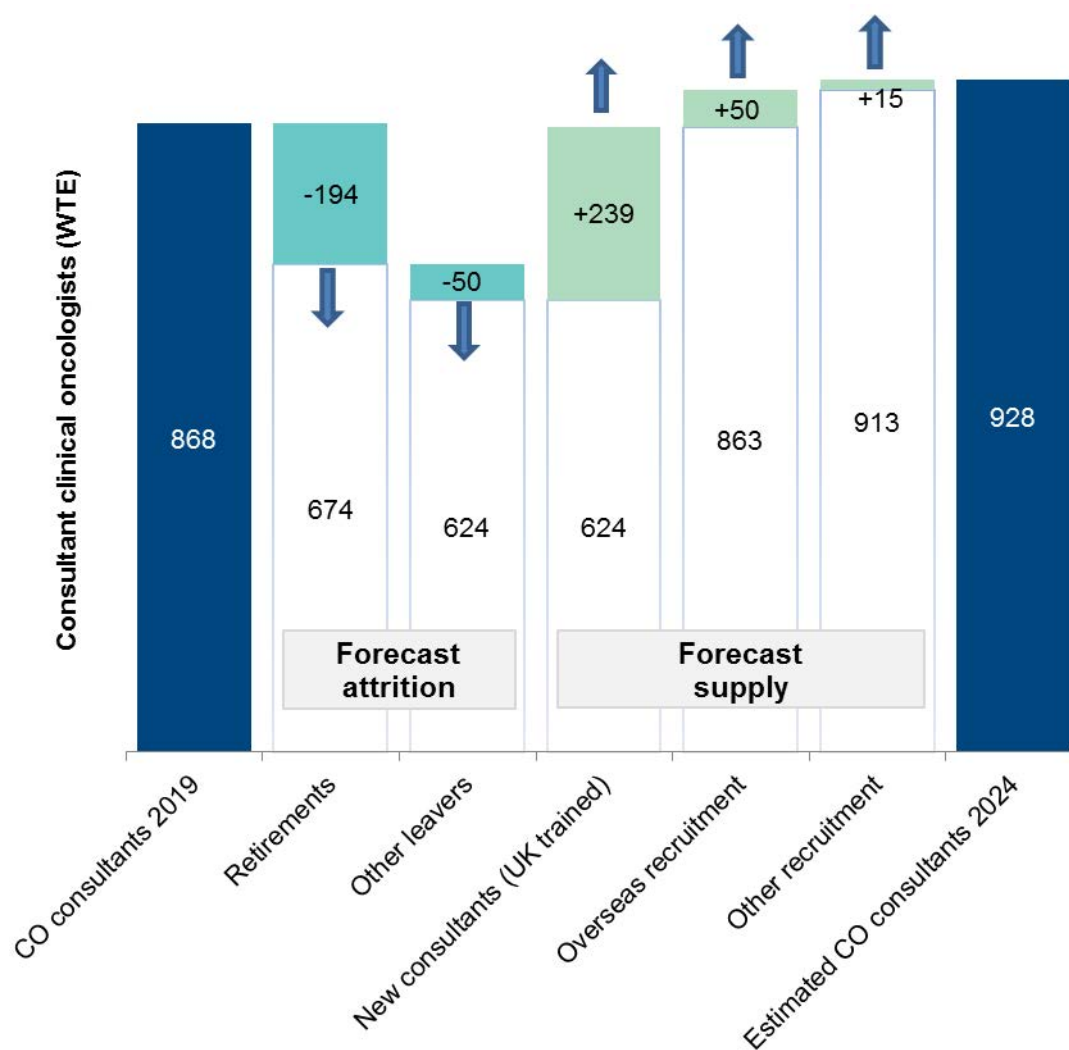
Other leavers

Assuming the annual attrition rate of 1% for other leavers (that is, all leavers excluding retirements) observed over the past five years remains unchanged, attrition in the next five years for this cohort is estimated to total approximately 50 consultants (WTEs).

4.4. Workforce forecast illustrated: next five years

Bringing together the forecasts outlined in earlier sections (3.1 to 3.4), Figure 12 illustrates the estimated supply and attrition over the next five years (2019–2024). There will be an estimated 928 WTE consultant clinical oncologists in post in the UK in five years (2024), equivalent to an average annual 1% increase. Growth is, therefore, predicted to slow down from the average of 4% per year seen over the past five years.

Figure 12. Estimated supply of WTE consultant clinical oncologists – UK, next five years (2019–2024)

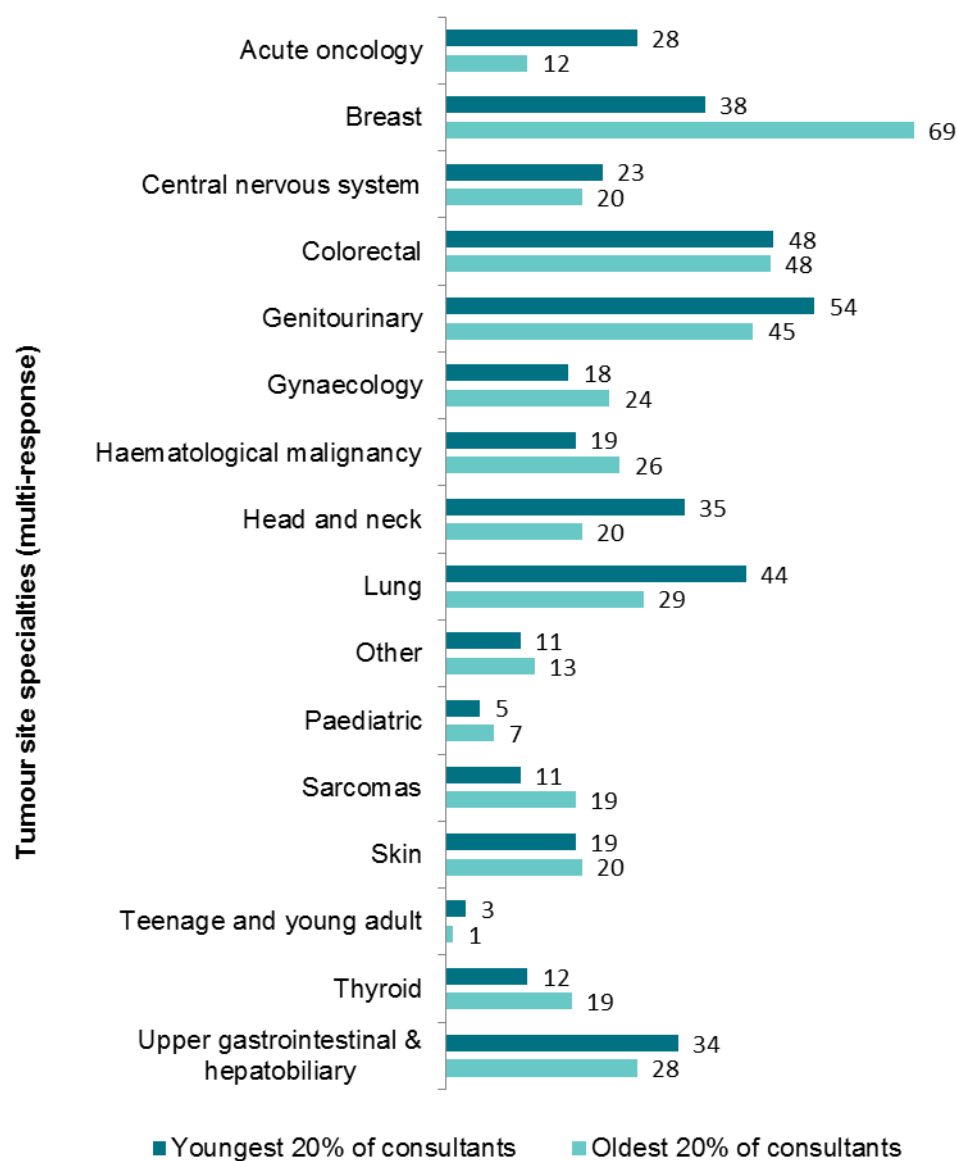


4.5. Forecast shortage of specialists

Early retirement results in increased workforce shortages and the loss of valuable experience, knowledge and expertise.

As a means of highlighting potential shortages of specialist oncologists in the coming years, Figure 13 shows the site specialties of the youngest 20% and the oldest 20% of consultant clinical oncologists.

Figure 13. Tumour site specialties of oldest and youngest consultant clinical oncologists – UK, 2019



These data show there is likely to be an increased shortage of consultant clinical breast oncologists over the coming five years:

- Half of cancer centres across the UK (n=30) have at least one vacant consultant clinical breast oncologist post

- This is forecast to increase as one-in-four consultant clinical oncologists with a site specialty of 'breast' (28%, n=77) are expected to retire over the next five years*
- There appears to be a shortage of younger consultant clinical oncologists specialising in breast oncology to close the gap between supply and demand. As illustrated in Figure 13, approximately two consultant breast oncologists are predicted to leave the workforce over the next five years, for every one that joins.

[*Assumes consultant clinical oncologist retire at the median age of 59 (see Table 4).]

5. Demand for and access to cancer services

Demand for cancer services has never been higher. Cancer is one of the leading causes of mortality in the UK, and the number of new cases of cancer continues to rise.¹¹ Around 1,000 new cancer cases are diagnosed each day in the UK, and half of the population born after 1960 are expected to be diagnosed with some form of cancer in their lifetime.¹²

5.1. Demand for cancer services

Many factors have contributed to the significant increase in demand for cancer services, including:

Increased numbers of cancer patients

Cancer prevalence means the number of people who have had a diagnosis of cancer. Over recent years cancer prevalence has increased by 3% per year in the UK.¹³ As the number of new cancer cases continues to rise year-on-year, so does the demand for radiotherapy and systemic therapies (including chemotherapy).

- **Demand for radiotherapy:** Half of all cancer patients have some form of radiotherapy included in their treatment management.¹⁴ The National Cancer Registration and Analysis Service (NCRAS) Radiotherapy Dataset (RTDS) shows that radiotherapy episodes in England increased by 2% over the past year.¹⁵ (A radiotherapy episode is a continuous period of care for radiotherapy including all preparation, planning and delivery of radiotherapy.)
- **Demand for systemic anti-cancer treatment (SACT):** Just under one-third (28%) of patients diagnosed with cancer have systemic therapy as part of their primary treatment, with many more receiving SACT when their cancer relapses. Demand for SACT has increased year on year; for example, courses of chemotherapy have increased by 8% per year for the past five years in England.¹⁶

An aging population and increased complexity of care

The UK population is growing and aging. Around one in every five people (18%) was 65 years or over in 2018 and this is projected to reach around one in every four people (24%) by 2038.¹⁷ This trend is significant, as older patients are much more likely to develop cancer; cancer incidence rates rise steeply from around age 55–59 and peak in the 85–89 age group.¹⁸ Older patients often have co-morbidities (other health problems that affect their care needs and ability to withstand the toxicities of treatment), which increases the complexity of care.

Increased diversity and complexity of treatment options

The diversity and complexity of cancer treatments continue to increase, and treatment is increasingly personalised. Advances in systemic therapy and radiotherapy mean that cancer patients receive more effective treatment with less toxicity, and survival rates are increasing.

However, as treatment options increase, so do patient expectations, and more time is needed for consultant oncologists to discuss treatment options with patients. Cancer patients may benefit from multiple lines of treatment, with care plans adjusted repeatedly depending on patients' response to treatment.

Consultant oncologists need time in their job plans to keep abreast of the latest research and clinical trials, clinical guidelines and technological developments in a rapidly changing

field. In addition, consultant oncologists need time for teaching, supervision and mentoring of specialist trainees, SAS-grade doctors and others. Finding time for these important activities is very challenging for consultant oncologists given the reduction in their SPA time (see Section 2.3).

Managing demand

There are various ways in which UK cancer centres seek to manage the demand for services, for example:

- **Service developments** to ensure cancer patients receive efficient and effective, personalised care. Developments may include improving processes and embedding new technologies into practice.
- **Skill-mix:** The multi-professional approach to the delivery of non-surgical oncology services seeks to utilise skills optimally to achieve the best experiences and outcomes for patients. Clinical oncologists lead and participate in teams with nurses, radiographers, physicists, pharmacists and other allied health professionals. Several heads of cancer services commented on the use of skill-mix at their centre centres; for example, one head of service explained, 'Non-medical posts continue to be developed to try and cover gaps, for example, pharmacist prescribers and consultant radiographers.'
- **Radiotherapy networks** seek to enhance collaboration between cancer centres to improve access for patients to modern radiotherapy treatment.

Optimising skill-mix, service developments and radiotherapy networks has the potential to improve cancer services for the benefit of patients, but takes time, expertise and funding to plan and implement, and is limited by workforce shortages across many NHS roles.

5.2. Demand for consultant clinical oncologists

The increase in patient numbers (and complexity), treatment options (and complexity) and patient expectations have significantly increased the workforce required to provide safe and effective cancer care for patients. The cancer workforce must grow so that cancer patients can benefit from earlier diagnoses, faster treatments, improved care and improved outcomes. Although data indicate that UK cancer survival rates are improving, the UK still lags behind other comparable countries. As highlighted by Cancer Research UK, without a long-term, concerted effort to ensure we have a cancer workforce fit for the future, sustainable progress in improving outcomes will be impossible.¹¹

Census data indicate that the consultant clinical oncology workforce is currently understaffed by a minimum of 207 WTE consultants. This estimate is based on the following:

- 94 WTE vacancies reported in 2019
- 113 additional WTE consultants calculated as required to cover the reported excess workload in 2019.*

**Calculation is based on full-time job plans being restricted to 10 PAs.*

5.3. Access to routine cancer services

The census collects data on opening hours and access to routine radiotherapy and chemotherapy services for the 62 UK cancer centres. These are shown in Table 8.

- **Weekdays:** Just under three-quarters of cancer centres provide routine radiotherapy and chemotherapy services for eight to ten hours per day. Approximately a quarter of cancer centres provide these services for more than ten hours per day.
- **Saturdays:** Approximately a quarter of cancer centres are open for routine radiotherapy (27%, n=17) and chemotherapy (24%, n=15).*
- **Sundays:** Very few cancer centres (6%, n=4) are open for routine chemotherapy, but one in five (19%, n=12) is open for routine radiotherapy.*

*A few cancer centres reported opening on an 'ad hoc' basis at the weekend to manage excess demand.

Over the past year, some cancer centres have extended their opening hours to meet the demand for radiotherapy and chemotherapy services. For example, the number of cancer centres opening for more than ten hours per day on weekdays has increased from 16 in 2018 to 20 in 2019. A few cancer centres reported that they were unable to extend their opening hours due to staff shortages.

Table 8. Opening hours for routine radiotherapy and chemotherapy – UK cancer centres, 2019

Treatment	Days*	11+ hours	8–10 hours	1–7 hours	Not open
Radiotherapy	Mon–Fri	20	42	0	0
	Sat	0	2	15	45
	Sun	0	0	12	50
Chemotherapy	Mon–Fri	16	44	2	0
	Sat	0	6	9	47
	Sun	0	2	2	58

5.4. Access to acute oncology services

As well as gathering information about routine radiotherapy and chemotherapy services, the census gathered information on acute oncology services (AOS) provision. It is recommended that all hospitals with an emergency department have an AOS team in place.¹⁹ Acute oncology teams provide multidisciplinary clinical expertise to facilitate the prompt management and care of cancer patients who are acutely unwell, and to avoid hospital admissions where possible. Patients may be suffering with cancer symptoms, or complications of cancer treatment, or may present as an emergency and have a suspected new diagnosis of cancer. A fifth of all cancers in England are diagnosed via an emergency route.²⁰

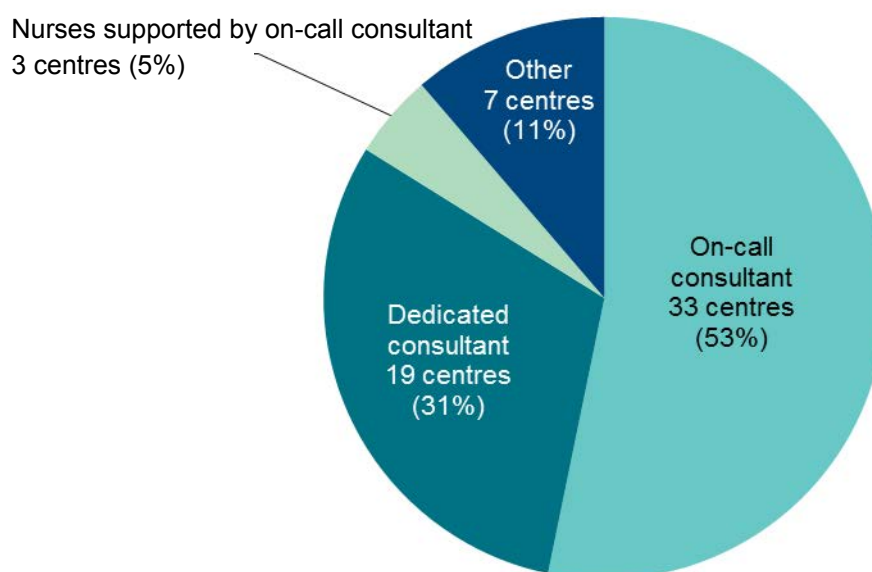
As the number and complexity of cancer cases have increased, demand for AOS has grown accordingly to enable high-quality, safe and timely care for acutely unwell cancer patients. Over the past five years, there has been an average increase of 5% per year in the number of patients admitted to hospital in England under the care of consultant (clinical and medical) oncologists.¹⁶

AOS during standard working hours

To ensure cancer patients receive prompt assessment and access to appropriate expertise, most cancer centres (60%, n=37) provide a dedicated unit for assessment and admissions of acutely ill cancer patients during standard working hours.

However, only one-third of cancer centres (31%, n=19) have a dedicated clinical or medical oncology consultant available to support AOS provision. Most cancer centres (53%, n=33) rely on on-call oncology consultants, as illustrated in Figure 14.

Figure 14. Consultant cover for AOS, 9 am to 5 pm, Monday to Friday – UK, 2019



'Other' includes ad-hoc consultant cover and mixed cover arrangements.

Out-of-hours AOS (overnight and weekends)

Telephone advice lines can be an important source of information, expert guidance and signposting for cancer patients. The vast majority of cancer centres (95%, n=59) reported that they provide their patients (and those caring for patients) with 24/7 telephone access to acute oncology staff for advice.

However, census data show that in 2019, only one in five cancer centres (19%, n=12) provides a 24-hour dedicated unit for assessment and admissions of acutely ill cancer patients.

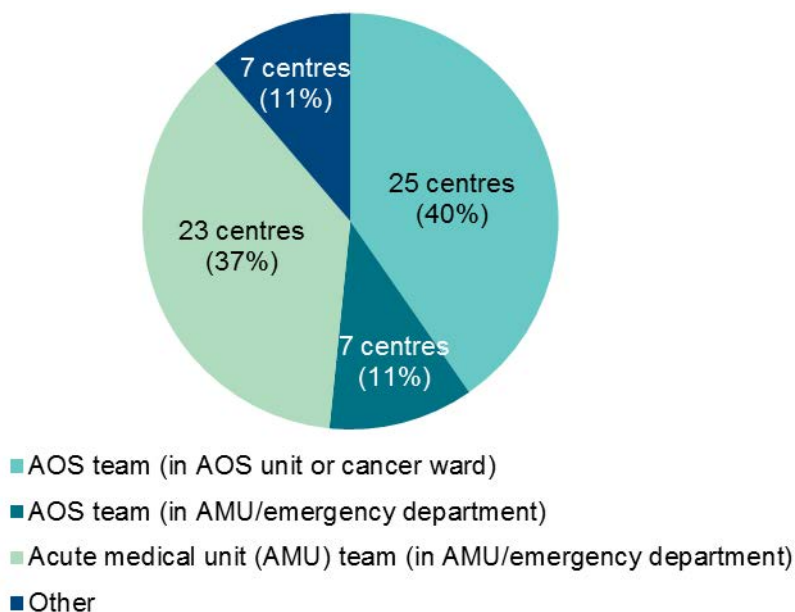
Emergencies

Acute oncology teams work closely with emergency medical unit teams, to ensure that cancer patients with emergency complications such as neutropenic sepsis receive a timely risk assessment by a competent healthcare professional.²¹

The 2019 census asked each cancer centre which team assesses patients with suspected neutropenic sepsis out of normal working hours. Half of cancer centres (51%, n=32) reported that the AOS team assesses these patients in the AOS unit or cancer ward or, less

commonly, in the acute medical unit (AMU) or emergency department. Four-in-ten cancer centres (37%, n=23) reported that AMU staff assess patients in the AMU or emergency department. These results are shown in Figure 15.

Figure 15. Assessment of patients suspected to have neutropenic sepsis out of normal working hours – UK, 2019



'Other' includes mixed arrangements, such as AOS team until 8 pm, then AMU team overnight. [Due to rounding, percentages in this figure may not add up to 100 exactly.]

A few heads of cancer services stated that workforce shortages are impacting their AOS provision, with staffing levels falling far short of the ideal. For example, one cancer centre explained: 'Due to ... [current] staffing levels, it is not possible to divest usual clinical work when on call [for AOS], which can be very disruptive.' Another cancer centre highlighted AOS as 'An area of major stress currently ... Our current arrangement of consultant input is patchy at best.'

6. Gap between supply and demand: five-year forecast

Census data show that the gap between supply and demand has widened considerably over the past five years from estimated understaffing of 105 WTE consultant clinical oncologists (equivalent to a 13% shortfall) in 2014 to understaffing of 207 WTEs (equivalent to 19% of the workforce) in 2019. In order to close this gap through training alone, the number of doctors starting specialist training each year would need to double for the next five years.

Current training numbers, recruitment trends and attrition rates indicate that the clinical oncology workforce shortfall will increase further, unless action is taken to mitigate workforce shortages. Scenario A outlines the minimum expected workforce demand in 2024, and Scenario B outlines the workforce levels needed to accelerate improvements in patient care by 2024.

Scenario A: Deliver a minimum standard of patient care. Estimated 3% increase in demand per year, based on the increase in cancer prevalence.¹³

- 2024 forecast demand: 1,246 WTEs.
- 2024 forecast shortfall: 318 WTEs (equivalent to a 26% workforce shortage).

Scenario B: Accelerated improvement in patient care. Estimated 5% increase in demand per year, to support oncology research, quality improvement and service transformation.

- 2024 forecast demand: 1,372 WTEs.
- 2024 forecast shortfall: 444 WTEs (equivalent to a 32% workforce shortage).

These two scenarios are illustrated in Figure 16, which provides a simplified illustration of the widening gap between the estimated supply of WTE consultant clinical oncologists and the demand for cancer services.

Figure 16. Estimated supply and demand of WTE consultant oncologists – UK, ten-year period (2015–2024)



6.1. Recommendations

There is no simple solution to rectify the increasing shortfall of consultant clinical oncologists, but the following measures will considerably improve the situation.

- **UK specialist training** numbers must expand as fast as possible. There are finite resources for training across the NHS, but investment in cancer services is essential to fulfil national cancer strategies.
- **Staff retention:** Early retirement, which appears to reflect a stressed workforce that feels undervalued, should be reduced by taking appropriate steps to manage, motivate and retain clinical oncology staff. This includes ensuring adequate infrastructure, implementing fair contractual terms and conditions, supporting flexible working and enacting long-term solutions to issues such as the tax charges on NHS pension schemes. All the evidence indicates that organisations that prioritise staff wellbeing and leadership provide higher-quality patient care, see higher levels of patient satisfaction, and are better able to retain the workforce they need.²²
- **Overseas recruitment** of doctors should be supported centrally through efficient and effective immigration rules and processes. The UK Government must enact legislative reform in order to further streamline processes for international doctors applying to join the specialist register, building on the GMC's work in this area.
- **NHS employing organisations should ensure that the role of trainers is properly valued**, including giving them adequate time in their job plans to undertake training responsibilities.
- The Review Body on Doctors' and Dentists' Remuneration (DDRB) should implement contractual reform for **staff and associate specialist (SAS) doctors**. Trust and health boards should take steps to adopt the SAS Charter, which sets optimal working conditions for SAS doctors to maximise their contribution to the NHS.²³
- **Radiotherapy networks:** The new radiotherapy operational delivery networks in England are an opportunity to reduce variation in the quality of patient care and improve professional collaboration. However, radiotherapy networks need investment in staff and technology, modern radiotherapy equipment and adequate IT connectivity. Similar models should be considered in the devolved nations.
- **Equipment:** National rolling hardware and software upgrade programmes need to be funded to support the oncology workforce to deliver the best patient care. Patients benefit from treatment with state-of-the-art radiotherapy equipment, and departments benefit from a reduction in the administrative burden of ad hoc business cases.
- The UK Government, devolved administrations and arm's-length bodies should prioritise **long-term national workforce planning**, because medical training places need to be planned and funded more than ten years in advance of when the NHS requires consultant expertise.

6.2. What is the RCR doing?

Over the past year, the RCR has sought to highlight workforce shortages and propose solutions to the crisis through various projects and publications. Some highlights are as follows.

- Hosted and supported NHS England with **radiotherapy Operational Delivery Network workshops** to encourage and enable uptake, in addition to pushing for basic elements of IT connectivity across NHS systems.
- Commenced a **project on the importance of a well-resourced and accessible acute oncology service**. With good practice case studies, leadership tips and suggested methods for optimum delivery, a report is due to be published in summer 2020.
- Generated new **RCR Clinical Fellow roles** to focus on workforce issues and radiotherapy access.
- Collaborated with CRUK, Health Education England and others on **making the case for the crucial increase in training numbers** to ensure a safe and well-resourced service.
- Set up and mobilised the **support and wellbeing working group** to identify the key drivers and wider impact of stress in oncology. The group is developing a report, practical resources (including a series of webinars) and a programme of work to support members to combat bullying and harassment, maintain wellbeing, and promote a mutually supportive and collaborative working culture.
- Earlier this year we published our report *Harnessing the experience and clinical expertise of staff and associate specialist (SAS) doctors*, which outlines the vital contribution that **SAS doctors** make to the delivery of healthcare in the UK.²³ Embracing multidisciplinary working, including making better use of the skills of SAS doctors, will help to optimise the capabilities of the existing workforce.
- Contributed to the **All Party Parliamentary Group for Radiotherapy** through offering oral and extensive written evidence to the Health Select Committee. This led to the impactful report *Radiotherapy: Securing the future of Britain's secret lifesaver*.²⁴
- Collaborated with other organisations to advocate for a solution to the issue of **tax charges on NHS pension schemes**. This has included working with the Academy of Medical Royal Colleges to input into their letter to the Government outlining examples of direct impacts on service provision.
- Responded to numerous **consultations** from across the healthcare sector, emphasising the need for an adequate imaging workforce wherever possible. Among these were our responses to the Health and Social Care Committee's call for evidence on implementing the NHS *Long Term Plan*, and the consultation on Professor Sir Mike Richards' screening review – both of which stressed the need for increased workforce capacity and adequate IT infrastructure.^{1,25}

References

1. NHS England. *NHS Long Term Plan*. London: NHS England, 2019
 2. www.rcplondon.ac.uk/news/pension-tax-driving-half-doctors-retire-early (last accessed 26/5/20)
 3. The Health Foundation. *A critical moment: NHS staffing trends, retention and attrition*. London: The Health Foundation, 2019.
 4. Royal College of Physicians. 2018–19 census (UK consultants and higher specialty trainees). London: Royal College of Physicians, 2019.
 5. The Royal College of Radiologists. *Guide to job planning in clinical oncology, third edition*. London: The Royal College of Radiologists, 2015.
 6. Academy of Medical Royal Colleges. *Advice on supporting professional activities in consultant job planning*. London: Academy of Medical Royal Colleges, 2010.
 7. The Royal College of Radiologists. *Appendix to the RCR's Guide to job planning in clinical oncology, third edition: Supporting research activities*. London: The Royal College of Radiologists, 2017.
 8. www.cancerresearchuk.org/health-professional/cancer-statistics/incidence/common-cancers-compared (last accessed 22/5/20)
 9. The Royal College of Radiologists. Clinical oncology UK workforce census 2018 report. London: The Royal College of Radiologists, 2019.
 10. British Medical Association. *Supporting an aging medical workforce*. London: British Medical Association, 2019.
 11. Cancer Research UK. *Cancer in the UK 2019*. London: Cancer Research UK, 2019.
 12. www.cancerresearchuk.org/health-professional/cancer-statistics-for-the-uk (last accessed 22/5/20)
 13. Maddams J, Utley M, Møller H. Projections of cancer prevalence in the United Kingdom, 2010-2040. *Br J Cancer* 2012; **107**: 1195–1202.
 14. Public Health England. *Radiotherapy activity across England*. London: Public Health England, 2017.
 15. www.cancerdata.nhs.uk/radiotherapy (last accessed 29/5/20)
 16. <https://digital.nhs.uk/data-and-information/publications/statistical/hospital-admitted-patient-care-activity/2018-19> (last accessed 22/5/20)
 17. www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/articles/overviewoftheukpopulation/august2019 (last accessed 22/5/20)
 18. www.cancerresearchuk.org/health-professional/cancer-statistics/incidence/age#heading-Zero (last accessed 22/5/20)
 19. National Chemotherapy Advisory Group. *Chemotherapy services in England: Ensuring quality and safety*. London: National Cancer Action Team, 2009.
 20. Public Health England. *Routes to diagnosis 2006–2016 workbook*. London: Public Health England, 2017.
 21. www.nice.org.uk/guidance/cg151 (last accessed 22/5/20)
 22. General Medical Council. *Caring for doctors, caring for patients*. London: General Medical Council, 2019.
 23. The Royal College of Radiologists. *Harnessing the experience and clinical expertise of staff and associate specialist (SAS) doctors*. London: The Royal College of Radiologists, 2020.
 24. All Party Parliamentary Group for Radiotherapy. *Radiotherapy: Securing the future of Britain's secret lifesaver*. London: All Party Parliamentary Group for Radiotherapy, 2019.
 25. Professor Sir Mike Richards. *Report of the independent review of adult screening programmes in England*. London: NHS England, 2019.
 26. NHS England. *Modernising radiotherapy services in England – developing proposals for future service models*. London: NHS England, 2016.
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Appendix A. Census methodology

Since 2008, the RCR has gathered clinical oncology workforce data annually through an online census, which is completed by the head of cancer services (or their delegate) at every NHS cancer centre providing radiotherapy in the UK.

Survey method

Standardised questions (see Appendix D) have been used year on year to enable comparison of information and identification of trends over time. To facilitate data collection and data accuracy, 2018 staff data were provided to each cancer centre, and heads of cancer services were asked to update the details for substantive and locum posts as of 1 October 2019. Data were collected through a secure web survey.

Data accuracy

Due to the use of consistent questions, established processes and data quality checks, data accuracy is understood to be high. Where discrepancies and outliers were identified in the data, clarification was sought from census respondents.

Response rate

The 2019 census achieved a 100% response rate from heads of cancer services, with all 62 cancer centres in the UK submitting information.

Presentation of results

The workforce figures in this report are given as headcount unless otherwise stated. Where a member of staff works part-time across two regions, they will count as a headcount of one in each of the regions, and as one in the UK total; therefore, the sum of the regional headcounts will be slightly higher than the UK headcount. Where WTE figures are used, the calculation conforms to the current NHS convention of excluding PAs that exceed ten.

Calculations

- **Attrition:** Attrition refers to those leaving the workforce. The attrition rate is calculated as $\text{WTE leavers} / \text{mean WTE consultant workforce}$.
- **Vacancy rate:** The vacancy rate is the percentage of WTE staff in post against planned workforce levels. $\text{Vacancy rate} = \text{WTE vacancies} / (\text{WTE vacancies} + \text{WTE staff in post})$.
- **Whole-time equivalents (WTEs):** A WTE is a whole-time (or full-time) doctor contracted for ten programmed activities (PAs) per week, equivalent to a 40-hour week in England, Northern Ireland and Scotland, and 37.5 hours in Wales.

The calculation of WTEs throughout this report conforms to the NHS convention of calculating one WTE as ten PAs (that is, it excludes PAs that exceed ten). WTEs include direct clinical care (DCC) and supporting professional activities (SPAs), but exclude research and additional responsibility PAs.

Time periods

For simplicity, the phrase 'in 2019' is used in this report to refer to the period covered by the 2019 census, which is October 2018 to September 2019.

Data processing

Census data are analysed together with the GMC medical register and clinical oncology specialty training data held by the RCR. The RCR processes data in accordance with UK data protection legislation.

Data collection period

Data collection opened on 1 October 2019 and closed on 16 December 2019.

Data limitations

The census does not capture work undertaken outside of contracted hours, or sickness and absence rates.

Queries

Please send queries regarding the census to census@rcr.ac.uk

Appendix B.

Summary data by UK country 2019

	England	Northern Ireland	Scotland	Wales	UK
Number of cancer centres	52	2	5	3	62
Workforce					
Consultant clinical oncologists (headcount)	769	31	87	51	938
▪ Of which, locums	42	1	2	2	47
▪ Locums as % of workforce	5%	3%	2%	4%	5%
Whole-time equivalents (WTEs)	711	30	83	44	868
Trainees (headcount)	381	19	43	22	465
Trainees as % of workforce	33%	38%	33%	30%	33%
Vacant posts	82	3	3	5	93
Vacancy rate	11%	9%	4%	9%	10%
Workforce trends – consultant clinical oncologists					
% of WTE workforce forecast to retire within five years	22%	29%	22%	28%	22%
Annual workforce growth (average, past five years)	4%	9%	7%	4%	4%
Workforce growth (WTE consultants) past year	-0.4	-0.7	3.7	2.6	5.1
Working patterns – consultant clinical oncologists					
Proportion who work LTFT	35%	26%	28%	45%	34%
LTFT impact (%)	-8%	-2%	-5%	-14%	-7%
LTFT impact (WTE)	-58	-1	-4	-7	-70
Proportion required to travel to more than one site within a working day on a regular basis (NHS consultants)	46%	32%	15%	72%	44%

	England	Northern Ireland	Scotland	Wales	UK
Programmed activities					
Mean contracted PAs per week – full-time NHS consultants	11.4	12.1	11.3	12.1	11.4
▪ Of which, DCCs	9.2	9.9	9.1	8.4	9.1
▪ SPAs	1.8	1.7	1.8	2.7	1.8
▪ Additional responsibility	0.3	0.5	0.3	0.7	0.3
▪ Research	0.1	0.0	0.1	0.3	0.1
Population					
Population (2018) ¹⁷	55,977,000	1,882,000	5,438,000	3,139,000	66,436,000
▪ Percentage of population aged 55 plus ('older' population)	30%	30%	34%	32%	30%
WTE medical oncologists (2018)	448	16	36	17	517
WTE consultants (CO+MO) per million population	21	25	22	19	21
WTE consultants (CO+MO) per million 'older' population (aged 55+)	69	87	68	58	69
Estimated shortfall – consultant clinical oncologists					
Consultants required to cover excess workload (>10 PAs)	89.7	6.0	10.1	7.2	113.0
WTE vacancies	84	2.6	3.0	4.2	94.2
WTE consultant shortfall (sum of above)	174	9.0	13.1	11.4	207
% workforce shortfall (consultants)	20%	22%	14%	21%	19%

Appendix C. Cancer centres: oncologists (WTE) per million population

Cancer centres in this table are grouped by Radiotherapy Network Partnerships.

Cancer centre	Population estimate 2018	COs (WTE) 2019	COs (WTE) per million population	COs (WTE) 2014	MOs (WTE) 2019	Total COs and MOs (WTE) per million population
Leicester Royal Infirmary	939,000	9.4	10.0	6.7	7.6	18.0
Lincoln County Hospital	579,000	7.0	12.1	6.0	2.8	16.8
Northampton General Hospital	734,000	9.3	12.6	7.0	5.0	19.4
Nottingham University Hospital	1,129,000	17.8	15.8	13.0	9.5	24.2
Royal Derby Hospital	960,000	8.0	8.3	10.0	NK	NK
East Midlands total	4,341,000	51.5	11.9	42.7	NK	NK
Addenbrooke's Hospital, Cambridge	1,444,000	19.1	13.2	18.1	NK	NK
Colchester General Hospital	717,000	8.9	12.5	9.7	NK	NK
Ipswich Hospital	362,000	5.0	13.8	6.9	1.4	17.7
Norfolk and Norwich University Hospital	864,000	10.1	11.7	9.8	2.5	14.6
Peterborough City Hospital	275,000	6.5	23.7	3.5	NK	NK
Southend University Hospital	677,000	12.6	18.6	9.1	NK	NK
East of England total	4,339,000	62.2	14.3	56.9	NK	NK
Weston Park Hospital, Sheffield	1,803,000	23.4	13.0	16.2	NK	NK
Castle Hill Hospital, East Riding of Yorkshire	1,042,000	11.0	10.6	11.0	12.2	22.3
Leeds Cancer Centre, St James' University Hospital	2,871,000	32.0	11.2	26.1	23.1	19.2
Humber, Coast and Vale, West Yorkshire, South Yorkshire, Bassetlaw, North Derbyshire and Hardwick total	5,716,000	66.4	11.6	53.3	NK	NK

Cancer centre	Population estimate 2018	COS (WTE) 2019	COS (WTE) per million population	COS (WTE) 2014	MOs (WTE) 2019	Total COS and MOs (WTE) per million population
Royal Preston Hospital	1,480,000	16.1	10.9	19.1	10.2	17.8
The Christie Hospital, Manchester	3,332,000	43.4	13.0	33.7	NK	NK
The Clatterbridge Cancer Centre, Wirral	2,275,000	27.8	12.2	25.8	NK	NK
Lancashire and South Cumbria, Greater Manchester, Cheshire and Merseyside total	7,087,000	87.3	12.3	78.6	NK	NK
Mount Vernon Cancer Centre, Hertfordshire	1,987,000	17.9	9.0	19.5	NK	NK
North Middlesex University Hospital	588,000	11.0	18.6	7.2	NK	NK
Queen's Hospital, Romford	602,000	9.3	15.4	8.9	0.3	15.9
Royal Free Hospital, London	394,000	4.9	12.4	4.1	NK	NK
St Bartholomew's Hospital, London	1,106,000	9.6	8.7	6.1	NK	NK
University College Hospital, London	891,000	16.9	19.0	11.5	NK	NK
North Central and North East London total	5,567,000	69.6	12.5	57.3	NK	NK
Cumberland Infirmary	308,000	3.3	10.8	3.0	2.0	17.3
Northern Centre for Cancer Care (NCCC), Newcastle upon Tyne	1,800,000	20.5	11.4	18.6	12.4	18.3
The James Cook University Hospital, Middlesbrough	1,037,000	14.1	13.6	11.5	4.2	17.6
North East and Cumbria total	3,145,000	37.9	12.1	33.1	18.6	18.0

Cancer centre	Population estimate 2018	COS (WTE) 2019	COS (WTE) per million population	COS (WTE) 2014	MOs (WTE) 2019	Total COS and MOs (WTE) per million population
Imperial College Cancer Centre, London	1,202,000	15.0	12.5	11.0	NK	NK
Royal Marsden Hospital, London	2,189,000	31.2	14.3	19.8	NK	NK
Royal Surrey County Hospital	1,276,000	14.3	11.2	15.5	NK	NK
Royal Sussex County Hospital	947,000	15.0	15.8	12.0	6.6	22.8
North West and South West London, Surrey and Sussex total	5,614,000	75.5	13.5	58.2	NK	NK
Belfast City Hospital	1,382,000	23.3	16.9	19.8	11.9	25.5
North West Cancer Centre, Altnagelvin Hospital	500,000	7.0	14.0	N/A	4.0	22.0
Northern Ireland total	1,882,000	30.3	16.1	19.8	15.9	24.5
Bristol Haematology and Oncology Centre	1,097,000	13.9	12.6	11.5	6.0	18.1
Cheltenham General Hospital	1,124,000	12.6	11.2	10.5	3.0	13.9
Musgrove Park Hospital, Taunton	395,000	7.9	20.1	7.3	4.8	32.2
Plymouth Oncology Centre, Derriford Hospital	464,000	8.0	17.2	8.0	1.0	19.4
Royal Cornwall Hospital	413,000	8.5	20.5	5.0	NK	NK
Royal Devon and Exeter Hospital	587,000	11.2	19.0	10.6	2.5	23.3
Royal United Hospital Bath	443,000	4.1	9.3	5.0	3.8	17.8
Torbay Hospital	250,000	4.6	18.4	3.3	2.6	28.8
Peninsula, Somerset, Wiltshire, Avon and Gloucestershire total	4,772,000	70.7	14.8	61.1	NK	NK

Cancer centre	Population estimate 2018	COS (WTE) 2019	COS (WTE) per million population	COS (WTE) 2014	MOS (WTE) 2019	Total COS and MOS (WTE) per million population
Aberdeen Royal Infirmary	616,000	10.6	17.2	5.8	NK	NK
Beatson West of Scotland Cancer Centre	2,564,000	40.8	15.9	26.0	NK	NK
Edinburgh Cancer Centre, Western General Hospital	1,392,000	20.3	14.6	17.3	NK	NK
Ninewells Hospital and Medical School, Dundee	508,000	6.6	13.0	6.9	NK	NK
Raigmore Hospital, Inverness	359,000	4.4	12.1	2.5	1.0	14.9
Scotland total	5,438,000	82.6	15.2	58.5	NK	NK
Guy's and St Thomas' Cancer Centre, London	1,738,000	27.1	15.6	17.7	23.0	28.8
Kent Oncology Centre	1,822,000	19.7	10.8	16.9	5.0	13.5
South East London, Kent and Medway total	3,560,000	46.7	13.1	34.6	NK	NK
Basingstoke and North Hampshire Hospital, Royal Hampshire County Hospital (satellite of Southampton)	148,000	2.3	15.5	N/A	NK	NK
Dorset Cancer Centre, Poole Hospital	732,000	8.7	11.9	6.9	4.4	17.9
Oxford Cancer Centre, Churchill Hospital	1,368,000	29.7	21.7	21.0	18.6	35.3
Portsmouth Oncology Centre, Queen Alexandra Hospital	807,000	9.1	11.2	8.0	NK	NK
Royal Berkshire Hospital	734,000	9.4	12.8	7.7	2.0	15.6
University Hospital Southampton	1,297,000	18.0	13.9	15.5	NK	NK
Thames Valley, Wessex total	5,086,000	77.2	15.2	59.0	NK	NK
Glan Clwyd Hospital, Rhyl	709,000	7.0	9.9	7.0	4.8	16.6
South West Wales Cancer Centre, Singleton Hospital	911,000	11.5	12.6	8.8	5.6	18.7
Velindre Hospital, Cardiff	1,519,000	25.7	16.9	19.6	6.5	21.2
Wales total	3,139,000	44.1	14.0	35.4	16.9	19.4

Cancer centre	Population estimate 2018	COS (WTE) 2019	COS (WTE) per million population	COS (WTE) 2014	MOs (WTE) 2019	Total COS and MOs (WTE) per million population
New Cross Hospital, Wolverhampton	869,000	6.9	7.9	7.0	NK	NK
Queen Elizabeth Hospital, Birmingham	1,980,000	20.3	10.3	15.8	12.0	16.3
Royal Shrewsbury Hospital	464,000	6.0	12.9	6.0	1.0	15.1
Royal Stoke University Hospital	674,000	9	12.9	10.0	3.0	17.4
University Hospital, Coventry	1,063,000	17.8	16.7	12.1	NK	NK
Worcester Oncology Centre	513,000	6.2	12.0	N/A	1.0	14.0
West Midlands total	5,563,000	65.8	11.8	50.9	NK	NK
UK	66,436,000	868	13.1	699	517	20.8

'Not known' has been abbreviated to NK in this table.

2018 population estimate uses 2015 cancer centre population data uplifted by 2015–2018 population growth.^{17,26}

The 'population estimates' do not reflect any changes in radiotherapy populations since 2015. Should cancer centres find that their populations are not accurately reflected in the table, we recommend they make manual corrections to their local copies and also inform RCR, which will review the population data before the next publication.

Appendix D. Census questions 2019

This appendix outlines the questions which were completed by cancer centres on the census website.

**Indicates a mandatory field.*

Section 1. Workforce census privacy notice

I have read and accept The Royal College of Radiologists' workforce census privacy notice [tick box]*

Section 2. Organisational details

- 2.1 Census contact – full name*
- 2.2 Cancer centre name*
- 2.3 Trust/Health board*
- 2.4 Census contact – email*
- 2.5 Census contact – telephone number*

Section 3. Staff details – clinical oncology

- 3.1 Forename
- 3.2 Surname*
- 3.3 Grade* (drop-down list)
 - Consultant (clinical oncology)
 - Specialty doctor (clinical oncology)
 - Trust grade (clinical oncology)
- 3.4 NHS/Academic* (drop-down list)
 - NHS
 - Mixed NHS and academic
 - Academic (university contract)
- 3.5 Direct clinical care (DCC) PAs*
- 3.6 Supporting professional activities (SPAs)*
- 3.7 Academic PAs (academic roles only)*
- 3.8 Additional responsibility PAs*
- 3.9 Total PAs (auto-filled)
- 3.10 Employment type (auto-filled – full-time = 10 PAs+)
 - Full-time
 - Part-time
- 3.11 Research PAs
- 3.12 Are these research PAs included in the SPA value above? (Yes/No)
- 3.13 Additional comments relating to PAs (free text)
- 3.14 Predominant workload* (drop-down list)
 - Chemotherapy
 - Radiotherapy
 - Balance of both (not more than 60% (approximately) of workload dedicated one or the other)
- 3.15 Site specialties* (tick-box list – consultants only)

- Acute oncology
- Breast
- CNS/Neuro
- Colorectal
- Genitourinary
- Gynaecology
- Haematological malignancy
- Head and neck
- Lung
- Paediatric
- Sarcomas
- Skin
- Teen and young adult
- Thyroid
- Upper GI (including HPB)
- Other

3.16 Employment

- Employed as a locum? (tick box) If ticked:
 - Period employed as locum up to 1 October 2019* (drop-down list)
 - 1–3 months
 - 4–6 months
 - 7–9 months
 - 10–12 month
 - >12 months
- Reason for locum position* (drop-down list)
 - Cover for long-term (>1 month) sickness
 - To fill a vacant/unfilled post
 - Maternity cover/parental leave cover
 - Other

3.17 Cross-site working

- Employed at more than one trust (tick box)
- Delivered care at more than one site on a regular basis in the 12-month period to 1 October 2019 (tick box)
- Required to travel to more than one site in a working day on a regular basis (tick box)

3.18 Left since 1 September 2018 (tick box) If ticked ... 'Reason for leaving' (drop-down list):

- Retired
- Left for reasons other than retirement
- Not known/Do not wish to say

Section 4. Unfilled posts – clinical oncology

4.1 Unfilled post status* (drop-down list)

- Funded but not yet advertised
- Funded but not thought worth advertising
- Advertised but not yet interviewed
- Appointed but not yet taken up
- Advertised but failed to appoint AND planning to re-advertise in the next three months
- Advertised but failed to appoint AND not contemplating further re-advertising in next three months

4.2 Grade* (drop-down list)

- Consultant
 - Associate specialist
 - Specialty doctor
 - Trust grade
- 4.3 Total PAs (consultants only)
- 4.4 Employment type* (drop-down list)
- Full-time (10 PAs+)
 - Part-time
- 4.5 Site specialties (consultants only – same drop-down list as 4.3)
- 4.6 Unfilled period (to the nearest month) (drop-down list)
- 0 months
 - 1 month (list proceeds in 1-month increments ...)
 - 12+ months
 - Don't know
- 4.7 No vacancies (vacancy details must be entered or this box ticked to confirm no vacancies)
- 4.8 What are the plans for any vacant posts where recruitment attempts have been unsuccessful? (drop-down list):
- Restructure teams to absorb the workload
 - Recruit from overseas
 - Appoint locum to provide cover
 - Significantly amend the job description and re-advertise
 - Other (please specify)
 - Don't know
 - N/A
- 4.9 Additional comments relating to recruitment (free text)

Section 5. Overseas recruitment – clinical oncology

- 5.1 Has your cancer centre tried to recruit candidates from outside the UK in the past year? (drop-down list)
- Yes
 - No
 - Don't know/Do not wish to say
- 5.2 If yes, did your cancer centre successfully fill the vacant post with an overseas candidate? (drop-down list)
- Yes
 - No
 - Don't know/Recruitment is ongoing
- 5.3 If no, are there specific reasons your cancer centre did not actively target recruitment of doctors working overseas? If so, what are these? (free text)
- 5.4 Additional comments: (free text)

Section 6. Radiotherapy and chemotherapy routine opening hours

6.1 Routine (non-emergency) radiotherapy opening hours at your main cancer centre in September 2019: * Matrix of:

- Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday
- <8 hours, 8–10 hours, >10 hours, Not open

6.2 Are these radiotherapy hours (for September 2019) typical for 2019?* (Yes/No)

6.3 Routine (non-emergency) chemotherapy opening hours at your main cancer centre in September 2019: * Matrix of:

- Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday
- <8 hours, 8–10 hours, >10 hours, Not open

6.4 Are these chemotherapy hours (for September 2019) typical for 2019?* (Yes/No)

6.5 Additional comments relating to radiotherapy or chemotherapy opening hours (free text)

Section 7: Acute Oncology Services (AOS)

7.1 Do patients treated at your cancer centre have 24/7 telephone access to an acute oncology service for advice?*(Yes/No)

7.2 Does your centre have a dedicated assessment or admissions unit for cancer patients?*(Yes/No)

7.3 If yes, what hours does it function Monday to Friday? (free text)

7.4 If yes, what hours does it function Saturdays and Sundays? (free text)

7.5 If a patient is suspected to have neutropenic sepsis out of normal working hours, where and by who are they assessed?*

- AOS unit/cancer ward – assessed by AOS/oncology team
- Acute medical unit/emergency department – assessed by AOS/oncology team
- Acute medical unit – assessed by AMU team
- Other (please specify in the 'Additional comments' field below)

7.6 What is the consultant cover for AOS 9 am to 5 pm Monday to Friday?*(drop-down list)

- Dedicated AOS consultant
- On-call consultant
- No consultant cover
- Other (please specify in the 'Additional comments' field below)

7.7 Additional comments relating to AOS (free text)

Section 8. Census permission and feedback

8.1 Do you grant permission for your centre to be named in the annual census report?*(Yes/No)

8.2 Please tell us:

- Any further details relevant to your census submission and/or;
- Feedback specific to the RCR census itself to further improve the data or survey process in future years. (free text)

8.3 Have you or your colleagues used past results of RCR censuses?

- If so, how were they used and what impact did this have? (free text)

Appendix E. Census completions 2019

Thank you to heads of service and their colleagues at the following cancer centres for completing the 2019 census.

Cancer centre/hospital	Trust/health board
Aberdeen Royal Infirmary	NHS Grampian
Addenbrooke's Hospital	Cambridge University Hospitals NHS Foundation Trust
Basingstoke and North Hampshire Hospital, Royal Hampshire County Hospital	Hampshire Hospitals NHS Foundation Trust
Beatson West of Scotland Cancer Centre	NHS Greater Glasgow and Clyde
Belfast City Hospital	Belfast Health and Social Care Trust
Bristol Haematology & Oncology Centre	University Hospital Bristol NHS Foundation Trust
Castle Hill Hospital	Hull and East Yorkshire Hospitals NHS Trust
Cheltenham General Hospital	Gloucestershire Hospitals NHS Foundation Trust
Colchester General Hospital	East Suffolk and North Essex NHS Foundation Trust
Cumberland Infirmary	North Cumbria University Hospitals NHS Trust
Dorset Cancer Centre, Poole Hospital	Poole Hospital NHS Foundation Trust
Edinburgh Cancer Centre, Western General Hospital	NHS Lothian
Glan Clwyd Hospital	Betsi Cadwaladr University Health Board
Guy's & St Thomas' Cancer Centre	Guy's and St Thomas' NHS Foundation Trust
Imperial College Cancer Centre	Imperial College Healthcare NHS Trust
Ipswich Hospital	East Suffolk and North Essex NHS Foundation Trust
Kent Oncology Centre	Maidstone and Tunbridge Wells NHS Trust and East Kent Hospitals University NHS Foundation Trust
Leeds Cancer Centre, St James' University Hospital	Leeds Teaching Hospitals NHS Trust
Leicester Royal Infirmary	University Hospitals of Leicester NHS Trust
Lincoln County Hospital	United Lincolnshire Hospitals NHS Trust
Mount Vernon Cancer Centre	East and North Hertfordshire NHS Trust
Musgrove Park Hospital	Taunton and Somerset NHS Foundation Trust
Northern Centre for Cancer Care (NCCC), Freeman Hospital	Newcastle upon Tyne Hospitals NHS Foundation Trust
New Cross Hospital	The Royal Wolverhampton NHS Trust
Ninewells Hospital & Medical School	NHS Tayside
Norfolk and Norwich University Hospital	Norfolk and Norwich University Hospitals NHS Foundation Trust
North Middlesex University Hospital	North Middlesex University NHS Trust
North West Cancer Centre, Altnagelvin Hospital	Western Health and Social Care Trust
Northampton General Hospital	Northampton General Hospital NHS Trust
Nottingham University Hospital, City Hospital Campus	Nottingham University Hospitals NHS Trust
Oxford Cancer Centre, Churchill Hospital	Oxford University Hospitals NHS Trust
Peterborough City Hospital	North West Anglia Foundation Trust
Plymouth Oncology Centre, Derriford Hospital	University Hospitals Plymouth NHS Trust
Portsmouth Oncology Centre, Queen Alexandra Hospital	Portsmouth Hospitals NHS Trust
Queen Elizabeth Hospital	University Hospital Birmingham NHS Foundation Trust

Cancer centre/hospital	Trust/health board
Queens Hospital, Romford	Barking, Havering and Redbridge University Hospitals NHS Trust
Raigmore Hospital	NHS Highland
Royal Berkshire Hospital	Royal Berkshire NHS Foundation Trust
Royal Cornwall Hospital	Royal Cornwall Hospitals NHS Trust
Royal Derby Hospital	University Hospitals of Derby and Burton NHS Foundation Trust
Royal Devon and Exeter Hospital (Wonford)	Royal Devon and Exeter NHS Foundation Trust
Royal Free Hospital	Royal Free London NHS Foundation Trust
Royal Marsden Hospital	The Royal Marsden NHS Foundation Trust
Royal Preston Hospital	Lancashire Teaching Hospitals NHS Foundation Trust
Royal Shrewsbury Hospital	Shrewsbury and Telford Hospital NHS Trust
Royal Stoke University Hospital	University Hospital of North Midlands NHS Trust
Royal Surrey County Hospital	Royal Surrey County Hospital NHS Trust
Royal Sussex County Hospital	Brighton and Sussex University Hospitals NHS Trust
Royal United Hospital Bath	Royal United Hospital Bath NHS Trust
South West Wales Cancer Centre, Singleton Hospital	Swansea Bay University Health Board
Southend University Hospital	Southend University Hospital NHS Foundation Trust
St Bartholomew's Hospital	Barts Health NHS Trust
The Christie Hospital	The Christie NHS Foundation Trust
The Clatterbridge Cancer Centre	The Clatterbridge Cancer Centre NHS Foundation Trust
The James Cook University Foundation Hospital	South Tees Hospital NHS Foundation Trust
Torbay Hospital	Torbay and South Devon NHS Foundation Trust
University College Hospital	University College London Hospitals NHS Foundation Trust
University Hospital Southampton	University Hospital Southampton NHS Foundation Trust
University Hospital, Coventry	University Hospitals Coventry and Warwickshire NHS Trust
Velindre Hospital	Velindre NHS Trust
Weston Park Hospital	Sheffield Teaching Hospitals NHS Foundation Trust
Worcester Oncology Centre	Worcestershire Acute Hospitals Trust

Appendix F.

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The Royal College of Radiologists
63 Lincoln's Inn Fields
London WC2A 3JW

+44 (0)20 7405 1282
enquiries@rcr.ac.uk
www.rcr.ac.uk
🐦 @RCRadiologists

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