

Clinical oncology Scotland workforce census 2020 summary report

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Foreword

In challenging circumstances, clinical oncology (CO) consultants in Scotland have worked tremendously hard to keep radiotherapy and systemic anticancer treatment services running during the pandemic. Additional measures were implemented to keep staff and patients safe, however these also impacted the working hours, work patterns and in some cases the wellbeing of staff.

Although research was halted briefly at the start of the pandemic, it was resumed quickly and advances in radiotherapy and chemotherapy treatment continue.

The Scotland data from the 2020 clinical oncology workforce census show increasing staff shortages, which will impact the delivery of cancer services. The workforce shortfall is most acutely felt in the cancer centres outwith the central belt. Developing new patterns of working to attract and retain clinicians and provide better support to cancer teams by enhancing the roles of nursing and radiographer staff are being considered to improve the resilience of the workforce. Clinicians require this support to deliver more complex and better treatments, which are having a positive impact on the lives and outcomes of cancer patients.

The Scottish Government published its new cancer plan in December 2020, *Recovery and redesign: an action plan for cancer services*.¹ The plan focuses on cancer diagnostic centres, patient-centred care and ongoing commitment to cancer services, all of which requires an adequate and resilient workforce.

The pressures of the ongoing pandemic continue to impact staff availability, health and wellbeing. Therefore, there is a risk that the predicted staff shortage will worsen in the coming years. We need to plan for a caring and resilient workforce, now more than ever.

Dr Tom Roques

Medical Director, Professional Practice, Clinical Oncology

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Objectives

This report provides details of the oncology workforce situation in Scotland in 2020. It focuses on the estimated shortfall of clinical oncology (CO) consultants and workforce forecasts over the next five years. This report supplements the *Clinical oncology UK workforce census 2020 report*;² please refer to the UK report for UK-wide oncology trends and information such as census questions, methodology and timings.

1. Context – COVID-19 pandemic

The COVID-19 pandemic has presented many challenges for cancer services. Across the UK, fewer people sought appointments with their general practitioners (GP) during the pandemic, including those with possible cancer symptoms.³ In addition, people with cancer have waited longer for diagnoses and some treatments needed to be delivered in different ways; other treatment was paused on the grounds of clinical safety; and there has been significant disruption to follow-up care.⁴ As cancer referrals return to pre-pandemic levels, estimates indicate that there are around 3,500 undiagnosed 'missing' people with cancer in Scotland.⁵ Urgent investment in the cancer workforce is needed to tackle waiting times and to share best practice and implement new treatments and techniques in every cancer centre.

2. The oncology workforce in Scotland in 2020

CO consultants lead and participate in teams with nurses, radiographers, physicists, pharmacists and other allied health professionals. These multidisciplinary teams assess and treat cancer using various therapies and interventions, including radiotherapy, systemic anticancer therapy (SACT) and immunotherapy.

Table 1 shows that the five cancer centres in Scotland employed 147 consultant-grade oncologists in 2020. This number includes NHS, academic and mixed NHS/academic posts.

Table 1. Clinical and medical oncology workforce (headcount) – Scotland, 2020

| | Clinical oncology | Medical oncology* | Oncology total |
|--------------------------|-------------------|-------------------|----------------|
| Consultant grade | 89 | 58 | 147 |
| Higher specialty trainee | 43 | Not known | Not known |
| SAS grade** | 2 | Not known | Not known |

*Medical oncologists are physicians who specialise in the administration of systemic therapies but not radiotherapy.

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

The ratio of CO consultants to medical oncology (MO) consultants in Scotland is very similar to the UK as a whole, with approximately two CO consultants employed for every MO consultant.

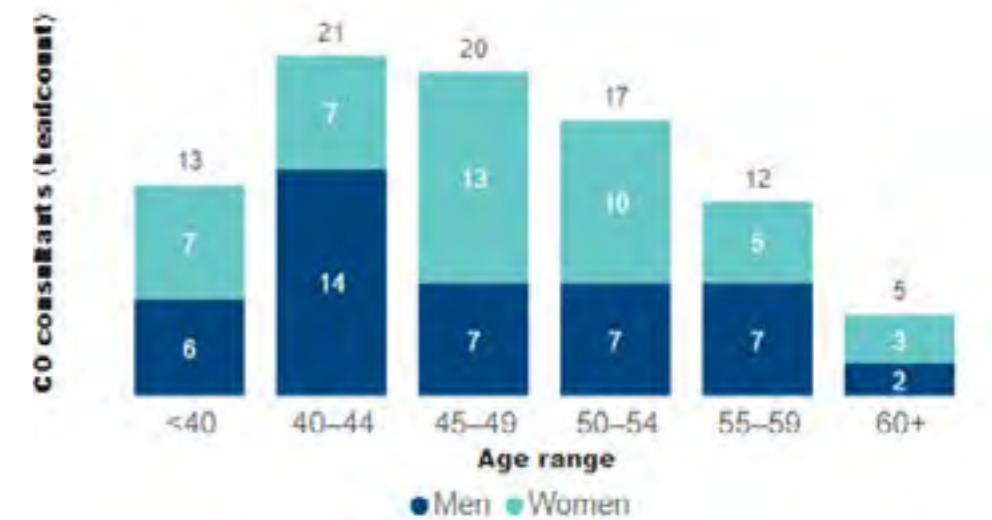
Higher specialty trainees in Scotland comprise one-third (33%) of the clinical oncology workforce, on a par with the trainee ratio across the UK as a whole (32%).

Within the UK, Scotland has the fewest SAS-grade oncologists.

Demographics

Figure 1 illustrates the distribution of the CO consultant workforce in Scotland by age and gender. There is a relatively even split between women (51%) and men (49%). The median age of the CO consultant workforce in Scotland is 46 years.

Figure 1. Clinical oncology consultants by age and gender – Scotland, 2020



Based on the UK CO consultant median retirement age of 60 years, 18% of the CO consultant workforce in Scotland (n=15 WTE) are forecast to retire by 2025. This is comparable to the UK retirement forecast of 19% within the next five years.

CO consultant workforce: five-year trend

The total of 89 CO consultants in Scotland equates to 83 whole-time equivalents (WTEs). Figure 2 illustrates the CO consultant workforce growth in Scotland of 22 WTEs over the past five years. The CO consultant workforce grew by 1% (one WTE consultant) during the past year; this is much slower than the 6% average annual growth seen over the past five years.

Figure 2. Clinical oncology consultants (whole-time equivalent) – Scotland, five-year trend (2015–2020)



Raigmore data are not visible in Figure 2. The numbers of CO consultants over the past five years are: 2.5 WTEs (2015), 3.8 WTEs (2016), 4.0 WTEs (2017), 4.3 WTEs (2018), 4.4 WTEs (2019) and 4.4 WTEs (2020).

Workforce growth has varied significantly across the five cancer centres in Scotland. While the workforce at the Beatson (West of Scotland) has grown by 15 CO consultants (WTEs) over the past five years, Ninewells Hospital (Dundee, East of Scotland) has seen its CO consultant workforce shrink by three (WTEs).

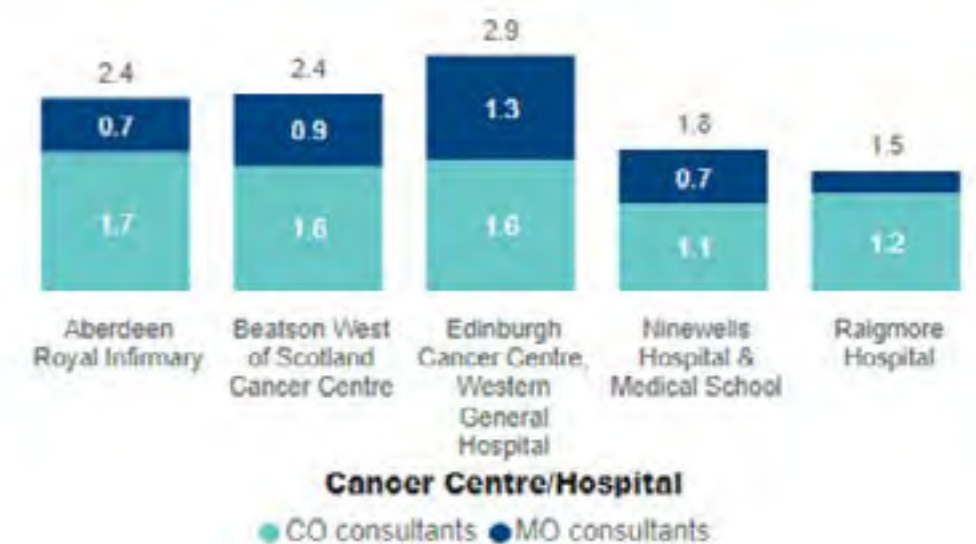
Cancer incidence rises with age. Nine-in-ten cancers occur in the 'older' population aged 50+.⁶ There is significant regional variation in the distribution of consultants (CO and MO) relative to the 'older' population across Scotland. Figure 3 shows that South East Scotland (Edinburgh and Dundee cancer centres) have nine consultants per 100,000 'older' population (aged 50+). By contrast, the North of Scotland (Aberdeen and Raigmore cancer centres) has fewer than four.

Figure 3. Clinical and medical oncology consultants (whole-time equivalent) per 100,000 older population (50+) – Scotland regions, 2020⁷



Of the Scottish cancer centres, Edinburgh has the highest number of consultant oncologists (clinical and medical) per population and Raigmore hospital has the fewest. This is shown in Figure 4.

Figure 4. Clinical and medical oncology consultants (whole-time equivalent) per 100,000 total population – Scotland regions, 2020



Predominant workload of NHS CO consultants

2020 census data show that almost all CO consultants' (94%, n=73 WTE) workloads in Scotland involve prescribing SACT and radiotherapy to treat and manage people with cancer. Only 6% (n=5 WTE) of CO consultants in Scotland have a predominant radiotherapy workload. No CO consultants in Scotland have a primarily SACT workload. These data are illustrated in Figure 5.

Over the past five years, the proportion of CO consultants (WTE) in Scotland with a predominant radiotherapy workload has decreased from 9% to 6%. This trend is opposite to that seen across the UK as a whole, where the proportion of CO consultants (WTE) with a predominant radiotherapy workload has increased from 11% to 18%.

Figure 5. Predominant workload of clinical oncology consultants (whole-time equivalent) – UK, five-year trend (2015–2020)



Programmed activities (PAs)

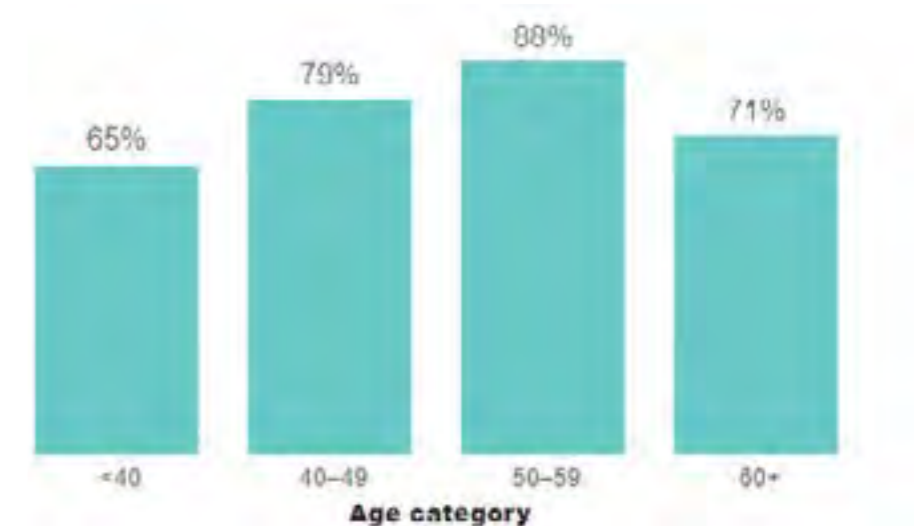
The RCR census collects data on CO consultants' contracted PAs to monitor trends and variance from professional guidelines. It does not collect data on unpaid work in addition to contracted PAs.

The RCR recommends that a job plan for a full-time CO consultant should include 2.5 supporting professional activities PAs.⁸ Less than full-time CO consultants should have a minimum of 1.5 SPAs.⁹

CO consultants in Scotland have, on average, 79% of the recommended SPA time. More concerning, new CO consultants under the age of 40 only have two-thirds of the recommended SPA time in their job plans. This is shown in Figure 6.

In addition to the difficulty of undertaking SPA activities within compressed time frames, job plans with insufficient SPA time are unlikely to be attractive to potential applicants. Furthermore, consultants with insufficient SPA time may be inclined to retire early, thereby exacerbating workforce shortages and the loss of expertise.

Figure 6. NHS clinical oncology consultants' supporting professional activities time as a proportion of the recommended level – Scotland, 2020



**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.*

3. Less than full-time (LTFT) working

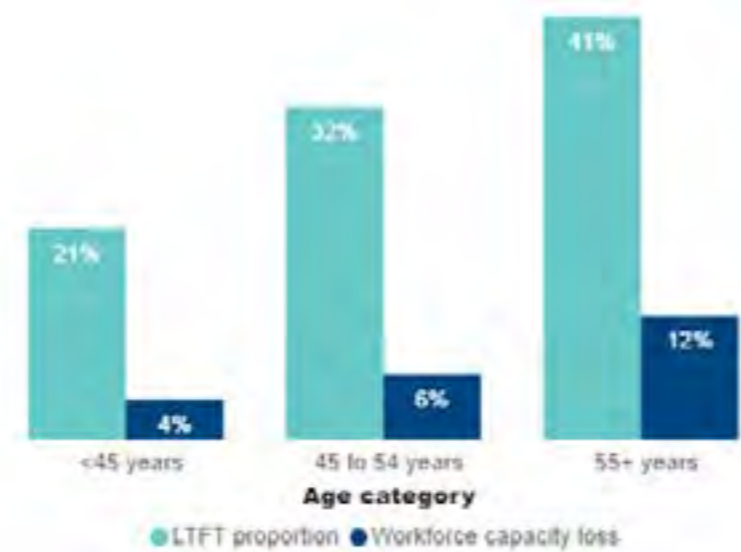
LTFT is defined as working fewer than ten contracted PAs per week, equivalent to a 40-hour working week. LTFT and flexible working can play an essential part in workforce wellbeing and retention; UK census data show that full-time CO consultants retire on average three years earlier than their LTFT counterparts.

LTFT working has become steadily more common among CO consultants in Scotland over the past five years. The most significant shift towards LTFT working is seen in those approaching retirement age (the 55+ age group). As illustrated in Figure 7, in the 55+ age group, four-in-ten (41%) CO consultants in Scotland work LTFT. By contrast, only two-in-ten (21%) CO consultants aged 44 or younger work LTFT.

In 2020, the workforce capacity reduction due to LTFT working in Scotland equated to six CO consultants (WTE) or 6% of the workforce. That is to say, an additional six CO consultants (WTE) are required to support current levels of LTFT working.

As illustrated in Figure 7, LTFT working resulted in a workforce capacity loss of 12% in the 55+ age group. By contrast the workforce capacity loss due to LTFT working in the age 44 or younger age group is 4%. LTFT CO consultants in the 55+ age group tend to work fewer contracted hours than their younger LTFT colleagues (26 hours per week on average compared to 32 hours per week).

Figure 7. Proportion of clinical oncology consultants working less than full-time and the associated workforce capacity loss – by age category, Scotland, 2020



The NHS should ensure the availability of, and support for, flexible career options to maximise staff wellbeing and staff retention. In addition, workforce planning should factor in the increasing demand for LTFT working. Such measures will help to ensure the long-term viability of the workforce.

4. Vacancies and recruitment

Six funded CO consultant vacancies were reported in Scotland in October 2020, equating to a vacancy rate of 6%. This is lower than the UK vacancy rate of 8%. Two of the vacancies in Scotland remained unfilled for over a year, despite recruitment attempts, indicating significant recruitment challenges. Figure 8 shows vacancy trends in Scotland over the past five years.

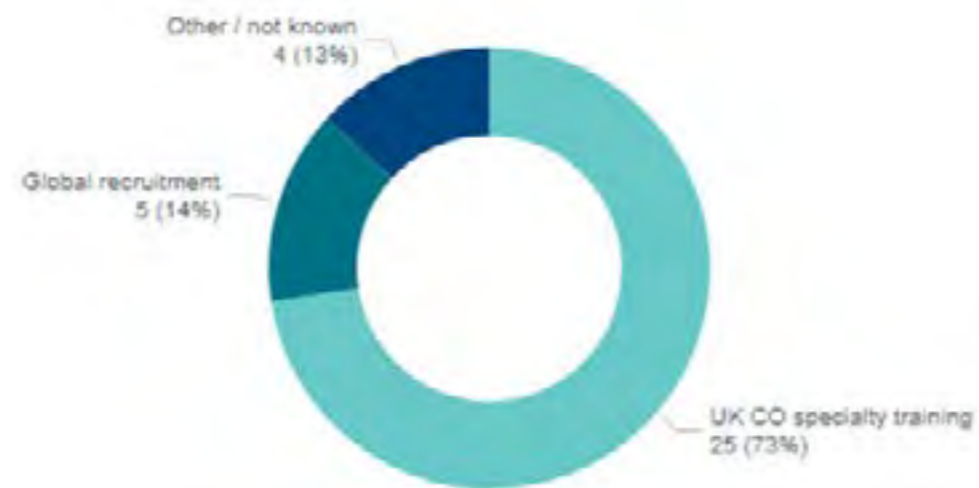
Figure 8. Number and length of clinical oncology consultant vacancies – Scotland, five-year trend (2015–2020)



Census data show that five CO consultants (WTE) were recruited to the workforce in Scotland over the past year (to October 2020). This is on a par with the five-year average, indicating that there was some success with recruitment activities. Nonetheless, the significant challenges to filling roles remain.

Figure 9 shows the source of newly appointed CO consultants in Scotland over the past five years. Approximately three-quarters (73%, n=25) came from UK clinical oncology specialty training. Overseas specialist training in oncology tends to be split into radiation oncology and systemic therapy, unlike UK clinical oncology specialist training, which covers both aspects of non-surgical oncology. This difference makes it particularly challenging to fill UK CO consultant posts with candidates trained overseas.

Figure 9. Source of newly appointed clinical oncology consultants – Scotland, past five years (2016–2020)



Global recruitment refers to doctors who undertook their primary medical qualification outside the UK and have not undertaken UK specialty training. The other/not known group includes older CO consultants returning to practice after taking time out and those whose General Medical Council number is not known.

5. Estimated shortfall of consultant clinical oncologists in Scotland in 2020

The need for cancer services and the demand for CO and MO consultants have risen over recent years as a result of:

- Increased numbers of people with cancer
- Technological advances increasing the number and complexity of treatment options available
- A growing and aging population with more complex care needs
- Patients' needs and expectations.

In addition to delivering more complex care needs to increasing numbers of patients, an adequate workforce is essential to ensure that CO consultants have time to keep abreast of the latest research, clinical guidelines and technological developments. They also need time to lead and support service developments such as process and quality improvements and embedding new technologies into practice, all of which improve the quality of care for people with cancer.

Census data indicate that the CO consultant workforce in Scotland is currently understaffed by a minimum of 14 WTE consultants, equal to a 15% shortfall. This estimate is based on the:

- Five vacancies (WTE) reported in 2020
- Nine additional consultants (WTE) required to cover the excess workload in 2020. Excess workload is defined here as exceeding ten PAs per week (equal to 40 hours). This compares to an estimated 17% CO consultant shortfall across the UK as a whole.

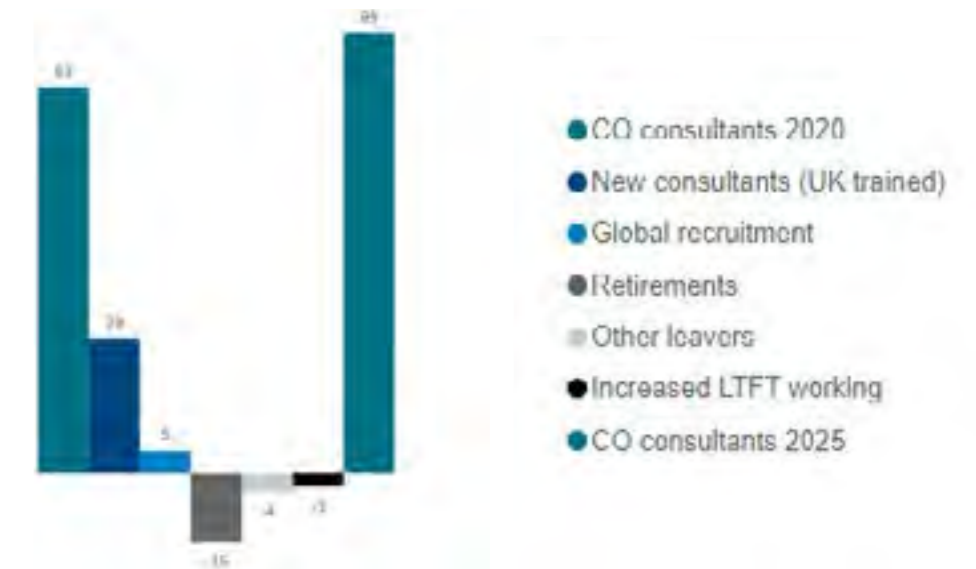
6. Workforce forecast illustrated – next five years

The primary inflows and outflows impacting the CO consultant workforce are new entrants from UK specialty training and global recruitment, set against attrition from retirements and other leavers. Workforce capacity is also affected, though often to a lesser extent, by LTFT working and staff absence.

Forecast supply of CO consultants – next five years (2020–2025)

Comprehensive data on CO consultant joiners, leavers and working patterns have been captured through RCR censuses and training data over the past ten years. Figure 10 illustrates the forecast CO consultant workforce (WTE) in Scotland in five years' time (2025) based on trends observed over the past five years. An estimated 95 CO consultants (WTE) will be in post in 2025.

Figure 10. Forecast supply of clinical oncology consultants (whole-time equivalent) – Scotland, next five years (2020–2025)



Workforce growth is forecast to slow down from the 6% per year growth seen over the past five years to 3% per year over the next five years. By region, the CO consultant workforce (WTE) is forecast to expand as follows:

- **North of Scotland:** forecast increase from 15 to 17 (equivalent to 3% per year)
- **South East Scotland:** forecast increase from 28 to 30 (equivalent to 1% per year)
- **South West Scotland:** forecast increase from 40 to 48 (equivalent to 4% per year)

Assumptions behind these forecasts:

- **UK specialist training:** Based on the UK average training time of seven years and one month and the UK average attrition rate (over the past five years) of 13%. Assumes 91% of doctors who have completed their training will take up CO consultant posts by 2025.
- **Global recruitment:** The forecast over the next five years assumes no change from the past five years.
- **Retirement:** Based on the UK CO consultant median retirement age of 60 years, 18% of the CO consultant workforce in Scotland (n=15 WTE) are forecast to retire by 2025.
- **Other leavers:** Assumes the UK annual attrition rate of 1% for other leavers (that is, all leavers excluding retirements) observed over the past five years remains unchanged.

7. Gap between supply and demand – five-year forecast

Census data show that the gap between supply and demand for CO consultants is forecast to widen over the next five years.

Forecast demand

Scenario A outlines the minimum expected workforce demand in 2025; and Scenario B outlines the workforce levels needed to accelerate improvements in patient care by 2025.

Scenario A: deliver a minimum standard of patient care. Estimated 3% rise in demand per year, based upon the increase in cancer prevalence.¹⁰

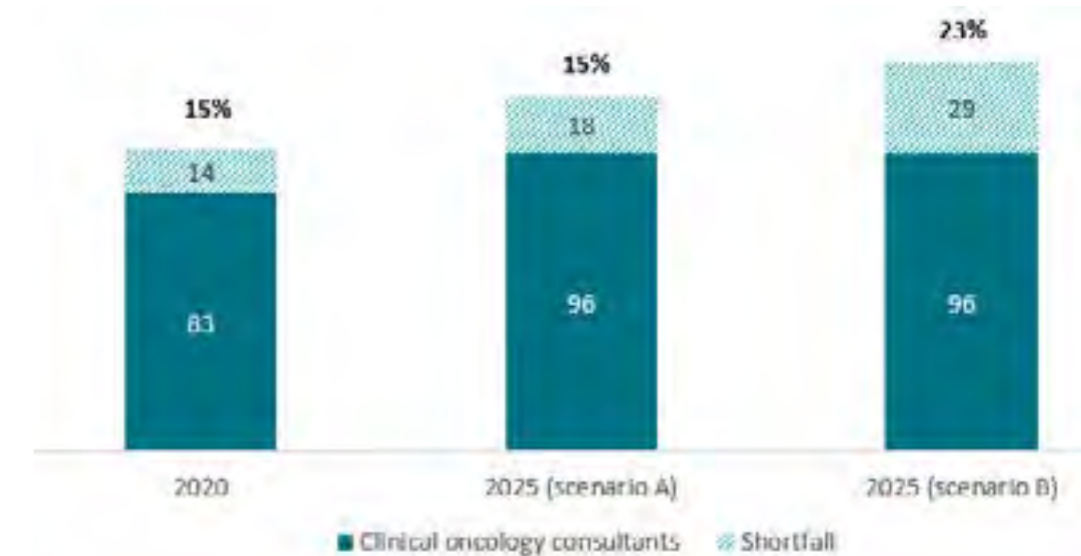
- 2025 forecast demand: 113 WTE CO consultants.
- 2025 forecast shortfall: 18 WTE CO consultants (equivalent to a 15% workforce shortage).

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

- 2025 forecast demand: 125 WTE CO consultants.
- 2025 forecast shortfall: 29 WTE CO consultants (equivalent to a 23% workforce shortage).

These two scenarios are illustrated in Figure 11, which provides a simplified illustration of the widening gap between the estimated supply of CO consultants and the demand for cancer services.

Figure 11. Clinical oncology consultants (whole-time equivalent), estimated supply and demand – Scotland, next five years (2020–2025)



8. Recommendations

In response to the findings in this report, the RCR recommends the following.

- Clinical oncology training numbers in Scotland should increase by seven places each year. Training places should be prioritised in the areas worst affected by workforce shortages due to the tendency for trainees to work in the region where they trained.
- NHS leaders should improve staff retention through consulting on, implementing and evaluating appropriate retention strategies. They should also ensure that flexibility in working patterns and opportunities to work LTFT are available to all NHS staff.
- Within the UK, Scotland has the fewest SAS-grade oncologists. Cancer centres should consider SAS-grade expansion as part of plans to grow the oncology workforce.
- Local and national health leaders must account for increased demand for LTFT working in all workforce planning and projections.
- NHS health boards should ensure increased capacity in job plans for service improvement and research for the benefit of patients.
- The Scottish Government should provide funding for better admin and information technology (IT) support to improve the efficiency and productivity of cancer services.
- Local and national health leaders should continue to facilitate skillmix, with sustained investment in training to support it.
- The Scottish Government must invest in ways to share best practice and implement new treatments and techniques in every cancer centre.
- NHS employing organisations should monitor the risks associated with doctors working excessive hours and take prompt mitigating action where risks are identified.

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