



# Clinical oncology UK workforce census report 2018



March 2019





## Foreword

Cancer therapies in the UK continue to be developed at an exciting pace; proton beam radiation is now a reality while photon radiotherapy continues to exploit advances in technology for improved cure rates with fewer side-effects. Novel systemic treatments are extending life expectancy so that much of the focus for patients is on how to live well with cancer for many years. Clinical oncologists are central to delivering these advances and to providing the drive and leadership to realise their potential.

The RCR 2018 census therefore makes sobering reading. The workforce gap is growing, vacant consultant posts cannot be filled and doctors have less time than ever for professional and service development. Most concerningly there is clear evidence of increased stress and burnout – we are losing expertise as consultants retire earlier and risking our workforce by asking them to work longer hours.

The census data also provide a powerful incentive to advocate for change. They allow the RCR to continue to press the case for more oncologists with Government and NHS England as the *Workforce Implementation Plan* takes shape and will inform our major project on ways to minimise stress and burnout. It gives local leaders – heads of service and training programme directors – data to argue for more training numbers, more consultant posts and more innovative multidisciplinary working. It gives each consultant and service in the UK a chance to benchmark themselves against national data, challenging how we can work better in radiotherapy networks and cancer alliances across the country to provide equitable consultant-delivered cancer care.

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 RCR staff, especially to the Data, Audit and Surveys Team, who collected and analysed the data and compiled this report. We must now use this valuable data to strive to improve clinical oncologist consultant numbers and working practices for the benefit not only of all our Fellows and members, but for all people who have and will develop cancer.

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**We urgently need to increase the number of clinical oncologists and to improve their working practices. Not doing so will have a serious impact on the treatment of our cancer patients.**

## 1. Executive summary

### 1.1 Objectives

The objectives of The Royal College of Radiologists' (RCR) 2018 clinical oncology workforce census are threefold. They are to:

1. Provide comprehensive, accurate and timely information on the number, distribution and working patterns of consultant-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 future workforce supply and demand for cancer treatments are aligned.

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

### 1.2 Key findings and recommendations

Looking at the big picture emerging from these 2018 clinical oncology workforce census data, the laudable ambitions of UK Government to deliver world-class cancer services remain unachievable until the clinical oncology staffing crisis is addressed. Cancer services will only improve with concrete action to boost staff numbers and equipment across diagnostics and treatment.

#### 1. Workforce shortages have increased and are forecast to increase further

- **The number of consultant clinical oncologist posts sitting vacant is 70 – double the number five years ago.** Over half of these posts have remained vacant for a year or more. Cancer centres report that there are not enough suitable candidates to fill vacancies; in 2018 two-thirds of advertised consultant clinical oncologist posts failed to result in an appointment.
- Some cancer centres are turning to overseas recruitment to try to fill vacancies, but significant differences in overseas specialist training are proving to be a barrier. In 2018, **only one in three cancer centres that actively targeted the recruitment of overseas doctors were successful.**
- The gap between supply and demand is **forecast to widen** in the next five years from the current shortfall of 184 whole-time equivalent (WTE)\* consultant clinical oncologists (18%) to an **estimated shortfall of 272 WTEs (22%) in 2023.**



#### Recommendations

- NHS employing organisations create and implement robust retention strategies to minimise workforce attrition.
- The UK Government adds consultant clinical oncologists to the UK Tier 2 Shortage Occupation List (SoL).

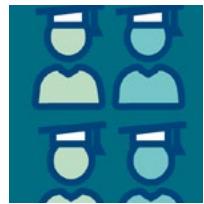
\*A WTE is a whole-time (or full-time) doctor with a ten programmed activities (PAs) per week contract. This is equivalent to a 40-hour week in England, Northern Ireland and Scotland and equivalent to a 37.5-hour week in Wales.

### What is the RCR doing?

- The RCR submitted a detailed response to the Migration Advisory Committee Call for Evidence in January 2019, asserting the need for inclusion of clinical oncologists and non-surgical oncology team members in the SoL.<sup>1</sup>

## 2. Clinical oncology trainee numbers need to double to close the growing gap between supply and demand

- In 2019, 53 trainees are forecast to enter the UK consultant workforce, insufficient to fill the 70 vacancies reported in 2018.
- To rectify the forecast shortfall of 272 WTE consultant clinical oncologists in 2023, UK specialist training numbers need to double from the current average of 64 new trainees each year to 138 per year for the next five years (2019–2023). Even with this substantial increase, the gap will not close until 2029.



### Recommendation

- The number of training places doubles from 2019 and trainees are placed in areas according to cancer service needs.

### What is the RCR doing?

- Using census data, the RCR continues to liaise with health education training bodies across the UK, asserting the need to fund more training places.
- The ongoing clinical oncology curriculum review aims to produce flexible consultants with the ability to rapidly incorporate evidence into clinical practice, while managing resources, personnel and skillmix.
- The RCR promotes oncology at undergraduate level, provides online resources and participates in careers events to attract medical students and junior doctors into oncology. In 2018, 100% of clinical oncology specialist training places were filled.

## 3. Consultant clinical oncologists are showing signs of stress and burnout, with early retirement resulting in the loss of valuable expertise

- The 2018 census shows that **full-time consultant clinical oncologists were contracted for an average of 46 hours per week**, an increase of an hour per week compared to five years ago.
- Almost a quarter (22%) of full-time consultant clinical oncologists** (n=160) were contracted to work over 12 programmed activities (PAs) in 2018, equivalent to **more than 48 hours per week**. Excessive working is likely to lead to stress and burnout.<sup>2</sup> **If consultants were limited to ten PAs per week, an additional 116 consultant clinical oncologists would be needed now to cover the excess workload.**
- Almost a third of consultant clinical oncologists (n=270) have additional responsibility PAs in their job plans, with the average being 1.4 PAs, equivalent to five and a half hours per week. These consultants did not have a commensurate reduction in direct clinical care (DCC) PAs to compensate.



- The large number of long-term vacancies (n=70) and low level of cover by locums (n=24) means that many consultant clinical oncologists are covering workforce gaps. Increased workload over a prolonged period leads to increased stress and burnout.<sup>3</sup>
- **The percentage of consultants leaving the profession has increased over the past five years from 1.1% of the consultant workforce (in 2013) to 3.6% (in 2018) and is forecast to increase to 4.6% within the next five years.**
- **Half of clinical oncologists retire before the age of 60, influenced by factors such as work-life balance and concerns about pension tax penalties.**<sup>4</sup> Early retirement results in the loss of valuable experience, knowledge and expertise. **If consultant clinical oncologists could be incentivised to continue to work full-time and retire at the age of 65, this would halve the number of retirements,** with estimated increased retention of 93 WTE consultants over the next five years.

### Recommendations

- NHS employing organisations fully consider the risks of stress and burnout when offering contracts of above 12 PAs per week.
- NHS employing organisations and leaders take action to create a supportive workplace culture and create flexible employment options, to value the importance of staff wellbeing and maximise retention.
- HM Treasury changes UK pension legislation which incentivises early retirement.

### What is the RCR doing?

- The RCR is working to identify the core drivers for stress and burnout among clinical oncologists, with the aim of producing targeted resources and support mechanisms.

## 4. Consultants have less time for supporting professional activities (SPAs), which are vital for quality improvement

- The RCR recommends that a consultant clinical oncologist should normally undertake no more than two broad areas of site-specialist practice, however, in 2018 three in ten consultants (29%) had three or more.
- In 2018, **just under half (43%) of consultant clinical oncologists were required to travel to more than one site in a working day on a regular basis,** resulting in less time available for core clinical work.
- Time allocated to **supporting professional activities (SPAs) has decreased by an hour and a quarter per consultant per week since 2013.** This compromises consultants' ability to revalidate and means less time available to implement new techniques and improve services for patient benefit. In 2018, **one in five consultant clinical oncologists (21%, n=197) had fewer than the recommended minimum of 1.5 SPAs.**<sup>5,6</sup> The number of consultants not meeting this minimum has almost doubled since five years ago.



### Recommendations

- NHS employing organisations ensure that all consultants have sufficient time in their job plans for SPAs, taking into account relevant factors including site specialties, training and quality-improvement requirements.

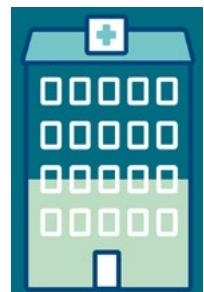
- NHS leaders invest the necessary time and expertise in supporting skillmix optimisation in teams delivering non-surgical oncology services in the UK, to achieve the best outcomes for patients.
- Efficiency gains are vital. Centralised investment from UK NHS funding bodies is urgently required for networking of radiotherapy care and image-sharing across hospitals, to ensure effective information technology (IT) connectivity.

#### What is the RCR doing?

- As part of the RCR's engagement with the NHS England *Long Term Plan* implementation process, it continues to make the case for targeted investment in recruitment, workforce support and IT connectivity.<sup>7</sup>
- The RCR is also engaging with NHS England on their service specification for radiotherapy networks, highlighting that, while the concept is sound, the mechanics need centralised funding and non-onerous auditing protocols.<sup>8,9</sup>
- The RCR is working with regulators and NHS bodies to ensure swift clinical utility of digital health technologies to support clinical practice.

#### 5. Workforce gaps are variable across geographies and roles, with some areas, such as Wales, being particularly adversely affected

- In the last five years, the **consultant clinical oncology WTE workforce has grown at an average of 5% per annum**, however, based on current training numbers and attrition rates, **it is projected that growth will slow significantly** to an average of 2% per annum over the next five years (to 2023).
- Growth has not been uniform across the UK with **one in six UK cancer centres reporting fewer consultant clinical oncologists than five years ago**. In Wales, there has only been an increase of three WTE consultants in the last five years (from 39 to 42), equivalent to **growth of 1% per annum**.
- Over the past five years, there has been a **decrease in academic and mixed NHS/academic consultant clinical oncology posts**. This is concerning given the importance of research to the advancement of clinical oncology.



#### Recommendation

- UK training bodies undertake strategic national workforce planning, based on the forecast future demand for cancer services, taking into account the workforce required to deliver best practice for the benefit of patients.

#### What is the RCR doing?

- This annual workforce report identifies the likely future supply of consultant clinical oncologists, along with the gap between the supply and the likely demand. These data should be used to support local and national workforce planning.

## 2. The UK oncology workforce: five-year trends to 2018

This section provides an overview of the oncology workforce in October 2018, along with trends over the past five years. Information is provided on the size of the workforce, specialisms, working activities and less-than-full-time (LTFT) working.

### 2.1 Overview of the workforce

Teams of clinical and medical oncologists, along with clinical nurse specialists and many other professions, deliver non-surgical oncology services in the UK. Table 1 shows that there were 1,472 consultant-grade oncologists in post in 2018. This includes NHS, academic and mixed NHS/academic posts. The focus of the RCR census and subsequent content of this report is specific to the clinical oncology workforce.

**Table 1. UK oncology workforce (headcount), 2018**

	Clinical oncology	Medical oncology*	Oncology total
Consultant-grade	922	550	1,472
Trainee	444	271	715
SAS-grade**	87	Not known	Not known

\*2017 RCP data (2018 data not available at the time of publication).<sup>10</sup>

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

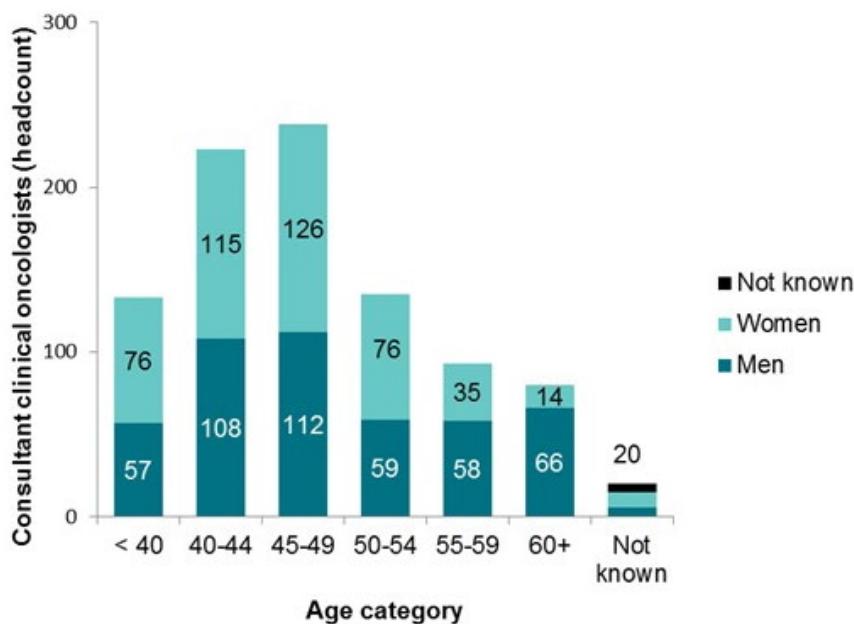
The number of consultant clinical oncologists employed in the UK increased by 46 to 922 in the 12 months to October 2018. The increase of 46 consultant clinical oncologists is the net effect of 82 new joiners and 36 leavers. Recruitment and attrition are discussed in Section 3. Taking into account working patterns of LTFT doctors, the UK total of 922 consultant clinical oncologists equates to 863 WTEs.

The vast majority (92%, n=850) of consultant clinical oncologists are employed in NHS posts. The remainder (8%, n=72) are employed in academic or mixed NHS/academic posts. In the 12 months to October 2018, there was an increase of 49 NHS consultants. In contrast, there was a small (combined) decrease of three academic and mixed NHS/academic consultants, over this period. This decrease is reflective of the longer-term downward trend in the number of academic and mixed NHS/academic consultant clinical oncologists, which have reduced from 80 in 2013 to 72 in 2018.

Of the 922 consultant clinical oncologist in post, 97% (n=890) are employed in substantive posts and 3% (n=32) in locum posts. The number of locums decreased by three in the 12 months to October 2018.

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. Just under half (49%) of consultants are women.

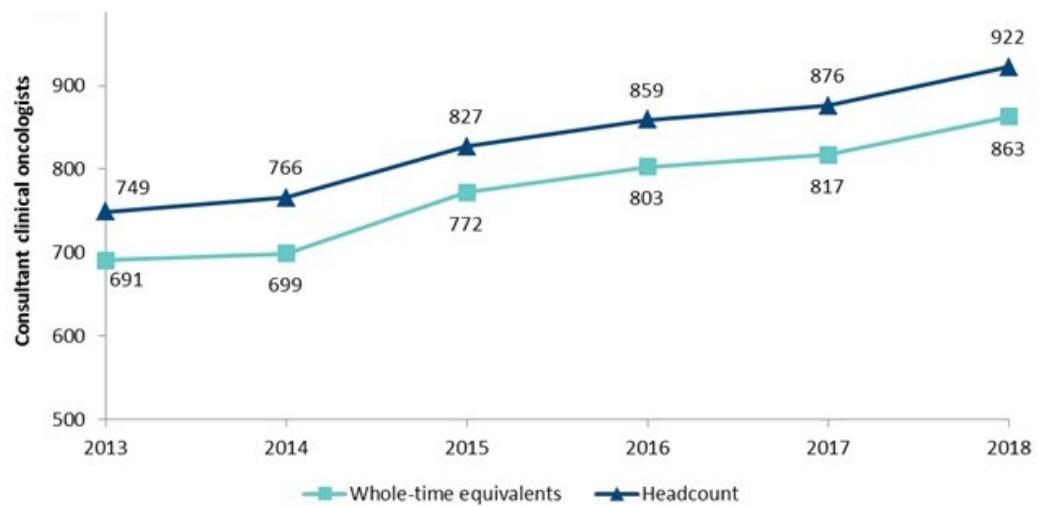
**Figure 1. UK consultant clinical oncology workforce 2018 – by age and gender**



## 2.2 Consultant workforce: five-year trend

In the last five years, the consultant clinical oncology workforce (WTE) has grown by an average of 5% per annum; the growth in the 12 months to October 2018 was slightly higher at 6%. Figure 2 shows the five-year trend.

**Figure 2. UK consultant clinical oncology workforce – five-year trend**



Five-year growth in the clinical oncology workforce has been very variable across UK cancer centres; in 2018, while one in six cancer centres reported more than 50% growth in WTE consultant clinical oncologists since 2013, one in six reported a decline in numbers. WTE consultant clinical oncologist numbers per million population are also very variable across the UK. Detailed results are shown in Appendix D. In Wales there has been an increase of only three WTE consultants in the last five years (from 39 to 42), equivalent to growth of 1% per annum.

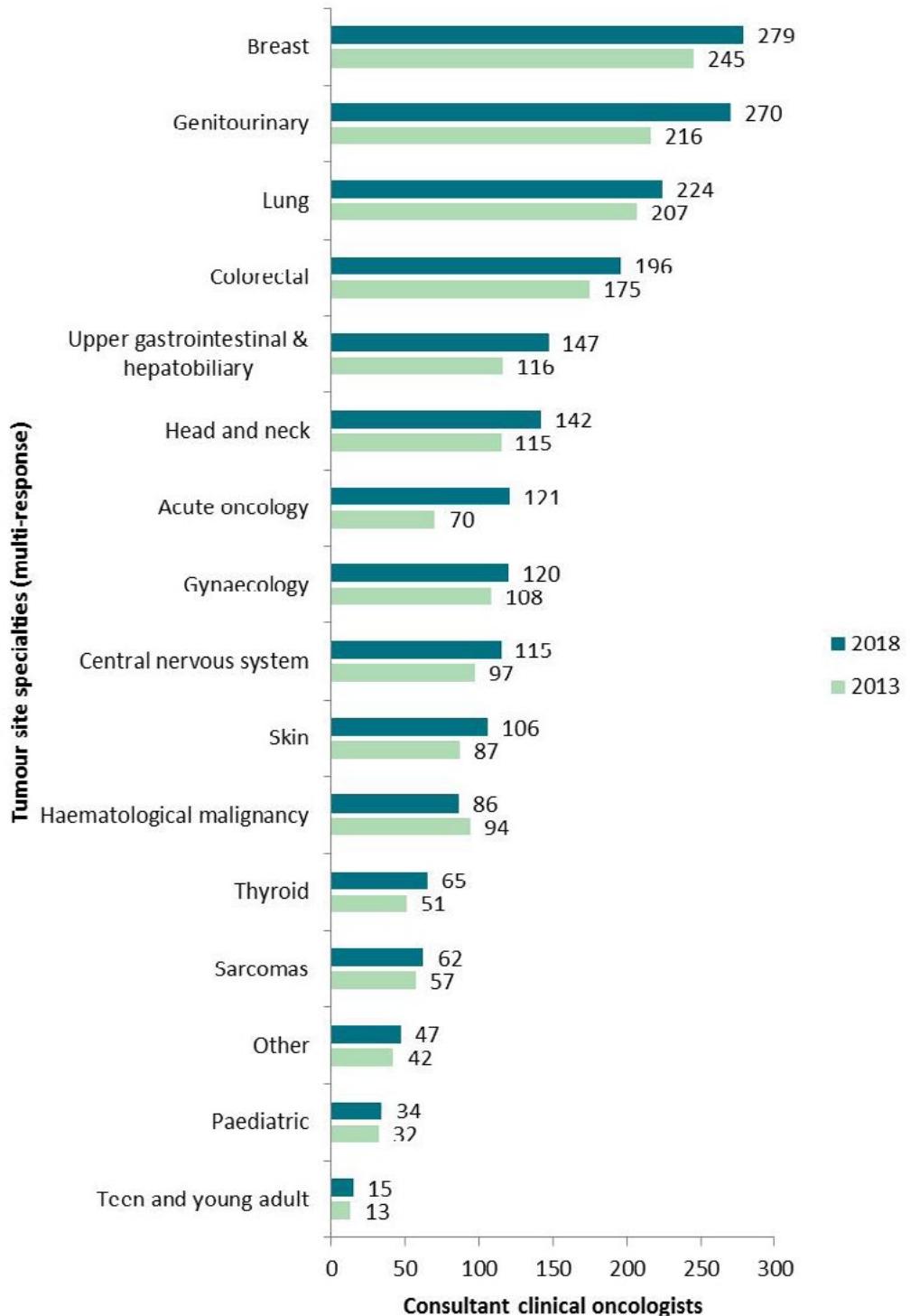
UK growth in the clinical oncology workforce needs to be set against the demand for cancer services, and is discussed in Section 5.

### **2.3 Tumour site specialties**

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. Cancer Research UK data show that breast (15% of UK cancer registrations), prostate (13%), lung (13%) and colorectal (12%) cancers account for just over half (53%) of all cancer registrations in the UK and census data show that these four cancers account for just under half (48%) of consultant clinical oncologists' tumour site specialties.<sup>11</sup>

In line with the overall increase in consultant clinical oncologists, there has been an increase across most site specialties in the last five years. As shown in Figure 3, the most substantial increases were reported for the following specialties: acute oncology, breast, genitourinary, head and neck, and upper gastrointestinal and hepatobiliary. A decrease was observed in haematological malignancy and very little growth (n=2) was seen in paediatric oncology in the last five years.

Figure 3. UK consultant clinical oncologists' tumour site specialties – five-year trend



[The sum of tumour site specialties exceeds the headcount of consultant clinical oncologists, as consultants often have more than one specialty (three-quarters of consultants have two or more).]

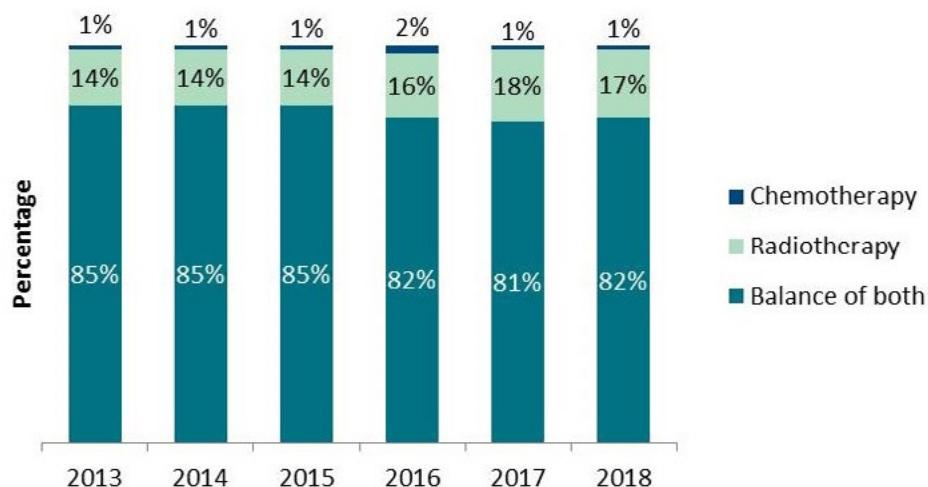
The RCR recommends that a consultant clinical oncologist should normally undertake no more than two broad areas of site-specialist practice as it is difficult for a clinician to remain up to date in too wide an area of practice.<sup>5</sup> In 2018, seven in ten consultant clinical oncologists (71%) met these recommendations and had either one or two site specialties.

However, three in ten consultants (29%) had three or more. The feasibility of keeping up to date with three or more site specialties while fulfilling clinical commitments and attending relevant multidisciplinary team meetings (MDTMs) needs careful consideration when job planning.

## 2.4 Predominant workload

The 2018 census shows that the workload for four out of five consultant clinical oncologists (82%) includes a mixture of chemotherapy and radiotherapy to treat and manage cancer patients. As shown in Figure 4, over the last five years there has been a small increase in the percentage of consultant clinical oncologists with a predominant workload of radiotherapy, from 14% (in 2013) to 17% (in 2018). Very few consultant clinical oncologists (1%) have a predominant workload of chemotherapy.

**Figure 4. The predominant workload of UK consultant clinical oncologists – five-year trend**



## 2.5 Programmed activities

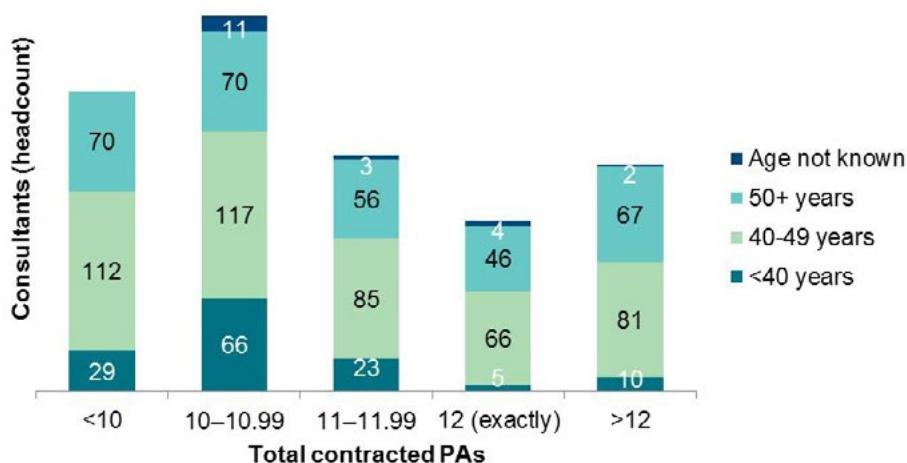
The census collects data from each UK cancer centre on contracted programmed activities (PAs) per week for each consultant clinical oncologist. The census does not collect data on unpaid hours worked in addition to contracted PAs. A full-time post consists of ten or more PAs, equivalent to a 40-hour working week in England, Northern Ireland and Scotland and a 37.5-hour working week in Wales.

The census shows that full-time consultant clinical oncologists were contracted for an average of 46 hours per week in 2018 (11.5 PAs), an increase of an hour a week compared to five years ago. If consultants were limited to a ten PAs per week contract (with a minimum of 1.5 SPAs), an additional 116 consultant clinical oncologists would be needed to cover the excess workload.

Almost a quarter (23%) of full-time consultant clinical oncologists were contracted to work over 12 PAs in 2018, equivalent to more than 48 hours per week. This is shown in Figure 5. The European Working Time Directive, introduced to protect workers' health and safety, states that the average working time for each seven day period cannot exceed 48 hours unless workers have voluntarily decided to opt out.<sup>12</sup>

Figure 5 also shows that contracts of over 12 PAs (more than 48 hours per week) are more prevalent in older consultants (age 50 plus) than younger consultants (<40 years). Long working hours and work-life balance may be factors that influence consultants' decisions to retire early. Upon the retirement of a consultant working extended hours, a cancer centre may need to recruit more than one WTE consultant to cover the loss of hours, knowledge and expertise.

**Figure 5. UK full-time consultant clinical oncology workforce – total contracted PAs by age group**



*[Includes the following programmed activities: DCC, SPA, additional and research.]*

The census collects data relating to the following types of programmed activities:

- **Direct clinical care (DCC):** work directly relating to the prevention, diagnosis or treatment of illness, but also the planning, administration, travel and meetings, pertaining to that work. DCC time also covers the recruitment of patients to clinical trials and monitoring of those patients.<sup>5</sup>
- **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 and training.<sup>5</sup>
- **Additional programmed activities:** Covers additional responsibilities not undertaken by the generality of consultants, such as those associated with the roles of clinical or medical director, audit lead or clinical tutor.<sup>5</sup>
- **Research programmed activities:** Covers responsibilities such as those of a principal investigator, the lead applicant on a research grant, or supervision of MD (Res) or PhD students.<sup>5</sup>

### Direct clinical care (DCC)

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.<sup>5</sup> However, consultant clinical oncologists are under pressure to increase the proportion of programmed activities spent delivering (DCC).<sup>5</sup> As shown in Figure 6, DCC has risen by 0.2 PAs (equivalent to an hour) per week over the last five years to nine in 2018. This level is six hours per week more than the RCR's recommendation.

### Supporting professional activities (SPAs)

The RCR job planning guidance describes the importance of maintaining the proportion of SPAs within job plans and recommends 2.5 SPAs per week for full-time consultants.<sup>5</sup> Inadequate SPA time compromises doctors' ability to keep their knowledge up to date and revalidate. Furthermore, SPA time is essential to enable consultants to undertake audit and quality-improvement activities, leading to service improvements and the implementation of new techniques and services for patient benefit. It is, therefore, concerning that SPAs have decreased by 0.3 (an hour and a quarter) per week over the last five years to 1.9 SPAs in 2018. This is shown in Figure 6.

**Figure 6. UK full-time NHS consultant clinical oncologists contracted DCC and SPA programmed activities – five-year trend**



### Additional responsibility PAs

The RCR census first collected data on additional responsibilities in 2014. As shown in Figure 7, additional responsibilities have increased by an hour per week (0.2 PAs) over the last four years.

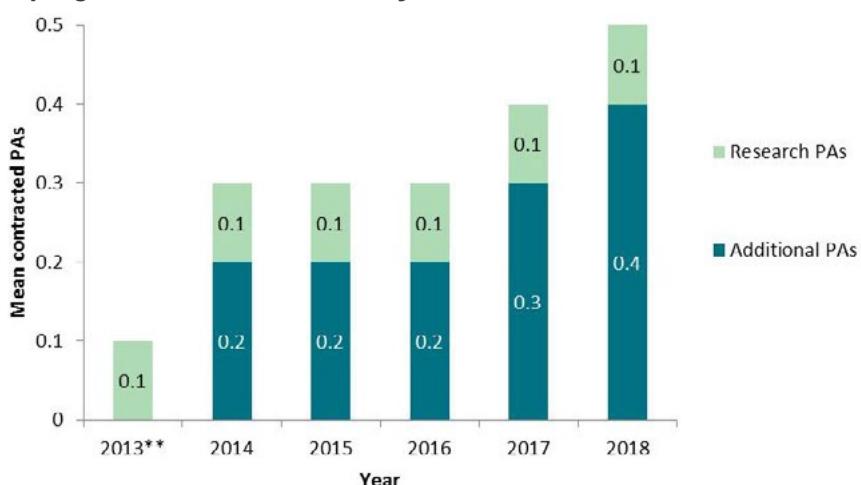
In 2018, 270 consultant clinical oncologists (29%) had additional responsibility PAs in their job plans, more than double the 97 consultants (13%) with additional responsibilities reported in 2014. For these 270 consultants, the mean number of contracted additional responsibility PAs was 1.4, equivalent to five and a half hours per week. The census data showed that these consultants did not have a commensurate reduction in DCC PAs to compensate.

### Research PAs

Clinical research is vital to the advancement of clinical oncology. Research generates evidence on ways to more effectively prevent, diagnose or treat cancer; such evidence is essential to underpin clinical practice and support improvements in care for people living with cancer.

NHS consultant clinical oncologists undertake much of the clinical research in oncology in the UK. As part of DCC PAs, consultant clinical oncologists recruit patients to clinical trials, monitor and treat patients within trials and follow-up patients. Research PAs are required to cover additional research responsibilities such as those of a principal or chief investigator or a lead applicant on a research grant. As shown in Figure 7, census data show very little change in the number of research PAs over the last five years, the average across all full-time NHS consultants being 0.1 PAs, equivalent to half-an-hour per week. The reduced number of academic consultant clinical oncologists (see page 9) combined with the static number of research PAs indicates reduced clinical trial capacity. Many NHS consultants have described difficulties in carrying out research alongside their service commitments, such that research activities are conducted in the consultant's own time or dropped from their job plan altogether.<sup>5</sup> In 2018, 95 NHS consultant clinical oncologists (11%) had research PAs in their job plans. For these 95 NHS consultants, the mean number of contracted research PAs was 0.9, equivalent to three and a half hours per week.

**Figure 7. UK full-time NHS consultant clinical oncologists contracted 'additional' and 'research' programmed activities – five-year trend**

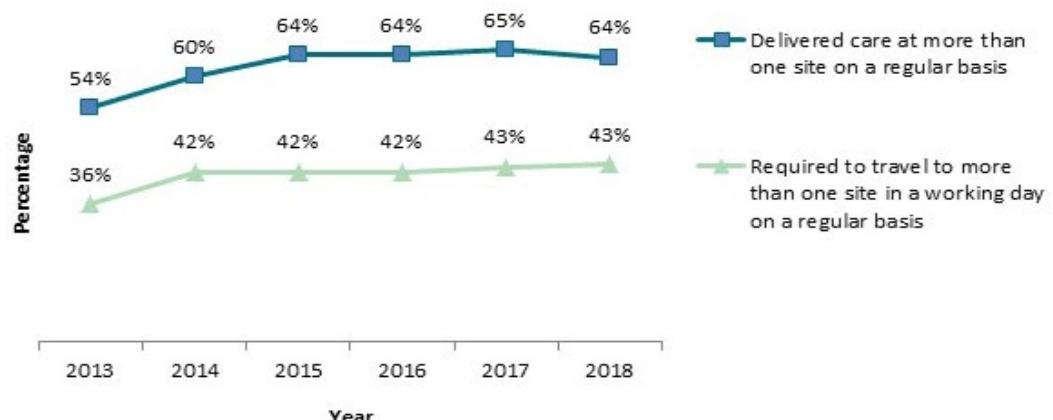


[Academic and mixed NHS/academic consultants are excluded from the above chart  
Data were not collected on additional PAs in 2013.]

## 2.6 Consultants' travel between sites

Many consultant clinical oncologists work across more than one site and spend time travelling between sites during the working day. Census data show just under half (43%) of consultant clinical oncologists were required to travel to more than one site in a working day on a regular basis in 2018. As shown in Figure 8, this has increased from 36% over the past five years. The increased frequency of travel between sites has resulted in reduced time available for core clinical work.

**Figure 8. UK consultant clinical oncologists' travel between sites – five-year trend**

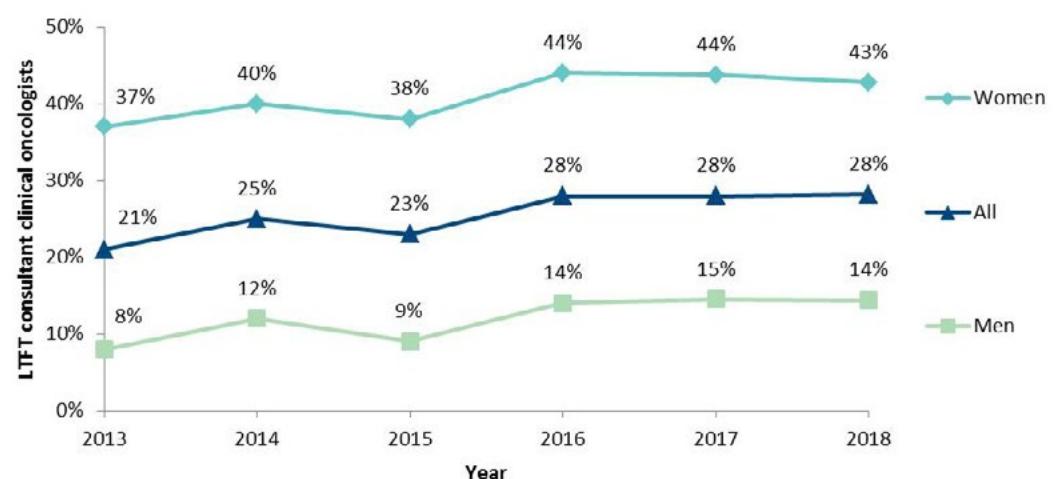


## 2.7 Less-than-full-time working

Less than full-time (LTFT) is defined as working fewer than ten contracted PAs per week.

Five years ago, 21% of consultant clinical oncologists worked LTFT. This has risen to 28% in 2018, as shown in Figure 9. Over the past five years, there has been an increase in the number of both men and women working LTFT; 14% of men and 43% of women worked LTFT in 2018. However, Figure 9 shows that the longer-term trend towards increased LTFT working has slowed down or stopped in recent years. No increase in LTFT working has been reported in the past two years.

**Figure 9. UK consultant clinical oncology workforce – LTFT working, five-year trend**



Workforce planning for clinical oncology must factor in the reduction in workforce capacity resulting from LTFT working. In 2018, the reduction equated to 59 WTE consultant clinical oncologists or 6% of the workforce. LTFT working is more common among the following two groups of consultants:

- Those aged 60 and over – the reduction in workforce capacity in this group equates to 15 WTE consultants
- Female consultants age 40–49 – the reduction in workforce capacity in this group equates to 24 WTE consultants.

These two groups account for two-thirds of the reduction in workforce capacity due to LTFT working.

The census did not capture reasons for LTFT working. Reasons may include combining a consultant role with other roles in education, research, clinical leadership and work-life balance. Given the demand for flexible and LTFT roles, NHS employing organisations should ensure the availability and support of flexible career options to maximise staff wellbeing and retention.

### 3. Recruitment and attrition 2018

This section outlines census findings regarding the recruitment and attrition of consultant clinical oncologists. It is essential to monitor these trends to gain insight into the likely impact on the future oncology workforce supply.

#### 3.1 New joiners

The 2018 census shows 82 consultant clinical oncologists (76 WTEs) joined the workforce in the preceding 12 months. Two-thirds of the new joiners (n=54) are recently qualified clinical oncologists, who completed their specialist training in the UK. This is a higher number of UK trainees joining the workforce than the average of 44 over the past five years but appears to reflect natural peaks and troughs in the numbers completing UK specialist training from year to year. The other third (n=28) is a mix of consultants recruited from overseas, those re-joining the workforce and others.

#### 3.2 Vacant posts

Census data indicate continued difficulty for UK cancer centres in recruiting the medical staff they need, with a lack of suitable candidates, budget constraints and difficulties of recruiting from overseas cited as key barriers. One cancer centre reported, 'We have had real difficulty attracting clinical oncologists to our centre, there just don't seem to be the candidates at present.' Another reported, 'We have had no applicants for clinical oncology posts since 2015, the situation is dire.'

The number of vacant consultant clinical oncologist posts has doubled over the last five years, from 33 in October 2013, to 70 in October 2018. This is shown in Figure 10. The most substantial increases in vacant posts were seen in England and Wales, where vacancies have more than doubled.

In addition to the increased number of vacancies, census data show that vacancies are increasingly unlikely to be filled and frequently remain unfilled for extended periods. In 2018, two-thirds of advertised consultant clinical oncologist posts (n=46) failed to result in an appointment, a significant deterioration from the one-third (n=12) reported in 2013. This is also shown in Figure 10.

**Figure 10. Unfilled consultant clinical oncologists posts UK – five-year trend**

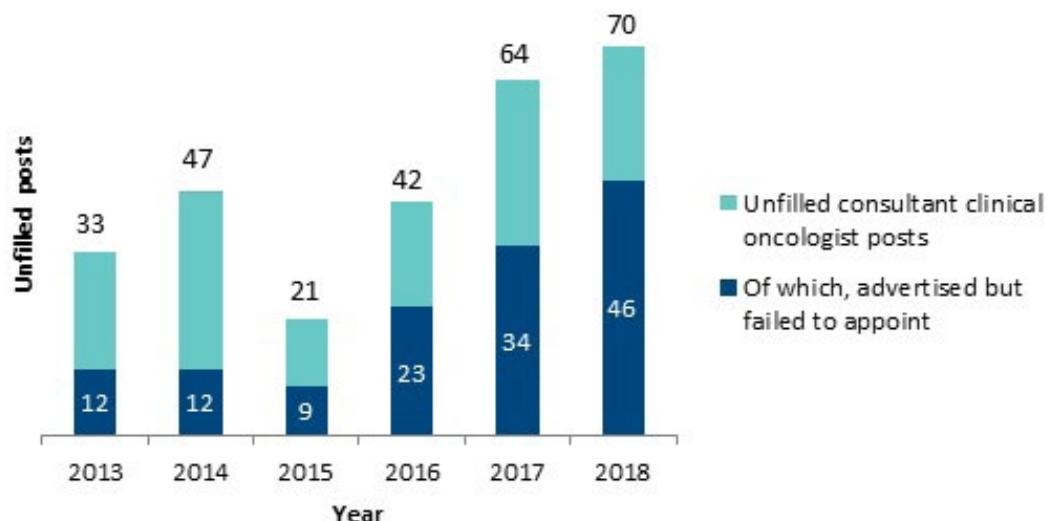
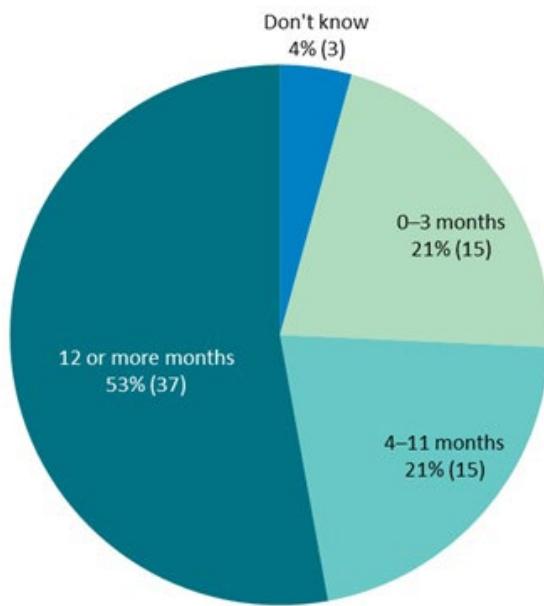


Figure 11 shows the period for which consultant clinical oncologist posts have remained unfilled in the UK. In 2018, over half of the 70 vacancies remained unfilled for a year or more, a significant increase on the 32% reported a year earlier. As an example of just how difficult cancer centres are finding it to recruit consultants, one cancer centre reported, 'The job has been unfilled for four years and advertised four times.'

**Figure 11. Unfilled consultant clinical oncologist posts – period unfilled, 2018**



*[Percentages are rounded, so may not total 100%.]*

### Vacant posts – site specialties

Table 2 shows the site specialties sought for the 70 vacancies in 2018. On average two site specialties were sought for each post. The most frequently sought specialties were breast and genitourinary. This reflects the most common site specialties of consultant clinical oncologists in post, shown in Figure 3.

**Table 2. Site specialty requirements for vacant UK consultant clinical oncologist posts, 2018**

Site specialty	Unfilled posts
Breast	24
Genitourinary	20
Gynaecology	17
Lung	17
Upper gastrointestinal including hepatobiliary	17
Central nervous system	15
Colorectal	12
Haematological malignancy	9
Head and neck	7
Skin	7
Acute oncology	6
Other	8
Total	159

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

### Plans to fill vacant posts

Some cancer centres provided details on their plans for dealing with consultant vacancies which had been advertised, but had not been filled.

- Eight planned to significantly amend the job description and re-advertise.
- Four planned to restructure teams to absorb the workload.
- Four planned to appoint a locum to provide cover.
- One planned to recruit from overseas.
- One planned to partner with another hospital.

### 3.3 Vacancy rate

The vacancy rate for the consultant clinical oncology workforce in 2018 was 7%.\* However, as stated in the Cancer Research UK *Full team ahead* 2017 report, vacancy rates only reflect a small proportion of the outstanding need in UK cancer services.<sup>13</sup> CRUK highlight that vacancy rates are constrained by budgets and are not reflective of staffing levels required to deliver best-practice care for patients.

\*Vacancy rate = WTE vacancies / planned workforce (i.e. WTE vacancies + WTE in post)

Some cancer centres reported through the 2018 census that demand for posts is not being met due to budget constraints, for example, one cancer centre reported, '[The] job was just about to go to advert when [the trust] hit financial crisis and shutters came down,' while another simply reported, 'No funding from the board.'

The 2018 census data (see Figure 11) show that most consultant clinical oncology vacancies have been unfilled for a year or more. Cancer centres unable to fill one substantive consultant vacancy are unlikely to advertise a second similar vacancy until the first post has been filled. For this reason, vacancy rates can underestimate the true extent of workforce gaps.

### 3.4 Overseas recruitment

Given the increased number of vacancies, some cancer centres are turning to overseas recruitment to fill vacancies. However, overseas specialist oncology training tends to be split into radiation oncology and systemic therapy oncology training, unlike UK clinical oncology specialist training which covers all aspects of non-surgical oncology. This makes it challenging to fill UK consultant clinical oncologist posts with candidates trained overseas.

Census data showed that in 2018 just over a quarter of the 62 UK cancer centres (n=17) actively targeted the recruitment of doctors working overseas to fill vacant consultant or SAS-grade clinical oncology posts. This is shown in Figure 12.

**Figure 12. UK cancer centres undertaking overseas recruitment, 2018**

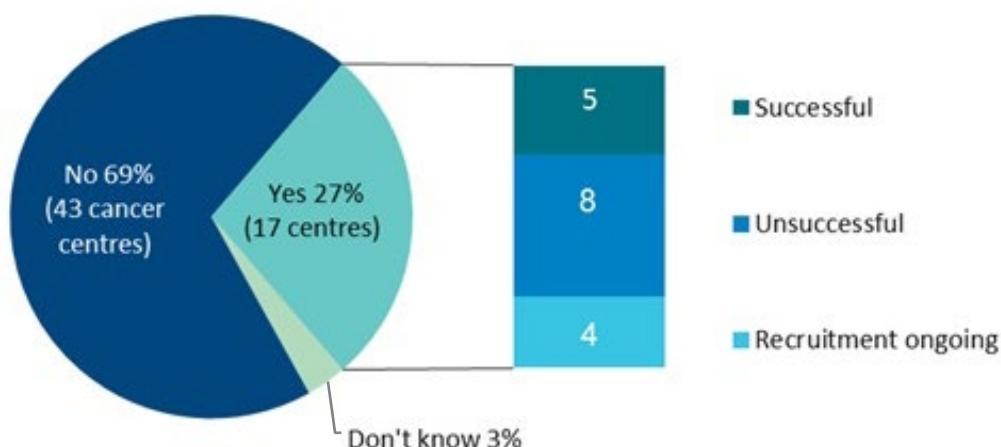


Figure 12 also shows that of the 17 cancer centres who attempted overseas recruitment in 2018, with respect to their most recent recruitment attempt:

- Five cancer centres (29%) were successful
- Eight (47%) were unsuccessful
- Four (24%) were still in the process of attempting overseas recruitment at the time of census data collection.

Two cancer centres indicated that lack of human resources (HR) support and budgets were a barrier to overseas recruitment; one centre reported: 'Our personnel department does not have the budget, expertise or political will to advertise overseas.' Another reported, 'The HR team was not keen to go through the [overseas] headhunting again. The overseas doctors thus far have been more expensive than local doctors.'

Another two cancer centres indicated that the differences in training between the UK and overseas countries pose difficulties, for example, one cancer centre reported that applicants from overseas 'tend to be unsuited to UK clinical oncology, usually because of lack of chemotherapy experience.'

Other cancer centres pointed to practical difficulties as barriers to overseas recruitment, for example, one reported, 'Appointment by Skype is challenging,' and another reported, 'Supporting overseas doctors onto the specialist register creates an issue as they cannot be offered a substantive contract at consultant level until this is completed.'

In 2018, overall 24% of consultant clinical oncologists working in UK cancer centres were international medical graduates (IMGs), though approximately half of these IMG consultants undertook their specialist training in the UK. General Medical Council (GMC) data indicate that 42% of consultants (across all specialties) are IMGs. This shows low levels of overseas recruitment in clinical oncology compared to other specialties, reflecting the difficulty mentioned previously – overseas specialist oncology training differs significantly from UK training.<sup>14</sup>

Table 3 shows the country of primary medical qualification (PMQ) for staff reported as working as consultant clinical oncologists in the 2018 census.

- 75% undertook their primary medical qualification (PMQ) in the UK (decreased from 79% in 2013).
- 17% graduated from non-European Economic Area (EEA) countries (increased from 15% in 2013).
- 6% are EEA graduates (increased from 4% in 2013).
- The country of PMQ is not known for 1% of consultants.

Outside of the UK, India was the most frequently cited country of PMQ, accounting for 11% of consultant clinical oncologists in 2018.

**Table 3. UK clinical oncology consultant workforce 2018 – country of primary medical qualification (PMQ)**

Country of PMQ	Consultants (headcount)	Percentage
UK	696	75%
India	101	11%
Pakistan	19	2%
Ireland	11	1%
Spain	9	1%
Egypt	8	1%
Poland	7	1%
Germany	7	1%
Greece	6	1%
South Africa	5	1%
Other: EEA	18	2%
Other: non-EEA	28	3%
Not known	7	1%
Total	922	100%

*[Percentages are rounded, so may not total 100%.]*

### 3.5 Locums

The 2018 census data show that there are 32 locums employed as consultant clinical oncologists in UK cancer centres. One-third of these locums are relatively young consultants (35–44 years) who have completed specialist training in the UK and are possibly seeking to gain experience in a flexible role while waiting for the right substantive post to come up. The other two-thirds of locum consultants undertook their specialist training outside the UK.

Locum cover can ease the workforce shortages experienced by cancer centres as they struggle to recruit to substantive posts. However, recruiting locums is proving difficult, with only a third (n=24) of the 70 consultant clinical oncologist vacancies reported in 2018 covered by locums, much lower than the 45% of vacancies covered by locums in 2013. One cancer centre stated 'Recruitment is very challenging. Almost impossible to find locums.' Another reported, 'One locum in post at the moment helping with the workload and three posts out to advert.' The large number of long-term vacancies and low level of cover by locums means that many consultant clinical oncologists are covering workforce gaps. Increased workload over a prolonged period leads to stress and burnout, which in turn can lead to adverse patient outcomes.<sup>3</sup> The RCR *Membership Engagement Survey 2018* found that 35% of respondents reported experiencing work related stress that negatively affects their work.<sup>15</sup>

The 2018 census data show that three-quarters of locums were appointed to cover vacant posts. Other reasons for the appointment of a locum include providing cover for maternity leave and long-term sickness.

### 3.6 Attrition (including retirements)

The census collects data on whether consultant clinical oncologists have left their posts, along with their reasons for leaving. In the 12 months to October 2018, 36 consultant clinical oncologists (31 WTEs) left the workforce, equivalent to 3.7% attrition\*, compared to eight in 2013 (1.1% attrition). The primary reason given for consultants leaving is retirement, which accounted for 58% of the 2018 leavers.

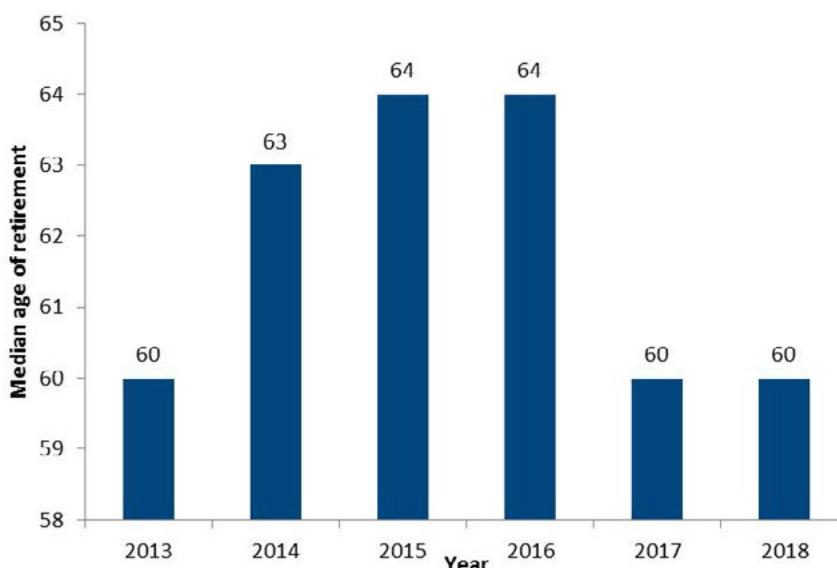
The age at leaving varied considerably. While the median age for those leaving to retire in 2018 was 60, the median age of those leaving for other reasons was 46.

\*Attrition is calculated as WTE leavers/mean WTE consultant workforce.

## Retirements

In 2018, 21 consultant clinical oncologists (19 WTEs) retired, equivalent to an attrition rate of 2.3%. The average age of retirement of consultant clinical oncologists working in the UK has fluctuated over the last five years, ranging from 60 to 64 years, as shown in Figure 13. The median age of retirement reported in the 2018 census was 60. Key factors which influence consultants' decisions on whether to retire early from NHS work are work-life balance and concerns about pension tax penalties for exceeding the lifetime allowance.<sup>4</sup> Early retirement results in increased workforce shortages and the loss of valuable experience, knowledge and expertise from the workforce.

**Figure 13. Median retirement age of UK consultant clinical oncologists – five-year trend**



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

## Attrition for reasons other than retirement

In 2018, 15 consultant clinical oncologists (13 WTEs) left the workforce for reasons other than retirement, equivalent to an attrition rate of 1.5%.

## 4.

Workforce supply  
and attrition –  
five-year forecast

Influences on the size of the consultant clinical oncology workforce include entrants from UK specialist training and recruitment from overseas, set against attrition from retirements and other leavers and the trend towards flexible working patterns. This section uses census and training data to forecast the workforce supply and attrition in the next five years.

#### 4.1 Supply from UK specialist training

After completing a degree in medicine and two years of foundation training, followed by two years of core medical training, doctors can start UK specialist training in clinical oncology. Full-time training in clinical oncology generally takes between five and seven years to complete. This section uses RCR training data to calculate the number of UK-trained consultant clinical oncologists who will join the workforce in the next five years; this is estimated to be an average of 47 WTE consultants per year, as shown in Table 4. In 2019, an estimated 49 WTE consultants will enter the UK workforce, following completion of UK specialist training. This is insufficient to fill the existing 70 vacancies reported in Section 3. Without significant changes to the supply or delivery of cancer services, the shortfalls currently experienced across the clinical oncology workforce are likely to increase.

**Table 4. Estimated training completions (CCTs) and subsequent consultant clinical oncologists – next five years**

Year	Estimated CCTs*		Estimated subsequent UK consultants**	Estimated subsequent UK consultants***
	Headcount	Headcount		
2019	60	53	49	
2020	60	53	49	
2021	61	54	50	
2022	45	40	37	
2023	59	52	48	
2019–2023 total	285	251	233	
2019–2023 (average per year)	57	50	47	

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

\*Based on an estimated attrition of 10%.

\*\*Estimated post-training attrition of 12% – based on a comparison of RCR training data (2012–2016 CCTs) with census data (2016–2018) to identify UK trainees who have and have not taken up consultant roles.

\*\*\*Estimated participation rate of 93% based on the current scale of LTFT working.

The 2018 RCR training data show a five-month increase in the average length of time taken to complete specialist training in clinical oncology in the UK, from six years and five months (trainees completing 2009–2013) to six years and ten months (trainees completing 2014–2018). This is shown in Table 5. The increase is likely attributable (in part) to the increased uptake of out-of-programme activities, notably research projects and qualifications.

**Table 5. Average (mean) length of specialist training – clinical oncology**

Time period	Full-time	Less than full-time	Overall
2009–2013	5 years 10 months	8 years 2 months	6 years 5 months
2014–2018	6 years 3 months	8 years 4 months	6 years 10 months
Difference	+ 5 months	+ 2 months	+ 5 months

Over the last ten years, there has also been an increase in the number of LTFT trainees; in the five years up to 2018, on average, 29% of trainees were LTFT (at the point of completing their training) compared to 26% in the five years up to 2013.

The effect of the increased (average) length of training and the increase in LTFT trainees is a decreased supply (over the short-term) of recently qualified applicants for consultant clinical oncology posts.

A comparison of RCR training and census data shows that 12% of those completing UK specialist training (CCTs) between 2012 and 2016 have not so far been appointed to a (substantive or locum) consultant clinical oncology post in the UK. The attrition rate varied from the average of 12% dependent on country of primary medical qualification; the attrition rate was 11% for UK graduates and 15% for non-UK graduates.

#### 4.2 Supply from overseas recruitment

As mentioned in Section 3 of this report, overseas specialist oncology training tends to be split into radiation oncology and systemic therapy oncology training. It does not tend to cover all aspects of non-surgical oncology and so differs notably from UK clinical oncology specialist training. Relative to other medical specialties, this makes it more challenging to fill UK consultant clinical oncologist posts with candidates trained outside the UK. UK cancer centres recruit infrequently from overseas for consultant clinical oncologist roles and success rates for overseas recruitment are mixed.

The census data over the past five years show approximately eight consultant clinical oncologists are recruited from overseas each year. Assuming this rate of overseas recruitment remains constant over the next five years, it is estimated that 40 consultant clinical oncologists will be recruited to substantive posts in the UK by 2023.

#### 4.3 Supply from other sources

GMC data show that over the past five years, there was on average one consultant clinical oncologist per year who entered the workforce having qualified via the GMC Certificate of Eligibility for Specialist Registration (CESR) route.<sup>16</sup> Census data also shows some consultant clinical oncologists return to practice after time out.

Based on historical data, the estimated supply from other sources is estimated to be 15 WTE consultant clinical oncologists over the next five years.

## 4.4 Retirement scenarios and forecast attrition

### Retirement scenarios – estimated attrition and the effect of retention strategies

If the median retirement age remains unchanged at 60 years, an estimated 159 WTE consultants (18% of the existing consultant workforce) are expected to retire in the next five years. Given the continuing shortfall in the consultant clinical oncology workforce, this level of attrition is likely to put considerable strain on the workforce. Well-planned and executed retention strategies targeting those with an increased likelihood of leaving the NHS, including consultants approaching retirement age, would have a significant effect on reducing the workforce shortfall. Older consultants are also a valuable source of training and mentoring for more junior doctors and have considerable experience, knowledge and expertise. The following scenarios demonstrate the potential positive impact of postponing retirement on workforce attrition, summarised in Table 6.

**Scenario 1:** Median age of retirement remains at 60 representing no change from 2018.

**Scenario 2:** If consultant clinical oncologists were incentivised to continue to work full-time and retire at the age of 65, this would halve the estimated number of retirements, with estimated retention of 93 WTE consultants (in comparison with the current situation, Scenario 1).

**Scenario 3:** If consultants were 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 would reduce estimated retirements by a third, with estimated retention of 59 WTE consultants (in comparison with the current situation, Scenario 1).

**Table 6. Effect of retention strategies/retirement age, next five years**

Average age of retirement	Estimated consultant retirements (WTEs), next five years
<b>Scenario 1:</b> 60 years (no change from the 2018 median age of retirement)	159
<b>Scenario 2:</b> 65 years	66 (93 fewer relative to scenario 1)
<b>Scenario 3:</b> 65 years plus all consultants age 60–64 working LTFT	100 (59 fewer relative to scenario 1)

Taking into account all sources of attrition, in the next five years (to 2023), attrition is forecast to rise to 4.6% per annum. This is based on the following:

- 159 WTE consultant clinical oncologists are forecast to retire, which equates to an annual attrition rate of 3.5%.
- 50 WTE consultant clinical oncologists are forecast to leave for reasons other than retirement. This assumes the average attrition rate (over the past five years) for leavers, excluding retirees, remains unchanged at 1.1%.

**5.****Demand for services**

The increasing demand for cancer services is related to the increasing number of cancer patients but is also substantially impacted by the increasing complexity of cancer care.

### 5.1 Factors contributing to increased demand for cancer services

#### Increased cancer prevalence

The number of new cases of cancer continues to rise. Around 1,000 new cancer cases are diagnosed each day in the UK, and one in two people in the UK will be diagnosed with some form of cancer during their lifetime.<sup>11,17</sup> Over recent years cancer prevalence has increased by 3% per annum.<sup>18</sup>

#### Increased radiotherapy episodes

Half of all cancer patients have some form of radiotherapy included in their treatment management, so as the number of new cancer cases continues to rise, so does the demand for radiotherapy. The National Cancer Registration and Analysis Service (NCRAS) Radiotherapy Dataset (RTDS) shows that radiotherapy episodes in England have increased by an average of 2% per annum over recent years (2009/10 to 2015/16).<sup>\*19</sup>

#### Increased systemic anti-cancer treatment (SACT)

Just under a 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.<sup>20</sup> A course of systemic therapy usually involves multiple visits over three to six months but many newer agents are continued for much longer than this. The Public Health England SACT dataset shows that there were over a quarter of a million new courses of systemic therapy started in the year to March 2018, an increase of 4% over the previous 12 months. Although annual comparative data for the last decade is not available, the growth in SACT appears to have slowed over the last year; between FY2009/10 and FY2013/14 chemotherapy attendances were estimated to have increased by 12% per annum.<sup>21</sup> The increased number of patients receiving systemic therapy over recent years, together with the increased duration and complexity of newer treatments has resulted in a significantly increased workload for consultant clinical oncologists.

#### Technological advances and increased complexity of care

Advances in systemic therapeutic options and radiotherapy technology mean that more cancer patients now receive effective treatment with less toxicity. Treatment tends to be more individualised and more complicated. However, increased treatment options and treatment complexity increases the time required to manage cancer treatment and the need to keep abreast of developments. This places additional demands on the consultant clinical oncologist workforce, who also need to manage patients' individual needs and expectations. This is particularly challenging given the reduction in SPA time outlined in Section 2.

Along with increased survival comes the increased complexity of care for patients who are older and often have co-morbidities (other health problems which affect their care needs and ability to withstand the toxicities of treatment).

*\*A radiotherapy episode is a continuous period of care for radiotherapy including all preparation, planning and delivery of radiotherapy.*

### Acute oncology

Along with the increased number and complexity of cancer patients, there has been an increase in demand for acute oncology services, which has increased the workload of consultant clinical oncologists. Acute oncology is an essential component of clinical oncology practice and includes the management of acutely ill patients with symptoms of known malignancies, side-effects of cancer treatment and cancer patients presenting for the first time as an emergency.

### Managing demand

A multiprofessional approach to the delivery of non-surgical oncology services in the UK (often referred to as 'skillmix') is of fundamental importance to optimising cancer care and achieving the best outcomes for patients. Skillmix is promoted and supported by committees such as the UK Radiotherapy and Chemotherapy Boards. Increasingly, clinical oncologists participate in and lead teams comprising medical oncologists, haematologists and other allied health professionals. Optimising skillmix is essential given the increasing demand for cancer services, but takes time and expertise to plan and implement and is limited by workforce shortages across many roles.

## 5.2 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 7. The census does not collect data on the 24/7 cover provided for emergencies. On weekdays, just under three-quarters of cancer centres provide routine radiotherapy and chemotherapy services for between eight and ten hours and approximately a quarter of cancer centres provide these services for more than ten hours. Very few cancer centres (n=2) are open for fewer than eight hours per day Monday to Friday.

At the weekends, 26% of cancer centres are open for routine radiotherapy and 21% open for routine chemotherapy. There has been little change in the pattern of weekend opening over the past four years. One cancer centre indicated that staff shortages were a barrier to weekend opening.

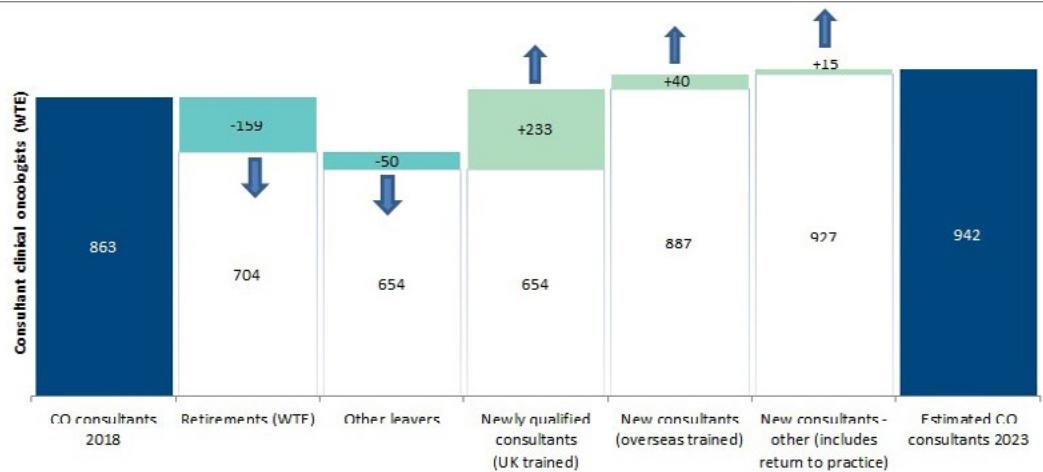
**Table 7. UK cancer centres opening hours for routine radiotherapy and chemotherapy**

Cancer service	Days	>10 hours	8 to 10 hours	<8 hours	Not open
Radiotherapy	Mon–Fri	16	46	0	0
	Sat	0	0	16	46
	Sun	0	0	11	51
Chemotherapy	Mon–Fri	15	45	2	0
	Sat	0	6	7	47
	Sun	0	2	2	58

## 6. Closing the gap between supply and demand

To bring together the factors identified as contributing to the future workforce supply, Figure 14 illustrates the estimated supply and attrition for the five years to 2023.

**Figure 14. UK consultant clinical oncology workforce (WTEs) estimated supply – next five years**



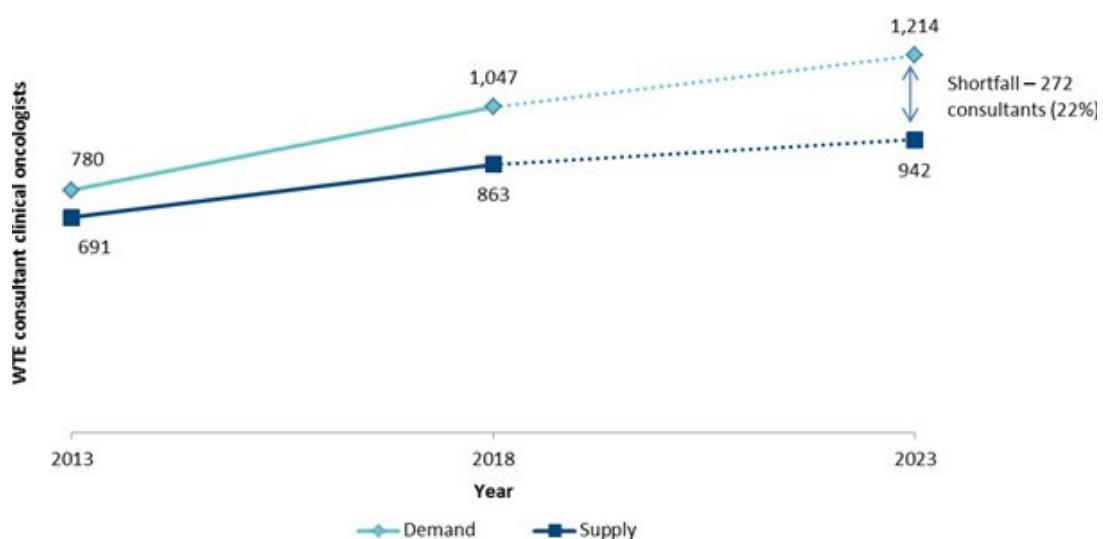
Based on these projections, there will be an estimated 942 WTE consultant clinical oncologists in post in five years (2023), equivalent to a 2% annual increase.

Projections, next five years to 2023:

Consultant clinical oncologists 2018		863 WTEs
<b>Attrition</b>		
Retirements (median age 60 – see page 25 for details)		- 159 WTEs
Other leavers (see page 25 for details)		- 50
<b>Supply</b>		
Newly qualified consultants (UK trained) (see page 27 for details)		+ 233
New consultants (overseas trained) (see page 28 for details)		+ 40
New consultants other (including those returning to practice and CESR) (see page 28 for details)		+ 15
<b>Estimated consultant clinical oncologists 2023</b>		<b>942 WTEs</b>

Figure 15 is a simplified illustration of the widening gap between the estimated supply of clinical oncology consultants (shown in Figure 14) and the estimated workforce required to meet the demand for cancer services. The gap between supply and demand is forecast to widen in the next five years from the current shortfall of 184 consultant clinical oncologist WTEs (18% of the workforce) to an estimated shortfall of 272 WTEs (22%) in 2023. This forecast does not take into account the number of additional oncologists required to deliver best-practice treatment and undertake clinical research and service development. CRUK estimate the numbers required to achieve this to be at least 1,500 more combined WTE clinical and medical oncologists.<sup>13</sup>

**Figure 15. UK consultant clinical oncology workforce – estimated supply and demand – next five years**



#### Estimations:

- 2018 actual supply: 863 WTEs
- 2018 estimated demand (1,047 WTEs) calculated as follows: in-post (863 WTEs) + unfilled posts (70 headcount equating to 68 WTEs) + additional posts required were all consultant contracts limited to maximum ten PAs (116 WTEs)
- 2023 estimated supply: 942 WTEs. See page 32.
- 2023 estimated demand (1,214 WTEs): calculated as 3% increase per annum in line with the estimated increase in cancer prevalence (see Section 5).

To rectify the forecast shortfall of 272 WTE consultant clinical oncologists in 2023, UK specialist training numbers need to double from the current average of 64 new trainees each year to 138 per year for the next five years (2019–2023). Even with this substantial increase, the gap will not close until 2029.

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## Appendix A. Census methodology

The RCR gathers clinical oncology workforce data annually through an online census, which is completed by the Head of Service (or their delegate) at every NHS cancer centre providing radiotherapy in the UK. Census data is analysed together with the GMC medical register and clinical oncology specialty training data held by the RCR.

### Survey method

Standardised questions (see Appendix B) have been used year on year to allow for comparison of information and identify trends over time. To facilitate data collection (and data accuracy), 2017 staff data were provided to each cancer centre, and Heads of Service were asked to update the details, providing details of leavers, new starters and staff changes (for substantive and locum posts as of 1 October 2018). Data were collected through a secure web survey. Heads of Service were provided with unique logins and passwords.

### Data accuracy

As in previous years, the survey was sent to Heads of Service for completion. Due to the use of consistent questions, established processes, data quality checks and the involvement of senior staff, 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 2018 census achieved a 100% response rate from Heads of Service, 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.

The RCR processes data in accordance with UK data protection legislation.

### Queries

Queries regarding the census should be sent to [census@rcr.ac.uk](mailto:census@rcr.ac.uk)

## Appendix B. Census questions 2018

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

Prior to completing the census, please ensure that each person whose personal data are entered into the census has been provided with a copy of the RCR workforce census privacy notice, which can be found using the following link: [www.rer.ac.uk/sites/default/files/rer\\_oncology\\_workforce\\_census\\_privacy\\_notice.pdf](http://www.rer.ac.uk/sites/default/files/rer_oncology_workforce_census_privacy_notice.pdf)

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

### Section 2. Organisational details

The details below are based on information entered in the 2018 census and subsequent updates received by the RCR. Please review and update accordingly. The RCR uses census contact details in case of any query with census data submitted.

- 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

Please provide details of the following clinical oncology staff employed at your cancer centre (including satellite centres), as of **1 October 2018**:

- Consultants
  - Associate specialists
  - Specialty doctors
  - Trust grade
  - Please include:
    - Locums
    - Staff on long-term leave (for example, maternity/paternity or sick leave)
  - Please do not include trainees or medical oncologists.
- 3.1 Forename
  - 3.2 Surname\*
  - 3.3 Grade\* (drop-down list with following options)
    - Consultant (clinical oncology)
    - Specialty doctor (clinical oncology)
    - Trust grade (clinical oncology)
  - 3.4 NHS/Academic\* (drop-down list with following options)
    - NHS
    - Mixed NHS and academic
    - Academic (university contract)
  - Direct clinical care (DCC) PAs\*
  - Supporting professional activities (SPAs)\*
  - Academic PAs (academic roles only)\* (Please enter PAs allocated to research/trials funded by a university contract)
  - Additional responsibility PAs\*

- Total PAs (This box is auto-filled with the total of the above four fields)
- Employment type (pre-calculated for consultants. Ten or more PAs = full-time) Full time/part time
- Research PAs (Please enter the PAs allocated to research/trials, funded by the NHS and/or 'soft money,' that is, an external body, such as a charity)
- When a value is entered:
  - Are these 'Research PAs' included in the SPA value above? (Yes/No)
- Additional comments relating to PAs (free-text box)
- Predominant workload\* (drop-down list with following options)
  - Chemotherapy
  - Radiotherapy
  - Balance of both (not more than 60% (approximately) of workload dedicated one or the other)

3.5 Site specialties\* (tick-box list – appears for consultants only – following options, multiple responses permitted)

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

3.6 Employment

- Employed as a locum? (tick box) If ticked:
  - Period employed as locum up to 1 October 2018\* (drop-down list)
    - 1–3 months
    - 4–6 months
    - 7–9 months
    - 10–12 months
    - >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

3.7 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 2018 (tick box)
- Required to travel to more than one site in a working day on a regular basis (tick box)

3.8 Left since October 2017 (tick box) If ticked 'Reason for leaving' (drop-down list):

- Retired
- Left for reasons other than retirement
- Not known/don't wish to say

#### Section 4. Unfilled posts – clinical oncology

Please enter details below of all funded unfilled substantive clinical oncology posts at your cancer centre (including satellite centres), as of 1 October 2018. Please include posts which have subsequently been filled, suspended or lost (as well as posts which remain vacant).

4.1 Unfilled post status\*

- 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\*

- Consultant
- Associate specialist
- Specialty doctor
- Trust grade

4.3 Total PAs (This question is for consultants only)

4.3.1 Employment type\* (drop-down list with following options: Part-time or full-time) (pre-calculated for consultants. Ten or more PAs = full-time)

4.4 Site specialties (This question is for consultants only – same drop-down list as 3.8)

4.4.1 Unfilled period (to the nearest month) (drop-down list: 1 month, 1 month.....12+ months, don't know)

4.5 If there are unfilled posts that failed to appoint AND there is no plan to re-advertise the post, please indicate the alternative plan (drop-down box):

- Restructure teams to absorb the workload
- Recruit from overseas
- Appoint locum to provide cover
- Significantly amend the job description and re-advertise
- Other/don't know

4.6 Additional comments relating to recruitment in the 12-month period to 1 October 2018: (free-text box)

#### Section 5. Overseas recruitment – clinical oncology

5.1 In the 12-month period ending 1 October 2018, has your cancer centre actively targeted the recruitment of doctors working overseas to fill vacant consultant or SAS-grade clinical oncology posts? (Yes/No/Don't know/Don't wish to say)

If yes (in 5.1):

- 5.2 Did your cancer centre successfully fill the vacant post with an overseas candidate? (Yes/No/Don't know/Recruitment is ongoing)  
[If overseas recruitment was attempted more than once, please answer with respect to the most recent attempt]  
Additional comments: (free-text box)  
If no (in Q5.1):  
5.3 Are there specific reasons your cancer centre did not actively target recruitment of doctors working overseas? If so, what are these? (free-text box)

## Section 6. Radiotherapy and chemotherapy routine opening hours

6.1 For the month of September 2018, please enter the routine (non-emergency) radiotherapy service opening hours at your main centre: \*

Matrix of:

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

6.2 Are the routine opening hours you have entered for radiotherapy for September 2018 typical for 2018? \* (Yes/No)

If you have any additional comments on routine radiotherapy working hours, please note them below: (free text box)

6.3 For the month of September 2018, please enter the routine (non-emergency) chemotherapy service opening hours at your main centre: \*.

Matrix of:

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

6.4 Are the routine opening hours you have entered for chemotherapy for September 2018 typical for 2018? \* (Yes/No)

If you have any additional comments on routine chemotherapy working hours, please note them below: (free-text box)

6.5 Comments

Please use the space below to enter any further comments regarding opening hours at your cancer centre; for example, if there have been significant changes in the opening hours, please outline the key reasons for the changes, or if there are significant barriers to required changes in opening hours, please outline the barriers.

## Section 7. Census permission and feedback

The RCR may include the names of cancer centres and their staffing level (per catchment population) in the annual census report. This means centres can benchmark themselves against similar centres. (free-text box)

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

7.2 Finally, please enter below:

- Any further details you feel are 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 box)

**Appendix C.**  
**Census completions**  
**2018**

Thank you to Heads of Service and their colleagues at the following cancer centres for completing the 2018 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 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
Derriford Hospital	Plymouth 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 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
NCCC, Freeman Hospital	Newcastle upon Tyne Hospitals NHS Foundation Trust
New Cross Hospital	The Royal Wolverhampton Hospitals 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 Acute 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	Peterborough and Stamford 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 & Exeter Hospital (Wonford)	Royal Devon & Exeter NHS Foundation Trust
Royal Free Hospital	Royal Free London NHS Foundation Trust
Royal Marsden Hospital	The Royal Marsden Hospital NHS Foundation Trust
Royal Preston Hospital	Lancashire Teaching Hospitals NHS Foundation Trust
Royal Shrewsbury Hospital	Shrewsbury and Telford Hospitals 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	Abertawe Bro Morgannwg University Health Board
Southend University Hospital	Southend University Hospital NHS Foundation Trust
St Bartholomew's Hospital	Barts and The London NHS Trust
The Christie Hospital	The Christie Hospital 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 Healthcare 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 D.

Cancer centre (WTE)  
consultant clinical  
oncologists per  
million population

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

Cancer centre	Consultant clinical oncologists (WTE) 2018	Population estimate	WTE consultants per million population, 2018	Consultant clinical oncologists (WTE) 2013
Leicester Royal Infirmary	8.2	929,606	8.8	7.3
Lincoln County Hospital	8.0	573,457	14.0	7.0
Northampton General Hospital	6.8	726,545	9.4	8.0
Nottingham University Hospital	15.4	1,117,808	13.8	10.9
Royal Derby Hospital	8.6	715,427	12.0	7.0
<b>East Midlands</b>	<b>47.1</b>	<b>4,062,844</b>	<b>11.6</b>	<b>40.2</b>
Addenbrooke's Hospital, Cambridge	25.9	1,430,044	18.1	20.9
Colchester General Hospital	8.9	710,019	12.6	9.3
Ipswich Hospital	5.0	358,291	14.0	6.0
Norfolk and Norwich University Hospital	10.0	855,041	11.7	8.0
Peterborough City Hospital	6.5	272,551	24.0	2.5
Southend University Hospital	12.6	670,225	18.8	8.3
<b>East of England</b>	<b>69.0</b>	<b>4,296,170</b>	<b>16.0</b>	<b>55.0</b>
Weston Park Hospital, Sheffield	23.7	1,785,495	13.2	16.0
Castle Hill Hospital, East Riding of Yorkshire	11.0	1,031,631	10.7	11.0
Leeds Cancer Centre, St James' University Hospital	33.0	2,842,929	11.6	24.8
<b>Humber, Coast and Vale, West Yorkshire, South Yorkshire, Bassetlaw, North Derbyshire and Hardwick</b>	<b>67.7</b>	<b>5,660,055</b>	<b>12.0</b>	<b>51.8</b>
The Christie Hospital, Manchester	44.8	3,299,201	13.6	32.2
The Clatterbridge Cancer Centre, Wirral	27.2	2,252,782	12.1	22.9
Royal Preston Hospital	16.5	1,465,033	11.3	15.5
<b>Lancashire and South Cumbria, Greater Manchester, Cheshire and Merseyside</b>	<b>88.5</b>	<b>7,017,016</b>	<b>12.6</b>	<b>70.6</b>
Mount Vernon Cancer Centre, Hertfordshire	14.7	1,966,908	7.5	20.3
North Middlesex University Hospital	11.8	582,289	20.2	6.6
Queen's Hospital, Romford	9.9	595,579	16.5	7.9
Royal Free Hospital, London	4.6	390,173	11.8	4.4
St Bartholomew's Hospital, London	7.6	1,094,961	6.9	6.0
University College Hospital, London	16.9	881,850	19.2	11.6
<b>North Central and North East London</b>	<b>65.4</b>	<b>5,511,759</b>	<b>11.9</b>	<b>56.8</b>

Cancer centre	Consultant clinical oncologists (WTE) 2018	WTE consultants per million population, 2018	Population estimate	Consultant clinical oncologists (WTE) 2013
Cumberland Infirmary	3.1	305,074	10.3	3.0
Northern Centre for Cancer Care, Newcastle upon Tyne	19.7	1,782,270	11.1	19.1
The James Cook University Hospital, Middlesbrough	14.1	1,026,940	13.7	12.0
<b>North East and Cumbria</b>	<b>36.9</b>	<b>3,114,283</b>	<b>11.9</b>	<b>34.1</b>
Imperial College Cancer Centre, London	12.2	1,189,931	10.2	11.1
Royal Marsden Hospital, London	29.7	2,167,141	13.7	19.4
Royal Surrey County Hospital	14.3	1,263,801	11.3	11.5
Royal Sussex County Hospital	15.3	937,299	16.3	11.7
<b>North West and South West London, Surrey and Sussex</b>	<b>71.4</b>	<b>5,558,172</b>	<b>12.9</b>	<b>53.7</b>
Belfast City Hospital	23.2	1,496,640	15.5	20.4
North West Cancer Centre, Altnagelvin Hospital	7.8	374,160	20.8	N/A
<b>Northern Ireland</b>	<b>31.0</b>	<b>1,870,800</b>	<b>16.6</b>	<b>Not known</b>
Bristol Haematology and Oncology Centre	13.9	1,085,839	12.8	12.4
Cheltenham General Hospital	10.5	1,112,996	9.4	11.0
Derriford Hospital, Plymouth	8.0	459,866	17.3	8.0
Musgrove Park Hospital, Taunton	7.7	390,640	19.6	6.3
Royal Cornwall Hospital	7.8	409,081	18.9	5.0
Royal Devon and Exeter Hospital	10.5	581,107	18.0	10.3
Royal United Hospital Bath	3.0	438,342	6.8	5.4
Torbay Hospital	4.7	247,241	18.8	1.8
<b>Peninsula, Somerset, Wiltshire, Avon and Gloucestershire</b>	<b>65.8</b>	<b>4,725,111</b>	<b>13.9</b>	<b>60.2</b>
Aberdeen Royal Infirmary	8.8	614,262	14.3	5.8
Beatson West of Scotland Cancer Centre	39.0	2,558,838	15.2	29.0
Edinburgh Cancer Centre, Western General Hospital	20.2	1,389,478	14.5	17.3
Ninewells Hospital and Medical School, Dundee	6.6	506,487	13.0	6.4
Raigmore Hospital, Inverness	4.3	357,793	12.0	4.0
<b>Scotland</b>	<b>78.9</b>	<b>5,426,858</b>	<b>14.5</b>	<b>62.5</b>

Cancer centre	Consultant clinical oncologists (WTE) 2018	WTE consultants per million population, 2018	Population estimate	Consultant clinical oncologists (WTE) 2013
Guy's and St Thomas' Cancer Centre, London	26.5	1,720,797	15.4	16.2
Kent Oncology Centre	20.6	1,803,466	11.4	17.9
<b>South East London, Kent and Medway</b>	<b>47.1</b>	<b>3,524,263</b>	<b>13.4</b>	<b>34.1</b>
Basingstoke and North Hampshire Hospital, Royal Hampshire County Hospital (satellite of Southampton)	2.0	146,655	13.6	Not known
Dorset Cancer Centre, Poole Hospital	8.1	724,547	11.1	6.7
Oxford Cancer Centre, Churchill Hospital	32.2	1,354,602	23.8	21.2
Portsmouth Oncology Centre, Queen Alexandra Hospital	12.5	799,199	15.6	8.0
Royal Berkshire Hospital	8.7	726,268	12.0	7.6
University Hospital Southampton	18.3	1,284,144	14.3	15.7
<b>Thames Valley, Wessex</b>	<b>81.8</b>	<b>5,035,414</b>	<b>16.2</b>	<b>Not known</b>
Glan Clwyd Hospital, Rhyl	7.0	706,106	9.9	6.0
South West Wales Cancer Centre, Singleton Hospital	10.3	907,851	11.3	10.5
Velindre Hospital, Cardiff	24.3	1,513,082	16.0	22.6
<b>Wales</b>	<b>41.6</b>	<b>3,127,039</b>	<b>13.3</b>	<b>39.1</b>
New Cross Hospital, Wolverhampton	7.9	860,190	9.1	7.6
Queen Elizabeth Hospital, Birmingham	22.3	1,960,413	11.4	14.7
Royal Shrewsbury Hospital	6.0	459,606	13.1	8.0
University Hospital of North Midlands	8.8	667,127	13.2	10.0
University Hospital, Coventry	18.3	1,052,615	17.4	13.8
Worcester Oncology Centre	7.4	507,507	14.5	N/A
<b>West Midlands</b>	<b>70.6</b>	<b>5,507,459</b>	<b>12.8</b>	<b>Not known</b>

[Population estimate uses 2015 population data<sup>22</sup> uplifted by 2015–2017 population growth<sup>23</sup> of 1%. For Northern Ireland, the population split between the two cancer centres (Belfast and Altnagelvin) is unknown (and the number of cross-border patients is unknown), so the above table assumes that 80% of NI patients are treated in Belfast. Users of this table should adjust the population figures accordingly if this split is incorrect.]

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