

Foreword

Dr Petra Jankowska

Medical Director, Professional Practice, Clinical Oncology



For clinical oncology, 2024 was a year marked by upheaval, but also by familiar challenges. We have a new government with new priorities, but face the same difficulties in delivering care. The workforce grew faster this year than in recent years, but still not fast enough to keep pace with rising demand for cancer care. Over the longer term, as the nation becomes older and sicker, we are seeing a higher volume of more complex cancers, requiring careful management. As a result of these factors, the workforce shortfall – the gap between demand and capacity – has remained the same as it was in 2023.

This means that for too many patients, it is not always possible to avoid delays to their care or barriers to accessing the right treatment, which we know can lead to worse outcomes. I know how immensely difficult it is to not be able to give the best possible care, and the quotes of colleagues throughout this report show that this is something we are all struggling with.

The RCR has a plan to support the oncology workforce. We estimate that demand is rising by approximately 5% each year, so we need at least 5% workforce growth every year to both keep pace and to eliminate the shortfall. We need to address the drivers of attrition so we can make the most of the resources we invest in specialty training. Our capacity to train must increase so we can produce the clinical oncologists of the future that patients desperately need. Alongside all of this, we must embrace innovations and changes that will improve our productivity, such as digital and artificial intelligence tools.

The upcoming second iteration of the Long-Term Workforce Plan and NHS England's review of postgraduate medical training are both excellent opportunities for the government to support our specialty. We would like to see the Department of Health and Social Care take forward our recommendations as part of this crucial piece of work.

I would like to thank all the cancer centre Heads of Service who filled out the census this year. Once again, thanks to you, we have received a 100% response rate. This ensures our data is rock solid and makes our case for change incredibly strong. Many of you tell us how helpful you find the census in developing business cases in your workplace. I hope you find this year's report just as useful.





Strong workforce growth in 2024 needs to be repeated in the years to come so we can close the workforce shortfall.

Executive summary

In 2024, the dedication and hard work of clinical oncologists and cancer centre staff has resulted in some positive changes, despite a challenging context.

There have been some improvements to patient waiting times and significant progress made in adopting tools designed to improve productivity, such as artificial intelligence.

Nonetheless, many statistics revealed in this report show the stark reality facing clinical oncology and cancer patients. The workforce shortfall remains at 15%, leaving an exhausted workforce working harder than ever. Higher than average workforce growth in 2024 is positive, but, over the past five years, demand for cancer treatment rose more quickly than the rate of workforce growth. Above 5% workforce growth must be repeated year on year if capacity is to get ahead of demand and to reduce the workforce shortfall. Urgent action is needed to improve staff retention, with attrition rates still too high, most notably amongst SAS doctors and international recruits. Capacity to deliver specialty training must be expanded so the workforce can grow to meet the needs of patients. Vital to this is sufficient, dedicated time for trainers to spend with resident doctors ('residents')*.

Across almost every metric and in all four nations, small cancer centres are struggling to a much greater extent than large cancer centres. They find it harder to attract and retain staff. This has knock-on effects for patient care in terms of delayed treatment, and for the delivery of service improvements. The prospect of a long-term reversal in fortune for these centres unfortunately remains remote.

15%

Clinical oncology consultant workforce shortfall

19%

Forecast CO consultant workforce shortfall, by 2029

45.4%

Annual consultant workforce growth, 2024

222222222

7 in 10 cancer centre Heads of Service are concerned about the effects of workforce shortages on patient safety

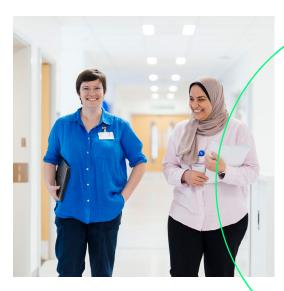
23%

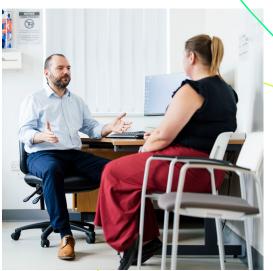
Cancer centres experiencing recruitment freezes



Recommendations

A three-point plan to improve oncology services





01 Recruit

The NHS in each nation should increase the baseline number of specialty training posts for clinical oncology to maintain strong workforce growth and progressively eliminate the shortfall. This should happen in line with national workforce planning initiatives, such as the second iteration of the Long-Term Workforce Plan in England, as more medical students begin to graduate.



Trusts or hospitals not meeting national cancer performance targets should not adopt nor be placed under recruitment freezes affecting clinical oncology consultants or other staff groups treating cancer patients.

The NHS in each nation should support cancer alliances to develop local and regional long-term workforce plans to meet the demand they face, which should include consideration of factors like in the impact of less than full time working, demographic change and training requirements on capacity.

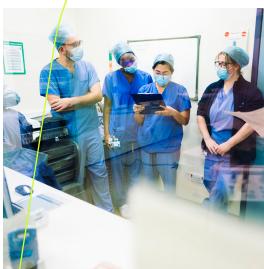
The NHS in each nation should work with trusts/health boards to agree multi-year plans for the number of new consultant posts they each commit to. Trusts/health boards should act to ensure timely confirmation of appointments to consultant positions so newly qualified doctors can begin consultant work without delay.



Cancer alliances across the UK should redouble their efforts to encourage larger centres to work more innovatively and collaboratively with their smaller counterparts to ensure provision of continuous care. Cancer alliances should also work to address local issues, such as consultant shortages.

Recommendations





02 Retain

Trusts/health boards must create working environments that support oncologists to feel valued, remain in the NHS, and work to the best of their ability. These would feature supportive leadership, greater staff autonomy, and a strong culture of teamwork.

Trusts/health boards should ensure basic staff support and wellbeing measures are in place, including but not limited to adequate break times, the ability to book leave, access to staff rest areas, access to food and drink, adequate transport and parking facilities, modern efficient and effective computer hardware and software which meets professional standards, and administrative and clerical support.





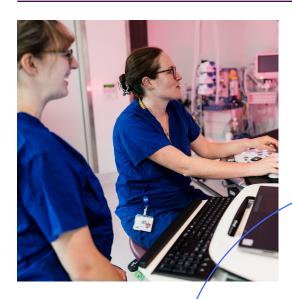
The NHS in each nation should monitor hospitals' performance against providing these basic wellbeing measures, and this data should be made publicly available. Hospitals struggling to provide these measures should receive targeted support.

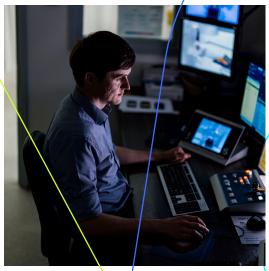
Trusts/health boards should ensure all doctors, including SAS doctors and those working LTFT, have sufficient SPAs protected in their job plans for their work in delivering training, clinical leadership, audit and service improvement, CPD and revalidation. The number of SPAs must realistically reflect individuals' roles and responsibilities. Workforce planning should reflect this, and should be reviewed regularly.

Hospitals should conduct exit interviews with all doctors leaving the NHS to understand their reasons for departure. They should also collect structured feedback on doctors' reasons for reducing their working hours. This data should be compiled nationally and used to inform workforce planning and policies to boost retention.

The NHS in each nation must ensure that their long-term workforce planning includes actions to preserve site specialty expertise of common cancers, so that patients in all regions can access the care they need quickly and easily. In England, this should be reflected in the upcoming National Cancer Plan.

Recommendations





03 Train



Medical schools across the UK should increase the training students receive in oncology to encourage more of them to consider the specialty, given its national importance. Hospitals must ensure that consultants delivering this training have protected training time in their job plans.

Statutory education bodies and local deaneries should likewise increase exposure to clinical oncology at foundation level and internal medicine training, respectively.

The NHS in each nation should explore the allocation of specialty training places by WTE numbers, rather than by headcount. This would enable any funding surplus from residents working LTFT to be reinvested in the provision of further training posts.

Trusts/health boards must ensure there is sufficient time in consultants' job plans to deliver training to junior staff. Those consultants who wish to dedicate more time to teaching and training should be enabled and assisted to do so, wherever possible.



Where their skills and experience allow, staff groups including SAS and locally employed doctors, senior residents, and advanced health practitioners should be deployed enabled and encouraged to assist consultants in the delivery of specialty training. They will require time in their job plans to do this work.

Introduction to the workforce census



The Royal College of Radiologists is proud to present the 17th annual clinical oncology (CO) workforce census, which offers an in-depth snapshot of the specialty, as of October 2024. The census boasts a 100% completion rate from all 60 cancer centre Heads of Service around the UK.

The RCR uses the census to understand the challenges facing clinical oncology and to develop clear recommendations to the government and the NHS detailing what should be done to meet these challenges. Chronic workforce shortages too often lead to treatment delays for cancer patients. The RCR encourages governments and NHS leaders in all four UK nations to engage with the findings of this report.

Challenge 01

Growing the oncology workforce

THE NHS NEEDS AN ADDITIONAL

193
Clinical Oncology consultants

ß

Our waiting times for breast radiotherapy are now the worst I have ever known in 20 years. Patients are waiting over four weeks to be seen... and then another eight weeks to start radiotherapy.

Size of the shortfall

There is a **15% shortfall of consultant clinical oncologists** across the UK. This is projected to rise to 19% by 2029, should no action be taken.* As of October 2024, **the NHS needs an additional 193 clinical oncology consultants** to provide the level of safe, effective care that is required (within contracted hours and adjusted to ensure sufficient doctors per 100,000 older population).[†]

There is variation at the national and regional level. Scotland's shortfall stands at 19%, whereas Northern Ireland's is 14%. London has a shortfall of 9%, whereas North Wales' shortfall is 39%. Small cancer centres have disproportionately higher shortfalls, of 26%, compared to their medium-sized (16%) and large (11%) counterparts.§

The size of the UK shortfall has remained steady since 2023. It is undoubtedly good news that the gap has not grown further. But a lack of progress means an oncology workforce that is increasingly exhausted with the effort of 'treading water'.

^{*} For methodology, please consult this year's census methodology worksheet, which can be found on the RCR website.

[†] Throughout this report, unless otherwise stated, all numbers refer to WTE consultants, rather than headcount, as this more accurately reflects capacity within systems.

^{§ &#}x27;Small' here is defined as the 25% of UK cancer centres with the smallest number of employed clinical oncology consultants. Likewise 'large' refers to the top 25% of cancer centres.



In 2024, the clinical oncology consultant workforce grew by 5.4%.‡ This is the strongest annual growth rate since 2018. In October 2024, there were 1,078 clinical oncology consultants (Whole Time Equivalent, WTE) in the UK. That is 55 more than a year previously – but far below the 193 WTE required to eliminate the shortfall.

Nonetheless, this strong growth has not translated into a reduced workforce shortfall. This is due to both the rate at which demand is rising and the time lag involved in specialty training. Further action is required to tackle persistent staffing shortages in oncology; we need consistent, above-5% workforce growth year-on-year, alongside other actions.

ANNUAL GROWTH RATES, CO CONSULTANTS — PAST SIX YEARS



CO CONSULTANT WORKFORCE — PAST FIVE YEARS



^{*} Note: this figure includes locum staff; when excluded, the growth rate stands at 5.8%.



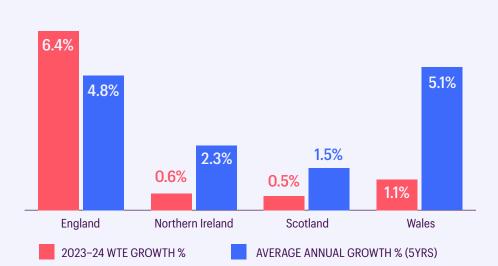
Workload on existing oncologists

is unsustainable without [an]

increased workforce.

Growth rates vary significantly across UK nations, regions and cancer centres. The workforce in small cancer centres shrank by 1.1% in 2024, versus 9% growth in large cancer centres.

GROWTH RATES, CO CONSULTANTS — PAST FIVE YEARS



CC

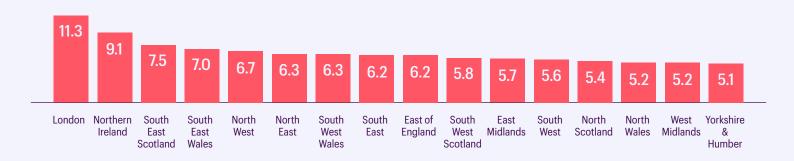
[There is a] marked disparity of workforce distribution across the region. We [have] nearly half the clinician: patient ratio compared to the other cancer centre in the region.

Consultants per 100,000 older population

The UK has 6.6 oncology consultants (clinical and medical) per 100,000 older population (those aged 50+). Looking at this metric helps to understand workforce capacity with respect to demand for care. Cancer incidence rises with age, with 90% of cancers occurring in people aged 50+ and more than one-third of new cancers each year occurring in those aged 75+.

Some regions are significantly better served than others – compare London (11.3) to Yorkshire and Humber (5.1).

CONSULTANT ONCOLOGISTS PER 100,000 OLDER POPULATION, 2024



Demographics

In CO, there is a near 50:50 split between male and female consultants. By contrast, for all specialist doctors on the GMC register, just 40% are female (as of January 2025). The median age of a CO consultant is 48 years. SAS-grade oncologists are on average slightly younger (45 years) and as a group skew more female (55:45).

Other types of oncologist

Medical oncologists

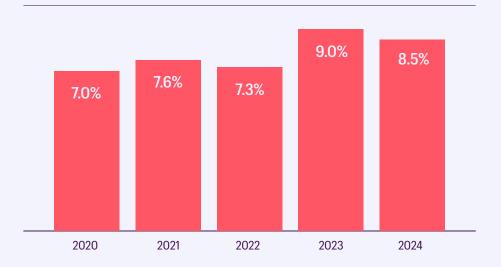
Whereas clinical oncologists are specialist doctors who use both radiotherapy and Systemic Anti-Cancer Therapies (SACT), medical oncologists are specialist doctors who focus on delivering cancer drug treatments.

The UK has 650 medical oncology consultants (WTE) as of October 2024. With a rate of 10.4%, the MO workforce grew more quickly than the CO workforce in 2024. Northern Ireland saw a significant increase of 73% in its MO workforce. In Wales, however, there was a 5.7% decrease.

Specialty and Specialist (SAS) doctors

In 2024, there were 117 SAS-grade consultant oncologists in the UK (100 WTE); this has changed little since 2023 (101 WTE). SAS doctors comprise 8.5% of the CO workforce. Over three-quarters of the CO SAS workforce gained their primary medical qualification (PMQ) outside the UK. 70% gained their PMQ in non-European Economic Area (EEA) countries, which represents an increase of 13% since 2015.

SAS-GRADE PROPORTION OF CO WORKFORCE*, PAST FIVE YEARS, *CO WORKFORCE INCLUDES CONSULTANT AND SAS-GRADE



Locums

The number of locum consultants in the CO workforce has increased from 107 to 116 (by headcount) in 2024. Locums comprise 10% of the CO consultant workforce. Most locums are international medical graduates – 67% in 2024. However, there has been steady growth in the number of locums who were trained in the UK, with headcount almost doubling in the five years since 2019.

Cancer centres increasingly rely on employing locums. The 5-year average growth in their number stands at 22%, and over the past 5 years much of the growth of the whole workforce has been driven by locums. Five-year average annual growth including locums is 4.4%, whereas when locums are excluded it is 3.4%.

Nearly two-fifths of consultant locums in CO are less than 40 years old. Individuals choose locum posts rather than permanent (substantive) posts for the greater flexibility they offer or because substantive consultant posts are not available.

In Wales and Northern Ireland, locums make up a greater proportion of the consultant workforce than the UK. Small cancer centres are more heavily reliant on employing locum staff, with this group comprising 21% of their consultant workforce.

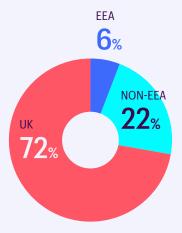
LOCUMS AS A SHARE OF CO CONSULTANT WORKFORCE, UK NATIONS, 2024



CO CONSULTANTS BY REGION OF PMQ, 2024

We have a high proportion of locum oncologists – mainly NHS, but also [from a] high-cost agency. This leads to a constant juggle of recruitment

and service provision, [which] takes up a huge amount of time to manage.

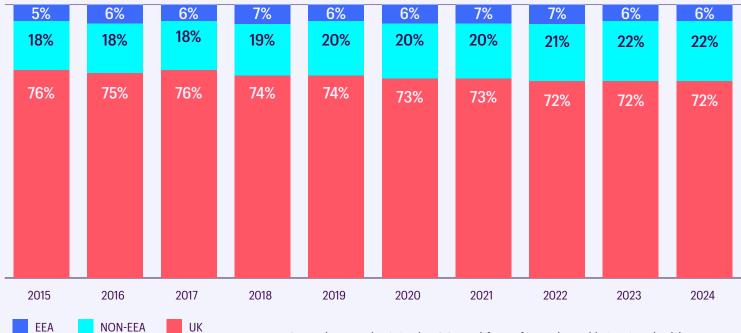


Global recruitment

Clinical oncology services in the UK continue to rely heavily on global recruitment. In 2024, over one quarter (28%) of the CO consultant workforce had gained their PMQ outside the UK.

Over the last decade, there has been a steady decline in the proportion of CO consultants who gained their PMQ in the UK, down from 76% to 72%. In that time, the proportion from non-EEA countries has risen from 18% to 22%. Seventy percent of doctors newly registered with the GMC in 2024 were non-UK graduates."

CO CONSULTANTS BY REGION OF PMQ, PAST TEN YEARS



Consultants who join the CO workforce from abroad bring invaluable skills and experience and should be made to feel welcome and supported. Nonetheless, international recruitment is not a long-term solution to workforce shortfalls. This is because many global recruits join as locum consultants and may be on fixed-term contracts. Plus, across all grades, attrition rates for clinicians who trained overseas are higher than those trained domestically because many of the former group eventually return home (see page 16). Moreover, there is a global shortage of healthcare workers. The value of global recruitment should be set alongside these factors.

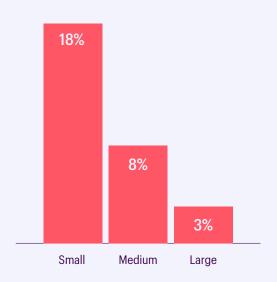
Vacancies and recruitment freezes

The vacancy rate in 2024 for consultant CO posts remained steady at 7%. However, in nearly two-thirds (65%) of those cancer centres, at least one vacancy remained unfilled for 12+ months.

VACANCY RATES, CO CONSULTANT POSTS, PAST FIVE YEARS



VACANCY RATES BY CANCER CENTRE SIZE, 2024



CC

No expansion of posts at our trust will now be considered... The impact is that the increasing number of patients on systemic treatments needing review are being placed into overbooked clinics, which is detrimental to patient care. There is a six-fold difference in the vacancy rate in small cancer centres (18%) compared to large centres (3%). Moreover, in 86% of small centres, there was at least one vacancy open for 12+ months.

Nearly one-quarter (23%) of Heads of Service reported being subjected to a recruitment freeze. 14% told us they were unable to expand their workforce with additional posts, and 9% told us they were not permitted to recruit whatsoever, including to fill vacant posts.

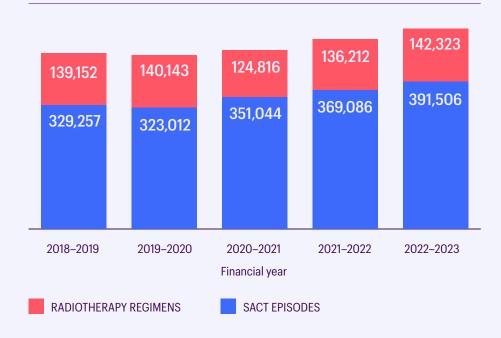
Freezes undermine efforts to reduce treatment delays for patients and directly counter actions to reduce the workforce shortfall. They have significant detrimental implications for training (see page 24). Short-term 'fixes' like this are a false economy; hospitals need to be supported to avoid them.^{iv}

Recruitment freezes are potentially masking the true scale of vacancies in CO. Even amongst those hospitals without a recruitment freeze, anecdotal evidence suggests that some are not advertising posts because experience suggests they will be unable to fill them.

Rising demand for radiotherapy and SACT

The demand for both radiotherapy and SACT treatments continues to rise. In England, radiotherapy episodes (the whole period of care, including all preparation and planning and all instances of delivery^v) increased by a rate of 4.5% between the 2021–22 and 2022–23 financial years. The average annual growth over the past five years was 1.2%.vi

SACT EPISODES AND RADIOTHERAPY REGIMENS BY FINANCIAL YEAR — PAST FIVE YEARS



NUMBER OF PATIENTS RECEIVING SACT IN ENGLAND DURING 2023 GREW BY

5.2%

NUMBER OF SACT REGIMENS GREW BY

6.1%

The number of patients receiving SACT in England during 2023 grew by 5.2% and the number of SACT regimens grew by 6.1%.** The average annual growth for these figures over the past 5 years were 3.6% and 3.5%, respectively.**

In this time, excluding locums, the average annual increase in the CO workforce was 3.4% per year. The rate of increase in SACT doses being given far exceeds the rate of workforce expansion. We also know that the utilisation rate of radiotherapy varies across the UK, suggesting inequality in access, and remains lower than many models suggest should be the case. Demand for cancer care therefore continues to outpace workforce growth. Strong workforce growth this year is insufficient to meet the growing demand for cancer care that we expect to see continue.

Recruitment: what needs to happen?

The RCR estimates that demand for cancer care grows at approximately 5% each year. Therefore, we need above 5% growth in the clinical oncology workforce each year, if the NHS is to keep up with this demand and to close the workforce shortfall gap. Workforce growth must happen across all regions and nations commensurate with the size of their shortfall. Patients bear the brunt of these issues, waiting longer for treatment and, as a result, suffering poorer outcomes. Given current trends, we forecast there will be an average annual growth rate of 4% over the next five years; this will simply not be enough to meet demand or close the shortfall.

Economic modelling commissioned by the RCR has proven the value of investing in CO workforce growth. A 50% uplift to the baseline number of specialty training posts would, applied annually, after ten years, be sufficient to fill 87% of the workforce shortfall forecasted by that date.^{††} Moreover, this would deliver £20 million cost savings after 10 years, demonstrating the concrete economic benefits to this strategy.

^{**} These figures differ for several reasons, including the fact that a patient can be simultaneously treated with more than one type of SACT. A 'regimen' is defined as 'a standard for a combination of drugs (or single drug) given in a planned schedule' in the SACT dataset user guide.

^{††} This would result in a total of 140 starts per year, given a baseline average of 96 places per year over the past five years. Within that time, the maximum number of places in a single year was 110.



Challenge 01 Growing the oncology workforce Recommendations

The NHS in each nation should increase the baseline number of specialty training posts for clinical oncology to maintain strong workforce growth and progressively eliminate the shortfall. This should happen in line with national workforce planning initiatives, such as the second iteration of the Long-Term Workforce Plan in England, as more medical students begin to graduate.

Trusts or hospitals not meeting national cancer performance targets should not adopt nor be placed under recruitment freezes affecting clinical oncology consultants or other staff groups treating cancer patients.

The NHS in each nation should support cancer alliances to develop local and regional, long-term workforce plans to meet the demand they face, which should include consideration of factors like in the impact of less than full time working, demographic change and training requirements on capacity.

The NHS in each nation should work with trusts/health boards to agree multi-year plans for the number of new consultant posts they each commit to. Trusts/health boards should act to ensure timely confirmation of appointments to consultant positions so newly qualified doctors can begin consultant work without delay.

Cancer alliances across the UK should redouble their efforts to encourage larger centres to work more innovatively and collaboratively with their smaller counterparts to ensure provision of continuous care. Cancer alliances should also work to address local issues, such as consultant shortages.

2024

Workforce Census

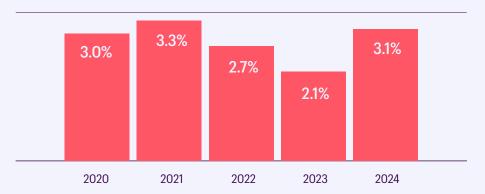
Challenge 02

Tackling the drivers of workforce attrition and boosting retention

CO consultant attrition

In 2024, the attrition rate amongst CO consultants rose to 3.1% (versus 2.1% in 2023). Leavers have various destinations: some retire, some leave to practise medicine abroad, and some leave to work in other sectors.

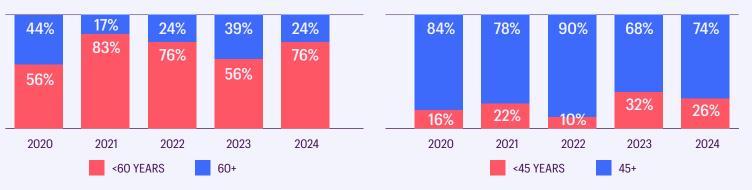
ANNUAL ATTRITION RATES, CO CONSULTANTS, PAST FIVE YEARS



Attrition rates are highest in small cancer centres, at 4.9% on average over the past five years (versus 2.5% in large centres). This may reflect the relative lack of resilience in smaller centres, borne from their higher shortfalls and the effects of these on staff wellbeing.

Over three-quarters (76%) of CO consultant leavers in 2024 were under the age of 60. Approximately one quarter (26%) of leavers were under the age of 45. The median average age of leavers in 2024 was 54 years – down from 57 in 2023, and 59 in 2022. Consultants are leaving clinical oncology at a younger age; the NHS is losing their accumulated and potential future expertise at a time when it cannot afford to do so.

AGE OF CO CONSULTANT LEAVERS, PAST FIVE YEARS



SAS-grade attrition

The attrition rate for SAS-grade clinical oncologists in 2024 was 18.3% – six times that of consultants.** The average age of SAS-grade leavers was 39 years, and 100% of SAS leavers were under 60.

This higher turnover amongst SAS doctors is a problem across specialties. Causes include fewer continuous development (CPD) opportunities, less chance of progression, and a feeling of exclusion from the multidisciplinary team. The RCR is working to tackle these issues with an active SAS network, SAS representation on committees and in leadership roles, and guidance in development focusing on progression from the specialty to specialist grade, and from SAS to consultant. The RCR would be pleased to work with NHS England to progress these objectives.

ATTRITION RATE, CO CONSULTANTS WHO COMPLETED SPECIALTY TRAINING OVERSEAS

3.9%

ATTRITION RATE, CO CONSULTANTS WHO COMPLETED SPECIALTY TRAINING IN THE UK

2.6%

Global recruitment and attrition

There are two routes to work as a substantive CO in the NHS: completion of UK specialty training ('CCT') or the Portfolio Pathway (formerly known as CESR).

The average attrition rate over the past five years for consultants who completed their CO specialty training overseas is 3.9%; the rate for consultants trained in the UK is 2.6%. Doctors who trained overseas are likely to have stronger connections with the country in which they trained, and are therefore likely to return after working in the UK. The quality of support which CESR candidates receive may also affect their likelihood of remaining in the UK. The RCR will soon offer specific mentoring of CESR candidates to help them complete the process.

These effects need to be considered during workforce planning. To sustainably increase the CO workforce, UK specialty training must be prioritised.

^{**} This difference in attrition rates is not due to grade changes from SAS to consultant. This is because 'leavers' in the census are defined as any individual who no longer appears in the data, compared to the previous year, regardless of their grade.

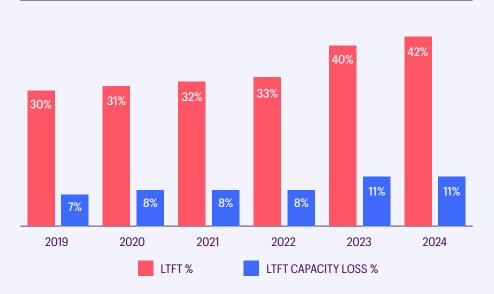
Working patterns

Less than full time (LTFT) working

LTFT working is open to all postgraduate doctors in the UK, either during or after specialty training. The doctor works fewer than the standard number of working hours for their employer; many use this time to pursue activities such as further education or research outside their clinical role. Many opt for LTFT working to balance childcare or other family commitments or choose it for wellbeing reasons.

In 2024, the proportion of CO consultants working LTFT rose to 42%. LTFT is becoming more common across all age groups, though it is most common in older cohorts. In the <40 age group, the proportion working LTFT has risen by 12 percentage points in the five years from 2019–24, to 36%.§§

PROPORTION OF CO CONSULTANTS WORKING LTFT. PAST SIX YEARS



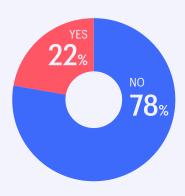
The workforce is operating at 89% of total potential capacity, once LTFT working is accounted for. This 'capacity loss' has risen less rapidly than has the prevalence of LTFT working. Nonetheless, with an 11% 'capacity loss' set against a 15% CO workforce shortfall, it is clear that LTFT working is reducing the capacity to provide care. While it is good practice to offer LTFT working to staff, a larger workforce is required to accommodate this practice without impacting patient care. Future workforce plans should be based on WTE, rather than headcount, to make clear the actual capacity of the workforce.

Supporting professional activities (SPA)

SPAs are non-clinical activities formally worked into consultants' job plans, including teaching, medical education, CPD, leadership, service improvement and preparation for appraisal or revalidation. They underpin clinical care and contribute to the quality of the individual clinician and the service.

^{§§ 2024} LTFT data looks only at clinical work (DCCs and SPAs). It does not consider teaching or academic/ research PAs.

PROPORTION OF CO CONSULTANTS WITH <1.5 SPAS, 2024



The RCR recommends that consultants should have 1.5 or more SPAs in their job plan.* This is not currently a reality for one-fifth (22%) of CO consultants, rising to 38% of consultants working LTFT. Over the past 10 years, there has been a steady decline in the number of SPAs in the average CO consultant job plan.

SPA time is crucial for service improvement and delivering training; both these vital activities rely on clinically-driven leadership. The erosion of SPA time compounds the effect of workforce shortfalls, preventing improvements that would benefit patients.

SAS grade oncologists rarely have sufficient SPA time. Over half (51%) have less than 1.5 SPAs in their job plans. Parity on this measure (and others) would encourage SAS doctors to contribute to non-clinical roles in the cancer centre, including leadership roles.

PROGRAMMED ACTIVITIES, CO CONSULTANTS, PAST TEN YEARS





Reduced SPA time [means that we have] almost zero ability for service development... Any good ideas are deferred until we have more staff.

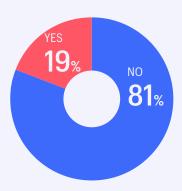
Heads of Service turnover

Over the past five years, 15% of cancer centres have had three or more Heads of Service. 20% of all Heads of Service left their roles in 2024. This is likely related to insufficient time in their job plans for these important leadership roles. Though these doctors remain practising clinicians, the disruption and lost clinical leadership has a knock-on effect for patients and services.

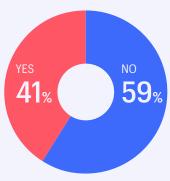
Predominant workload

Four-fifths (82%) of NHS CO consultants' predominant workload is a balance of radiotherapy and SACT. 16% predominantly deliver radiotherapy, and 2% SACT. This is a strong endorsement of the importance of the pluripotent clinical oncologist.

FORECAST RETIREMENT RATES, CO CONSULTANTS



FIVE YEAR FORECAST



TEN YEAR FORECAST

Forecast retirements

As of 2024, one-fifth (19%) of all CO consultants are forecast to retire within five years (based on a median age of retirement of 60 years). Two-fifths (41%) are forecast to retire by 2034. Forecast retirement rates are higher in Wales (27%) and Scotland (22%).

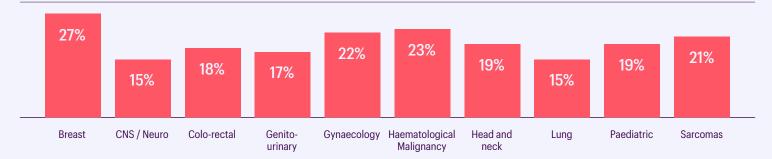
Site specialities

Clinical oncologists specialise their practice to specific tumour sites, owing to the huge complexity in each site and the increasing treatment options available for each. The average CO consultant now has 1.9 site specialties. The RCR recommends that each consultant should have two site specialties or fewer.xi However, three in ten CO consultants have three or more site specialties.

Some site specialities struggle with workforce numbers more than others. 27% of breast clinical oncologists currently working in the NHS will retire within five years. One potential contributing reason is that breast cancers are now largely treated with SACT, rather than radiotherapy; this may deter residents from choosing to specialise in breast oncology, compared to a site with more radiotherapy.

Ten cancer centres (17%) rely on just one CO consultant to provide site-specialty expertise in one or more of the four most common cancers: breast, lung, colorectal and prostate.xi Ideally, there should be at least two consultants to cover each site to prevent treatment delays in the event of staff sickness or retirement.xi Additionally, 14 cancer centres (23%) do not have any CO consultants specialising in the following cancers: head and neck, gynaecological, upper gastrointestinal, central nervous system, and skin.

FIVE-YEAR FORECAST RETIREMENT RATES BY SITE SPECIALTY, CO CONSULTANTS





Several services [are] at risk due to single site practitioners and impending retirements [including] thyroid, upper GI, gynaecology, and sarcoma.

CO HEADS OF SERVICE CONCERNED ABOUT MORALE, STRESS AND BURNOUT, PAST FIVE YEARS



CC

We have significant stress amongst staff, and colleagues have taken leave with stress-related health issues.



There is only so much one can optimise without sufficient manpower.

My hours have gone up to more than full time. I was on a part time contract. I have less downtime at work and home.

Stress and burnout

It is likely that rising workloads are driving the increased rate of staff attrition. This is because fewer staff are having to work ever harder in order to simply 'tread water', risking exhaustion.

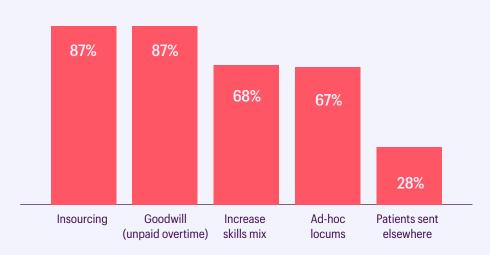
98% of Heads of Service are concerned about workforce shortages causing stress and burnout amongst their staff. This statistic has changed little over the previous four years and should underline the seriousness of this issue.

Managing the shortfall

Cancer centres are turning to costly alternatives to provide the necessary level of care. 87% of Heads of Service reported using insourcing (ie paid overtime) to manage workforce shortfalls. 87% reported relying on staff goodwill (ie unpaid overtime). Insourcing entails significant extra expenses to the trust/health board, whilst both options risk exacerbating stress and burnout. 67% reported using locums to manage shortfalls (see page 10). No cancer centre in 2024 reported using networking (ie collaborative working with neighbouring cancer centres).

The prevalence of most of these shortfall management measures were little changed since 2023, aside from skill mix (which fell from 75% to 68% – see page 29). This suggests that cancer centres have already done what they can in this regard, or else their consultants have little clinical leadership to pursue further efforts in this area.

PROPORTION OF CANCER CENTRES USING SHORTFALL MANAGEMENT METHODS, 2024

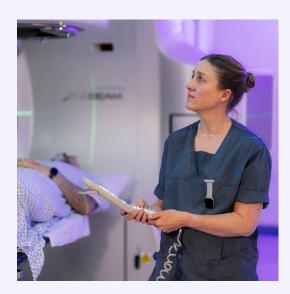


Retention: what needs to happen?

Workforce shortfalls instigate a vicious cycle. With fewer staff to provide care, remaining staff take on more work, increasing the likelihood of stress or burnout. This could mean they reduce their hours or leave the workforce, thereby causing the workforce shortfall to further increase.

Poor retention has consequences for patients. High staff turnover puts at risk effective team working and communication, which is not conducive to optimal patient care.

Workforce growth will not benefit patients unless the NHS tackles the drivers of attrition. Measures to improve staff wellbeing and morale are essential.



Challenge 02

Tackling the drivers of workforce attrition and boosting retention

Recommendations

Trusts/health boards must create working environments that support oncologists to feel valued, remain in the NHS, and work to the best of their ability. These would feature supportive leadership, greater staff autonomy, and a strong culture of teamwork.

Trusts/health boards should ensure basic staff support and wellbeing measures are in place, including but not limited to adequate break times, the ability to book leave, access to staff rest areas, access to food and drink, adequate transport and parking facilities, modern efficient and effective computer hardware and software which meets professional standards, and administrative and clerical support.

Trusts/health boards should ensure all doctors, including SAS doctors and those working LTFT, have sufficient SPAs protected in their job plans for their work in delivering training, clinical leadership, audit and service improvement, CPD and revalidation. The number of SPAs must realistically reflect individuals' roles and responsibilities. Workforce planning should reflect this, and should be reviewed regularly.

Hospitals should conduct exit interviews with all doctors leaving the NHS to understand their reasons for departure. They should also collect structured feedback on doctors' reasons for reducing their working hours. This data should be compiled nationally and used to inform workforce planning and policies to boost retention.

The NHS in each nation must ensure that their long-term workforce planning includes actions to preserve site specialty expertise of common cancers, so that patients in all regions can access the care they need quickly and easily. In England, this should be reflected in the upcoming National Cancer Plan.

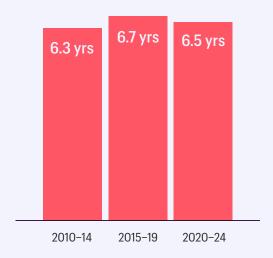
2024

Workforce Census

Challenge 03

Expanding capacity to train the oncology workforce

MEDIAN AVERAGE LENGTH OF CO TRAINING OVER TIME



Clinical oncology training

The number of resident doctors in CO specialty training has risen to 582 people across the UK (up from 547 in 2023). As of 2024, residents comprise 32% of the CO workforce.

Since 2019, the number of individuals starting CO specialty training has increased by 50%. The average annual increase in resident oncologist headcount over past five years is 4.7%. The largest average increase is seen in North West England (14.9%), whereas the West Midlands has seen zero growth in this time, and Northern Ireland's resident oncologist cohort has shrunk by 10.4%.

However, CO specialty training takes an average of seven years, so patients will not see the benefit of this increased cohort of trainees until 2028 or after. In the meantime, services will continue to struggle.

Time to train

The time taken to complete CO specialty training continues to rise. The median average length of CO training in the period 2010–14 was 6.3 years; in 2015–19 it was 6.7 years; and in 2020–24 it was 6.5 years. Drivers of this trend include a greater prevalence of LTFT working (see page 17) and people taking 'out of programme activities' (OOPA) to conduct research or take up Fellowships.

More residents working LTFT means that funding is absorbed that could otherwise go towards an additional resident. It also means that less clinical work can take place, because 50% of the time spent in CO specialty training is patient-facing work.

LTFT working is a legitimate option for many doctors. It is also important to recognise the value of research conducted during OOPA to services and to patients. LTFT working should not be seen as a problem. ather, the problem is the challenging working conditions that are driving more staff to reduce their hours. Processes and systems need to catch up with the increasing prevalence of LTFT; the 'capacity loss' from LTFT and the time required for OOPA should be factored into workforce planning and oncology specialty training.



There is a desperate need to create new posts, including consultants, specialist doctors, non-medical prescribers and specialist radiographers.

Clinical oncology fill rates

There are longstanding challenges in attracting doctors to clinical oncology training across the UK. This is observed in the fill rate for CO training posts, which in the UK (excluding Northern Ireland) was 71% in 2024 (equivalent to 113 starters). Xii Had 100% of the posts been filled, we estimate there would be an additional 36 WTE consultants in seven years' time (accounting for attrition and LTFT working). This is equivalent to 19% of the CO consultant shortfall in England, Scotland and Wales.

There is also significant regional variation in fill rates. In some areas, such as London and Manchester, they are 100%. In contrast, the West Midlands has a fill rate of 19%. These regions correlate to those with the fewest oncologists per 100,000 older population (see page 8).

There are several reasons why fill rates are relatively low. A lack of exposure to the specialty at medical school and during foundation training is a major factor. Individuals may be discouraged by the perception that many patients have a poor prognosis, particularly if their only exposure to oncology has been ward-based, during IMT training.

This 2024 fill rate is an improvement on the 53% figure in 2023. This is likely due to an increase in the internal medicine training (IMT) cohort, alongside the hard work of clinical oncologists across the country to raise the profile of their specialty amongst medical students. Resources need to be committed to increasing recruitment and tackling the causes of low fill rates in those areas struggling to recruit.

Training capacity

Workforce shortfalls also limit capacity to deliver training to residents. Most CO training is clinic-based according to an apprenticeship-style model, so as clinics become busier, there is less time to train. Training is theoretically provided during consultant SPA time. Therefore, as consultant SPA time is eroded (see page 17), there is less time available for formal training. Furthermore, SPA time nominally protected in job plans is often used for direct clinical care, when pressures are acute.

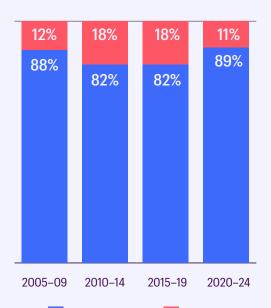
A lack of time to deliver specialty training imperils patient care and future workforce growth. Training capacity must increase to meet demand for training.

Training attrition

Attrition during CO specialty training has declined over the past five years and remains low. Wales has the lowest attrition rate during training, at 6% over the past five years.

Of the 89 doctors who left CO training over the last decade (2015–24), 6% appear as medical oncologists on the GMC specialist register. 78% of this cohort remained GMC registered and licensed; those not working as consultants in other specialties are likely working as SAS doctors.

TRAINEE COMPLETION AND ATTRITION RATES, PAST TWENTY YEARS



COMPLETED



Post-training attrition, i.e. those individuals who complete specialty training but do not take up a consultant post, is also low. Comparing census data to the GMC register shows that 91% of residents take up a CO consultant post within three years of CCT. Of those who left training over the past five years, only 8% are not GMC registered.

It is instructive to compare the attrition rates of UK trainees to those of internationally recruited consultants or locums (see page 16). Residents are likely to remain in the NHS for decades, delivering expert care, and should be seen as an investment in the service and in patients' health. It is crucial that the NHS invests properly in domestic specialty training.

Recruitment freezes: their effect on training

Recruitment freezes (see page 11) are also creating challenges for resident doctors.

74% of residents become consultants in the region in which they were trained. During training, residents may start families, obtain mortgages, and make other decisions that tie them to a particular place. Recruitment freezes in areas with significant consultant workforce shortfalls will mean those areas risk losing the people they have invested in training, and who wish to work there, which would exacerbate the existing challenges.

Delays in creating or offering consultant posts can also create problems. Residents can be left waiting for up to six months or more after completing training for a consultant vacancy in their area to be advertised, during which time they cannot do the work they have trained for. It also means that they are still technically counted as a 'resident' for the six months' post-training grace period, which prevents a new starter from beginning their training.

Training: what needs to happen?

Resident doctors are the future leaders of clinical teams. They will become senior consultants leading large, multidisciplinary teams and overseeing cancer care for many patients. Their training must be prioritised to ensure they have the clinical and leadership skills necessary to deliver expert, patient-centred care.^{xiii}

CO specialty training is already challenged by a low capacity to deliver formal training. But, as specialty training numbers increase, so too must training capacity. A mindset shift is required amongst NHS and government leadership, such that specialty training is understood as a worthwhile investment in an effective and productive oncology service.



[We are] unable to attract and employ our ex-trainees who wish to work with us. In a national shortage of oncologists, this is highly demoralising.



Challenge 03

Expanding capacity to train the oncology workforce

Recommendations

Medical schools across the UK should increase the training students receive in oncology to encourage more of them to consider the specialty, given its national importance. Hospitals must ensure that consultants delivering this training have protected training time in their job plans.

Statutory education bodies and local deaneries should likewise increase exposure to clinical oncology at foundation level and internal medicine training, respectively.

The NHS in each nation should explore the allocation of specialty training places by WTE numbers, rather than by headcount. This would enable any funding surplus from residents working LTFT to be reinvested in the provision of further training posts.

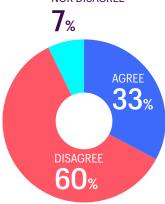
Trusts/health boards must ensure there is sufficient time in consultants' job plans to deliver training to junior staff. Those consultants who wish to dedicate more time to teaching and training should be enabled and assisted to do so, wherever possible.

Where their skills and experience allow, staff groups including SAS and locally employed doctors, senior residents, and advanced health practitioners should be deployed enabled and encouraged to assist consultants in the delivery of specialty training. They will require time in their job plans to do this work.

Impacts of workforce shortfalls in oncology

DO YOU HAVE SUFFICIENT ONCOLOGISTS TO DELIVER SAFE AND EFFECTIVE PATIENT CARE?

NEITHER AGREE NOR DISAGREE



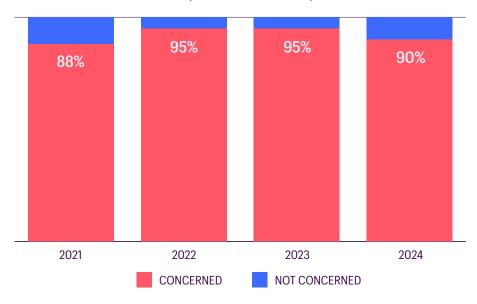
Safe delivery of cancer treatment is becoming increasingly impossible. There are no longer any designated oncology inpatient beds, as there are insufficient medical staff to cover [them].

Patient impact concerns

Heads of Service are concerned that workforce shortfalls are adversely affecting patient care. 60% said they do not have enough oncologists to deliver safe and effective care.

Similarly the overwhelming majority of Heads of Service are concerned that workforce shortfalls have deleterious effects on the ability to improve services (98% concerned), recruit patients to clinical trials (97% concerned), and manage backlogs or treatment delays (90% concerned). 73% of Heads of Service told us that they are concerned for patient safety.

BACKLOGS AND DELAYS CONCERN, CO HEADS OF SERVICE, PAST FOUR YEARS



In 2024, 92% of Heads of Service reported delays to patients receiving SACT; 93% reported delays to patients receiving radiotherapy. Radiotherapy delays were reported in every cancer centre in Wales, Scotland and Northern Ireland. Delays can be devastating to patient outcomes. Some patients are becoming too ill to have treatment in the period whilst they wait for that treatment to be delivered.

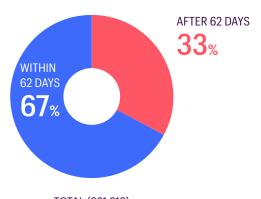


Particular tumour sites have long waiting lists to see new patients referred, with high risk of clinical deterioration or stage migration while waiting.



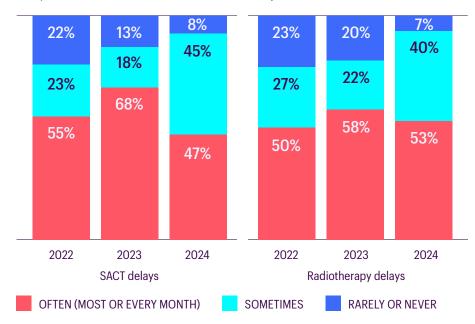
The delays in SACT have been most significant in terms of effect on patients (and staff). A multiple week wait for palliative treatment has sometimes led to deterioration to the point that treatment is no longer possible.

PROPORTION OF CANCER PATIENTS TREATED WITHIN 62 DAYS OF DECISION TO TREAT, 2024



TOTAL (321,219)

FREQUENCY OF RADIOTHERAPY AND SACT DELAYS, PAST THREE YEARS



Results for all these indicators are worse in small cancer centres. In large centres, 54% of Heads of Service are concerned about patient safety due to workforce shortfalls, compared with 93% of Heads of Service in small cancer centres.

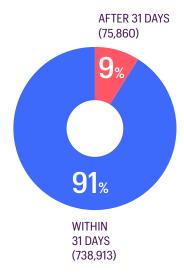
Survival rates and waiting times

Cancer survival rates continue to improve, despite the challenging environment. One-year, five-year, and ten-year survival rates across all cancers have increased since the mid-2000s. This is a testament to the dedication and commitment of clinicians delivering cancer care.

Throughout 2024, performance against the 62-day wait target (from referral to treatment) improved steadily over time. Across the year, 67% of patients were treated within 62 days, up from 63% in 2023. This is against an interim target of 70% by March 2025, and an ultimate target of 85%. Although this improvement is extremely welcome, the NHS nonetheless remains significantly far from meeting the target.

Furthermore, breaking these figures down by treatment modality reveals a more challenging picture. Just 64% of patients receiving SACT and 38% of patients receiving radiotherapy were treated within the 62 days in 2024. The figure for radiotherapy should be an urgent priority area for policymakers.

PROPORTION OF CANCER PATIENTS TREATED WITHIN 31 DAYS OF A DECISION TO TREAT, 2024



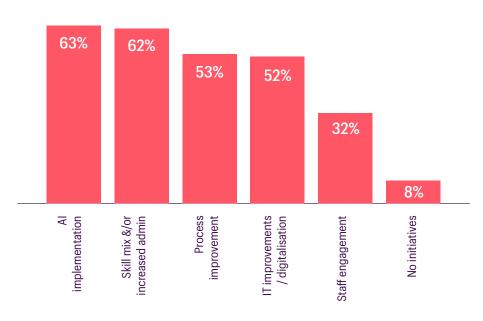
In 2024, 91% of patients were treated within 31 days from decision to treat, against a target of 96%, across all treatment modalities. This is a marginal increase on 89% in 2023. For radiotherapy, however, there has been little progress made against this target. Though a change in data format makes direct comparison challenging, 9% of patients in 2022 waited over 31 days to receive radiotherapy, compared to 11% in 2023 and 12% in 2024.

To keep up these gains and enable the NHS to achieve its ultimate performance targets further expansion of the oncology workforce is necessary.

Productivity improvements

Almost all (92%) cancer centres are actively directing energy and resource to increase productivity. Nearly two-thirds (63%) of centres have deployed Al tools within the past year; most of these are auto-contouring tools that speed up the radiotherapy contouring process. Other common initiatives include a greater use of skill mix, greater administrative support, and digitisation or IT projects. Fewer small cancer centres (73%) had the capacity to initiate productivity improvement projects than larger ones (93%).

PRODUCTIVITY INITIATIVES, UK CANCER CENTRES, 2024



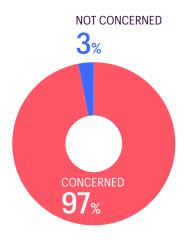
The impact of these initiatives varied significantly. Some Heads of Service reported benefits to AI auto-contouring, but others suggested it either had no effect or a negative effect on oncologists' time. A lack of funding, a lack of training, or poor integration with existing IT systems can all be factors in the failure of an AI tool to deliver the benefits hoped of it.xiv The RCR recently published guidance for clinicians to aid their decision-making when selecting, implementing, using and monitoring auto-contouring systems.xv

The NHS has committed to an annual productivity growth of 1.9% from 2025–26 to 2029–30.** Oncology services are actively trying to contribute to this effort. However, oncologists need more SPA time to analyse data and implement changes like AI to improve productivity.

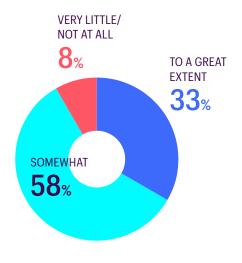


Al in radiotherapy has not been as helpful as anticipated. Caution by [the] physics team has slowed rollout [and] buying the cheapest solution has meant a large number of edits are needed, reducing productivity.

INSUFFICIENT TIME FOR CLINICAL LEADERSHIP CONCERN, CO HEADS OF SERVICE, 2024



USE OF SKILL MIX, UK CANCER CENTRES, 2024



97% of Heads of Service are concerned that the time available for clinical leadership is insufficient in their cancer centre. Clinical leadership is essential for productivity improvement projects, which require significant upfront investment in time, and profit immeasurably from clinical oversight. This problem must be addressed if the NHS is to adapt to the technologies and ways of working necessary for healthcare in the 21st century.

Skill mix

Skill mix involves understanding and balancing the multidisciplinary team's capabilities and matching these to local population need, to ensure the right skills are always available for patients. This helps to free up consultants' time to do the tasks that only they can do. 92% of cancer centres use skill mix to manage demand, but only 33% use it to a great extent. When exploring the use of skill mix, departments need to consider the consultant time required to supervise and upskill staff, such as nurses and therapeutic radiographers, and balance this against providing specialty training to resident doctors. This SPA time needs to be accommodated in their job plans.



[Workforce shortfalls] have put a massive strain [on us] and [are] eroding goodwill and morale. We are struggling with poor clinical admin support, so clinician time is spent correcting booking errors and gaps.

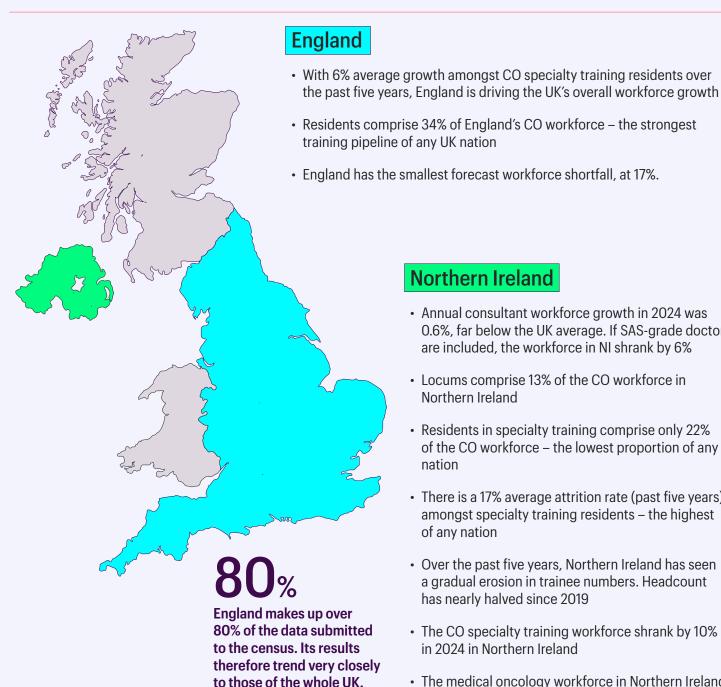


We have both consultant nurse and pharmacy staff helping with routine chemotherapy reviews. We have a consultant breast radiographer... and an excellent group of clinical nurse specialists. Fortunately, we work in a trust that emphasises a good work culture and staff engagement."

Workforce shortfalls continue to have a major impact on the NHS's ability to provide cancer care and improve patient outcomes. To accelerate progress on cancer waiting times and cancer survival, urgent action is needed to grow the oncology workforce, boost retention and remove obstacles to training.

The national picture

Oncology in England, Northern Ireland Scotland and Wales

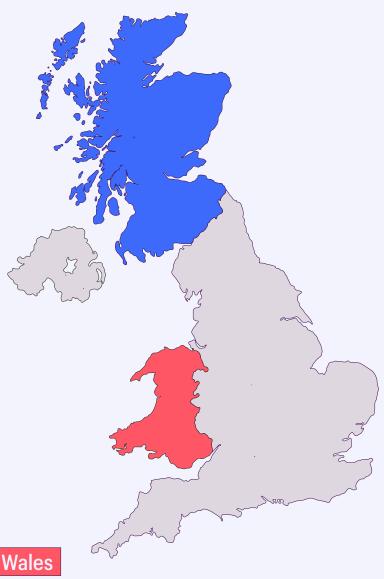


Northern Ireland

- · Annual consultant workforce growth in 2024 was 0.6%, far below the UK average. If SAS-grade doctors are included, the workforce in NI shrank by 6%
- · Locums comprise 13% of the CO workforce in Northern Ireland
- Residents in specialty training comprise only 22% of the CO workforce - the lowest proportion of any nation
- There is a 17% average attrition rate (past five years) amongst specialty training residents - the highest of any nation
- Over the past five years, Northern Ireland has seen a gradual erosion in trainee numbers. Headcount has nearly halved since 2019
- The CO specialty training workforce shrank by 10% in 2024 in Northern Ireland
- The medical oncology workforce in Northern Ireland grew by 74% in 2024, by far the highest rate in the UK
- · Both Northern Irish cancer centres had at least one vacancy that has been unfilled for 12+ months.

The national picture

Oncology in England, Northern Ireland Scotland and Wales



Scotland

- Scotland has a 31% forecast workforce shortfall by 2029 – the highest of the four nations
- Scotland's annual consultant workforce growth in 2024 was 1%, below the UK average
- · Scotland has the fewest CO consultants per 100,000 older population of any UK nation, with 6.1 per 100,000
- There is an 11% vacancy rate amongst CO consultants, the highest in the UK
- 22% of Scottish CO consultants are forecast to retire by 2029, above the UK average
- The Scottish CO specialty training programme has shrunk considerably over the past five years, with a 17% decrease over the past two years
- Nonetheless, residents comprise 28% of the Scottish CO workforce (down one point from 2023).
- There is a 14% five-year average attrition rate during specialty training, above the UK average
- · Scotland's SAS oncologists comprise just 4% of the CO workforce, about half the UK average.

- The proportion of the CO workforce comprised of locums grew by five times in the period 2021-23. Wales relies the most on locums, which comprise 19% of the consultant workforce
- · Residents in specialty training comprise 26% of the CO workforce, below the UK average
- LTFT working results in a 20% reduction in potential capacity in Wales, the most of any UK nation
- Wales has the most CO consultants forecast to retire by 2029, at 27%. Nearly half (47%) are expected to retire within ten years
- SAS doctors comprise 19% of Wales' CO workforce, the greatest proportion of anywhere in the UK.

References

- Cancer Research UK, "Cancer incidence by age".

 Available at: https://www.cancerresearchuk.org/health-professional/cancer-statistics/incidence/age (accessed March 2025)
- Data from the GMC specialist register (accessed April 2025).
- World Health Organisation "Health Workforce". Available at: https://www.who.int/health-topics/health-workforce#tab=tab 1 (Accessed March 2025)
- RCR (January 2025) Workforce Crisis: The extent of consultant hiring freezes in UK imaging and cancer departments.

 Available at: https://www.rcr.ac.uk/news-policy/policy-reports-initiatives/recruitment-freezes-in-uk-imaging-and-cancer-departments/
- VNHS England (4 February 2025) "Radiotherapy delivery in England". Available at: https://digital.nhs.uk/ndrs/data/data-outputs/cancer-data-hub/radiotherapy-delivery-in-england#:-:text=An%20episode%20is%20a%20continuous,in%20an%20episode%20of%20care. (accessed February 2025)
- Data from the National Cancer Registries and Analysis Service. NHS England (12 March 2024) "National Cancer Registries and Analysis Service".
 Available at: https://digital.nhs.uk/services/data-services-for-commissioners/datasets/national-cancer-registries-and-analysis-service-ncras (accessed February 2025).
- Vii Data from the SACT activity dashboard. NHS England (6 February 2025) "SACT activity dashboard".

 Available at: https://digital.nhs.uk/ndrs/data/data-outputs/cancer-data-hub/sact-activity (accessed February 2025)
- Viii UK Radiotherapy Board (May 2024) National costs and resource requirements of radiotherapy: costing estimate for England from the ESTRO-HERO project. Available at: https://www.rcr.ac.uk/news-policy/policy-reports-initiatives/recovering-radiotherapy-services-in-england/ (accessed March 2025)
- GMC (2024) Workforce Report 2023: The state of medical education and practice in the UK. Available at: https://www.gmc-uk.org/about/what-we-do-and-why/data-and-gesearch/the-state-of-medical-education-and-practice-in-the-uk-reports
- * RCR (2022) Clinical oncology job planning guidance for consultant and SAS doctors.
 Available at: https://www.rcr.ac.uk/our-services/all-our-publications/clinical-oncology-publications/clinical-oncology-job-planning-guidance-for-consultant-and-sas-doctors-2022/
- ** Cancer Research UK "Cancer incidence for common cancers".

 Available at: https://www.cancerresearchuk.org/health-professional/cancer-statistics/incidence/common-cancers-compared (accessed February 2025).
- RCR estimate as of March 2025, based on recruitment rounds 1-3, across which the RCR estimates 159 posts were offered. See also: NHS England (5 July 2024) "2024 Recruitment England Fill Rates Round 1 and Round 2". Available at: https://medical.hee.nhs.uk/medical-training-recruitment/medical-specialty-training/fill-rates/2024-fill-rates/2024-england-recruitment-fill-rates (accessed February 2025)
- xiii RCR (2024) Resident Doctors: Leaders of the Future. Available at: https://www.rcr.ac.uk/news-policy/policy-reports-initiatives/resident-doctors-leaders-of-the-future/
- xiv RCR (January 2024) Embracing AI to support the NHS in delivering early diagnoses: supplementary material to the report.

 Available at: https://www.rcr.ac.uk/news-policy/policy-reports-initiatives/embracing-ai-to-support-the-nhs-in-delivering-early-diagnoses/
- ** RCR (November 2024) Guidance on auto-contouring in radiotherapy.

 Available at: https://www.rcr.ac.uk/our-services/all-our-publications/clinical-oncology-publications/auto-contouring-in-radiotherapy/
- xii NHS England (16 May 2024) "NHS Productivity". Available at: https://www.england.nhs.uk/long-read/nhs-productivity/ (accessed February 2025).

The Royal College of Radiologists

63 Lincoln's Inn Fields London, WC2A 3JW, UK

The Royal College of Radiologists is a Charity registered with the Charity Commission No 211540.

+44 020 7405 1282

<u>enquiries@rcr.ac.uk</u> rcr.ac.uk

@RCRadiologists

