

Written evidence submitted by The Royal College of Radiologists (EPW0056)

The Royal College of Radiologists (RCR) is the professional membership body for doctors specialising in the fields of clinical radiology, including interventional radiology, and clinical oncology. We provide leadership to improve the standard of medical practice and training across both disciplines.

We engage with our Fellows, members and multiple clinical partners, combining the latest research with the development of guidelines to support clinical radiology and clinical oncology patient care. This enables us to effectively educate and support doctors throughout their career by providing practical guidance and supporting individuals and their clinical services to facilitate better patient outcomes.

Radiology is crucial to a functioning health service. We estimate that around 80% of hospital pathways involve imaging and its interpretation, making clinical radiologists central to the management of patients with cancer, heart disease, stroke amongst othersⁱ. More than one in three A&E patients have a scan before any other testⁱⁱ.

Clinical oncologists are responsible for delivering 50% of systemic anti-cancer treatments in the UK, including chemotherapy, immunotherapy and targeted treatments. These highly trained specialists therefore sit at the heart of cancer treatment.

It is estimated that 1 in 2 people in the UK will have cancer at some point in their livesⁱⁱⁱ, underlining the strategic importance of clinical oncology and interventional radiology. Interventional radiology increasingly plays crucial role in the treatment of a wide range of diseases, delivering minimally invasive treatments and improving the quality of life, if not saving lives.

Our 2021 Census

The RCR gathers workforce data annually through an online census completed by the Clinical Directors and Cancer Centre Heads of Service of every radiology and oncology department in the UK. The 2021 census achieved a 100% response rate. It provides a unique and authoritative snapshot of the state of the UK CO and CR workforce, the impact of shortages and the opinions of department leaders. The workforce data supplied below relates to our most recent census conducted in 2021 which is due to be published in June 2022.

Planning for the workforce

Relevant commitment:

- *Ensure that the NHS and social care system have the nurses, midwives, doctors, carers and other health professionals that it needs*

Was the commitment met overall or is the commitment on track to be met?

The RCR welcomed the Government's commitment to equip the NHS with the health professionals it needs to provide high quality care. There have been noticeable steps towards achieving those ambitions in recent years. For instance, HEE's update on 'Phase 1' highlights, both clinical radiology and clinical oncology training posts remain highly desirable and filled^{iv}.

However, since 2017, shortfalls in the workforce calculated from our census returns have shown a concerning gap between supply and demand. The Covid-19 pandemic has increased workforce pressures, but it is important to note that staff were stretched even before.

Due to the lack of a long-term sustainable funded workforce plan the commitment to expand the NHS workforce in line with need has not been met. Putting this in place would enable the NHS to build a robust, resilient workforce to meet demand.

Our most recent 2021 figures show the Government are still far from recruiting a full clinical radiology and oncology workforce that benefits patients, meets their current needs or future demand.

These workforce pressures are only going to be compounded by the fact that demand for radiology and oncology is estimated to increase annually by 4% and 3% respectively, as around 80% of hospital pathways rely on medical imaging and cancer becomes ever more prevalent^v. Without action it is unlikely that the Government will meet its commitments before the next election.

Consultant radiologists (CR)

The total number of UK whole-time equivalent (WTE) consultant radiologists has increased from 3,732 in 2019, when this election term began, to 4,127 in 2021^{vi}. However, annual increases have not been sufficient to keep up with demand. In 2021 there was a 29% shortfall¹ of CRs against demand: 1,669 consultants.

The 2021 UK vacancy rate² was high at 10% (436) of available CR posts. This vacancy rate has remained worryingly consistent over the years^{vii}.

Outsourcing to the independent sector continues to be used to fill gaps, along with insourcing and ad-hoc locums. UK expenditure on these resources has increased by 65% between the 2018-19 and 2020-21 financial years, from £108 million to £178 million^{viii}.

The 2020-21 expenditure is equivalent to the salaries of 1,876 CR consultants, a staggering figure equating to more than the entire CR workforce shortfall of 1,669 consultants. This demonstrates how the Government's commitment to expand the capacity of the NHS workforce to meet need has not been met.

¹ Three methods are used and averaged to increase the accuracy of the estimates:

Method A: Based on imaging volumes and IR provision

- As the devolved nations do not publish imaging volumes, figures for Northern Ireland, Scotland and Wales are based on England (diagnostic imaging dataset) volumes and adjusted for population size.

Method B: Based on population size

- The number of additional CR consultants required for 12.8 radiologists per 100,000 population (OECD average in 2015. More recent data has not been published)

Method C: Based on radiology expenditure

- Number of full-time CR consultant salaries that could be funded by radiology expenditure in FY 2020/21 (insourcing, outsourcing and ad-hoc locums)

² The vacancy rate is the percentage of WTE staff in post against planned workforce levels. Vacancy rate = $\frac{\text{WTE vacancies}}{\text{WTE vacancies} + \text{WTE staff in post}}$

Interventional radiologists (IR)

The total number of UK WTE IR consultants has increased from 666 in 2019 to 728 in 2021^x. However, we are concerned that the workforce growth is lagging behind demand. 2021 saw a 28% shortfall³ of interventional radiology consultants.

Consultant oncologists (CO)

The total number of UK WTE COs has increased from 868 in 2019 to 943 in 2021^x. This vacancy rate has remained worryingly consistent over the years. In 2021 there was a 17% shortfall⁴ of COs against demand: 186 consultants.

Local Trust level

In England, partial funding is allocated through central Government which enable training places to be offered. However, Trusts must fund the remaining 50% of the training cost, as well as make consultants available to deliver training. Many Trusts are under financial and service pressures and are not always able to accept the offer of training places, which restricts the ability to deliver the consultants the NHS needs. More support is needed for Trusts to be able to deliver upon training places as well as time for consultants to train.

Was the commitment effectively funded or resourced?

The RCR welcomed the 2020 and 2021 Spending Review commitments, which allocated funding for 110 additional clinical radiologist, 20 interventional radiologist and 50 oncologist training places for 2021 and 2022.

But recent boosts do not ensure improved levels of service in the future. RCR data shows less than full time (LTFT) clinical oncologists take an average seven years and one month to complete their training whilst full time (FT) clinical oncologists take an average of five years and six months. On average, clinical radiologists take an average five years and five months. Therefore, funding must be sustained if the NHS is to fill future workforce gaps.

Without sustained workforce investment in our specialties, the NHS is set to be short of 6,000 radiologists and 700 clinical oncologists by 2030 which will impact upon patient care^{xi}.

³ The shortfall is based on a minimum requirement of 6 IRs per Trust to staff a 24/7 rota. It excludes Trusts with formal daytime and out-of-hours network transfer arrangements

⁴ This estimate is based on the:

- 84 vacancies (WTE) reported in 2021
- 105 additional consultants (WTE) required to cover the excess workload in 2021. Excess workload is defined here as that which exceeds ten PAs per week (equal to 40 hours or 37.5 hours in Wales)

Without a long-term funding settlement, the NHS cannot plan, increasing reliance on outsourced and international staff to try meet demand – an inefficient, expensive and unsustainable use of funding.

Research by the RCR and WPI Economics shows that the NHS will need to spend £420m to provide service needs by 2030 if it is forced to continue plugging the UK's shortage of radiologists and clinical oncologists with expensive outsourcing and overseas recruitment, instead of investing in homegrown consultants^{xii}.

Investing in NHS consultant training would initially cost more, but by the end 2025 it would save £6m, growing to £420m in savings by 2030 and £610m by 2031^{xiii}. This money could be put back into new treatments and much-needed NHS equipment, facilities and other resources.

Did the commitment achieve a positive impact for patients and service users?

Years of underinvestment in the NHS workforce has had a negative impact on the care and outcomes patients receive. Increasing pressure on the workforce is impacting on the speed at which patients are treated, patient safety and the quality of care provided for patients.

Shortages in the NHS workforce are a significant barrier to improving outcomes for patients, so the recent workforce Spending Review funding was welcome. However, it is too soon for the impact of this funding to be evident, and staff shortfalls remain.

Our 2021 census revealed 81% of Clinical Directors cite concerns about patient safety in their Trust or Health Board, primarily due to ongoing workforce shortfalls.

Consultant radiologists (CR)

Shorter waiting times for imaging can lead to an earlier diagnosis, faster treatment, lower risk of complications, and improved patient outcomes. However, in our latest census an overwhelming 97% of Clinical Directors told us that they are concerned about the backlogs and delays patients are facing daily.

Taking England's waiting lists as an example, the figures paint a bleak picture, with the total number of patients waiting for a CT or MRI examination rising from 292,000 in 2016 to 462,000 in 2021 – a 58% increase. These increases reflect the impact of Covid-19 but also the underlying increase in demand.

Professor Sir Mike Richards advocated for CT scanning capacity to be expanded by 100% between 2020-25 in order to keep up with demand^{xiv}. We are already 2 years into that period and progress is incredibly slow.

Delays are negatively impacting on patient outcomes. For example, important cancer waiting time targets are being routinely missed. This is likely to be the tip of the iceberg, as the figures only capture cancer patients who had an urgent suspected cancer referral.

Our latest census reveals 63% of Clinical Directors believe they do not have sufficient clinical radiologists in their departments to be able to deliver safe and effective levels of patient care. This figure has increased from 58% of Clinical Directors in 2020.

Interventional radiologists (IR)

Interventional radiology is a pivotal service in the management of emergency patients as it improves patient outcomes, reduces the risk to patients, and their recovery time. However, our 2021 census found that 55% of Clinical Directors say they have insufficient interventional radiologists in their Trust/Health Board to deliver safe and effective patient care.

Half of Trusts and Health Boards did not provide adequate 24/7 interventional radiology services in 2021⁵. This means they neither operated a fully staffed 24/7 IR rota nor had formal networked arrangements in place to transfer patients to another hospital for crucial IR procedures.

A lack of 24/7 services means patients are potentially missing out on cutting-edge, lifesaving, minimally invasive procedures.

Clinical oncologists (CO)

In 2021 65% of Cancer Centre Heads of Service were concerned about workforce shortages affecting the quality of patient care. This has leapt from 52% in the previous year, showing an already bad situation is deteriorating further.

Our 2021 census found 88% of Cancer Centre Heads of Service say they are concerned about delayed treatment for patients at their centre.

The backlog of care from the pandemic has resulted in 50,000 patients missing cancer diagnosis and a 12% fall in radiotherapy treatment courses which are vital to cancer patients. Cancer targets have also routinely been missed.

Building a skilled workforce

Relevant commitments:

- *Help the million and more NHS clinicians and support staff develop the skills they need, and the NHS requires in the decades ahead*
- *1 billion of extra funding every year for more social care staff and better infrastructure, technology, and facilities*
- *We will go faster for community-based staff*

Was the commitment met overall or is the commitment on track to be met?

⁵ A 24/7 IR rota or formal networked transfer arrangements to transfer patients to another Trust for IR procedures (REF RCR guidelines). 24/7 rota with a minimum of six interventional radiologists.

We are pleased by the Government's clear and repeated commitment to upgrading and streamlining the NHS, evidenced by their investment workforce development, diagnostic capacity, infrastructure, and IT. But there are still vast improvements to be made.

Developing skills

Recent increases in training numbers to help more clinicians and support staff gain the skills they need have been welcome. However, training radiology and oncology consultants requires significant time from existing staff, which takes them away from their day job. Considering the workforce is already under immense pressure, this is a tall order.

For example, clinical oncologists are on average 25% short of the recommended time they need to do Supporting Professional Activities which are vital to keep doctors up to date and deliver skills and time needed to improve patient care in their setting.

Innovation is key to improving patient outcomes, speeding up or improving patients' experiences and increasing the effectiveness of pathways and treatments. Yet 97% of Clinical Directors told us that they do not have time for this vital work⁶.

Increases in the annual training places available for CR, IR and CO for 2021 and 2022 will hopefully alleviate this pressure. But the Government must invest in a long-term sustainable funded workforce plan to give consultants more time to develop their colleagues' skills.

Infrastructure, technology and facilities

Any diagnostic imaging equipment that is more than ten years old can be considered obsolete or inadequate and must be replaced. Yet previous industry surveys have shown one in ten CT scanners and nearly a third of MRI scanners in UK hospitals exceed this threshold and hence pose a risk to patients^{xv}.

The UK has fewer scanners than most comparable OECD countries: 8.8 CT scanners per million population compared to an OECD average of 25.9 and 7.4 MRI scanners per million population compared to an OECD average of 16.9^{xvi}.

Therefore, while the UK is more efficient in the use of imaging equipment, the shortfall against need demonstrates the Government's insufficient response to provide the NHS with the technology it needs.

Recent investment in radiotherapy equipment is welcome but there are still machines more than 5 years old, which are obsolete. Currently IT infrastructure does not fully support efficiency or patient safety. Digital imaging investigations cannot be easily shared between organisations, leading to significant delays in patient care and imaging studies being often repeated. This is wasteful of limited diagnostic capacity availability and potentially dangerous to patients as imaging studies often use radiation which can increase the subsequent risk of cancer development.

⁶ This work is factored into job plans through 'supporting professional activities' (SPA), these include clinical governance, revalidation, training, quality improvement and teaching and training.

Community-based staff

The RCR is wholly supportive of the Government's ambition to transform diagnostic services in England by investing in CDCs. We recognise the benefits they could bring about in providing a single point of access to a diagnostic pathway for all patients, making healthcare more accessible.

Minister of State, Edward Argar MP, recently stated it would require an additional 2,000 radiologists, 3,500 radiographers and approximately 500 advanced practitioners to undertake image reporting to support CDC expansion^{xvii}. However, ongoing staff shortages remain an obstacle to rolling out these new innovations locally.

There are significant regional variations in workforce shortages across the UK. For instance, our 2021 census found clinical oncology workforce shortages are highest in the East Midlands at 28%.

Investment in training places can help to level up all regions across the UK and ensure that the Government is on track to provide the NHS with the community-based staff it needs.

Another barrier to CDCs fulfilling their potential is IT connectivity. It is essential to provide the required IT connectivity for radiologists interpreting scans who may not be based in CDCs themselves.

Was the commitment effectively funded or resourced?

We estimate that within the next three years, 251 CT machines and 167 MRI machines will exceed the 10-year age limit and will need to be replaced through these machine upgrades. The cost of replacing these machines will be approximately £392.5m, based on a cost of £900,000 for one CT machine and £1,000,000 for an MRI machine.^{xviii}

Therefore, we welcomed the Government's 2021 Spending Review announcement of £2.3bn across the next three years to transform diagnostic services and create 100 new CDCs across England.

The 2021 Spending Review also pledged £2.1bn to improve NHS IT and digital connectivity, another welcome investment.

Did the commitment achieve a positive impact for patients and service users?

Infrastructure, technology and facilities

The Radiology 'Getting It Right First Time' report detailed the risks associated with old equipment, they conclude that old equipment is less reliable and more likely to break down, causing unnecessary delays for patients and impacting on the patient pathway^{xix}. Therefore, the commitment to invest in new technology, infrastructure and facilities is welcome.

In clinical oncology, seamless image transfer being the diagnosing Trust and the Cancer Centre is vital to support radiotherapy planning. Improved, effective IT connectivity is required across primary, secondary and community care to promote safe, streamlined patient care.

Community-based staff

As Professor Sir Mike Richards argued in his 2020 diagnostics report, CDCs can aid the rapid assessment of patients with cancer symptoms and help patients receive the treatment they need faster^{xx}. It is too soon to see the impact of CDCs on patient outcomes, but we expect to see patients receive the treatment they need faster providing these centres are sufficiently staffed.

Wellbeing at work

Relevant commitment:

- *Introduce new services for NHS employees to give them the support they need, including quicker access to mental health and musculoskeletal services.*

Was the commitment met overall or is the commitment on track to be met?

Many organisations have highlighted mental health and wellbeing issues in recent years and have put forward ways to support staff. Unfortunately, much of this work has been affected or halted by the pandemic, meaning that aside from isolated good examples, stress and burnout is not being sufficiently addressed.

98% of Clinical Directors and 100% of Cancer Centre Heads of Service say they are concerned about workforce morale, stress and burnout in their departments. This figure is one of the most alarming from our 2021 censuses.

Furthermore, a recent RCR member Insight Panel survey revealed 21% of respondents reported burnout causing anxiety, depression and exhaustion. It is clear burnout, caused by years of staff shortages and the toll taken by the pandemic, is damaging wellbeing at work.

Therefore, we believe the commitment to support the wellbeing of NHS employees is not being sufficiently met in the radiology and oncology workforce.

Was the commitment effectively funded or resourced?

In recent years, there has been insufficient long-term funding necessary to grow the radiology and oncology workforce, which has contributed to today's high levels of staff burnout. The recent workforce Spending Review funding is a step in the right direction to alleviate pressure, but it is too soon for the impact of this funding to be evident.

Did the commitment achieve a positive impact for patients and service users?

The failure to make adequate progress in meeting this commitment has had a negative impact on the care and outcomes patients receive. A recent RCR member Insight Panel survey revealed 5% of respondents were concerned about making mistakes at work, which could impact patient safety. We know that the impact of stress and fatigue has also been linked to decreased productivity, reduced staff retention and system failure^{xxi}.

References

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