Royal College of Radiologists: Representation to the Comprehensive Spending Review 2025

February 2025

About the RCR

- 1. The Royal College of Radiologists is the UK's professional membership body for clinical radiologists and clinical oncologists.
- 2. Clinical radiologists are specialist doctors who use medical imaging to diagnose, monitor and treat benign and malignant diseases and injuries. They are the backbone of the NHS, responsible for the vast majority of diagnoses made and the modern management of patients. Interventional radiologists, a subspecialty of clinical radiology, undertake minimally invasive and potentially life saving surgical treatments. Clinical oncologists are specialist doctors who are responsible for cancer management. They deliver cutting-edge treatments such as radiotherapy and systemic anti-cancer therapies, including chemotherapy.
- 3. The UK is experiencing the early stages of a boom in demand for healthcare. Analyses show that rates of ill health are set to increase drastically, driven both by increased prevalence of less healthy lifestyles and age-related sickness. The Health Foundation estimate that by 2040 the number of people in England living with major illness will increase by 37% but that the working age population will only increase by 4%. The number of diagnosed cases of cancer is set to increase by 31% over that time.ⁱ
- 4. This is a challenging context, with increased demand for care coinciding with fewer resources to deploy to provide that care. However, solutions exist: diagnosing illnesses earlier, highly targeted interventions, innovative technologies, and efficient ways of working.
- 5. We here set out some cost-effective investments in diagnostics and cancer services that would empower the NHS to achieve its ambitions of reducing waiting lists, boosting early detection and treatment of major conditions, and improving the health and wellbeing the nation.

Expanding workforce capacity

7. Workforce shortfalls are one of the greatest challenges facing the NHS. The NHS Long Term Workforce Plan was a promising step forward in terms of serious workforce planning and it was comforting to see recognition of the need to increase the number of doctors in the NHS. However, we have concerns that the proposed expansion of medical school places has not been matched by an equivalent rise in specialty training posts.

- 8. As such, we are calling for a renewed three-year expansion of specialty training posts programme. If the Government is serious about meeting its ambitions to bring down waiting lists and improve early cancer diagnosis, this programme should include posts for radiology and oncology.
- 9. Clinical Radiology

Policy	To expand diagnostic capacity and bring down diagnostic delays, the government should commit to 150 expansion posts in clinical radiology. £38 million should be provided to fully fund the first two years of these expansion posts.
Explan ation	The Autumn budget allocated £1.5bn to cutting waiting lists, including by investing in new diagnostic scanners and centres. While we welcome the Government's commitment to fund more scanners in the Budget, and extend capacity in Community Diagnostic Centres, a two-pronged approach is essential. To meaningfully bring down waiting lists, the workforce must be in place to report the increased level of scans we will begin to see.
	A major challenge facing radiology and the growth of the workforce is training post funding, and our power to persuade trusts to fund their 50% of a training post. For context, under current funding arrangements, NHS England centrally funds 50% of a training post, while the local trust funds the remaining 50%. We asked radiology leaders what barriers they faced when expanding training places; 82% said local funding was an issue for expanding places in their area.
	In both 2021 and 2022, NHS England introduced an expansion of 100 clinical radiology training places. However, despite the clear need, training programmes were only able to offer 84 of these posts. As a result, in 2023, NHS England reduced the number of expansion posts for 2024 recruitment to 75.
	We now need to return to a higher number of posts and ensure they are advertised to medical graduates. Radiology is a highly competitive specialty (over 11 applicants for every 1 position), so filling these posts would not be a challenge.
	The posts were unfilled, not because of a lack of demand, but rather because of a lack of financial resources on the part of NHSE trusts. Under current funding arrangements, NHS England centrally funds 50% of a training post, while the local trust funds the remaining 50%. We asked radiology leaders what barriers they faced when expanding training places; 82% said local funding was an issue for expanding places in their area. This means that the NHS is not training enough radiologists to meet rising demand.
	We are therefore proposing that the Government takes action to intervene by fully funding the first two years of 150 clinical radiology training expansion posts. As a short term, emergency measure, this should be

	repeated for three years to sustainably build the workforce. This represents a 50% uplift to the baseline number of places.		
Costin gs	Here is a full breakdown of the investment required to fund the first two years of these expansion posts:		
	Description	Cost	
	Radiology resident ST1-2 salary (Nodal point 3)	£49,909 ⁱⁱ	
	Estimated employer NI costs	£6,783 ⁱⁱⁱ	
	Estimated employer pension costs	£13,625 [™]	
	Placement fee	£13,337	
	Total cost per resident per annum	£83,654	
	Total cost per resident for two years	£167,308	
	Since NHS currently funds half of a training post	£83,654	
	already, the additional cost of funding two years per resident.		
	150 expansion posts to be 100% funded for two years.	£12,548,100	
	3-year investment to build the workforce and close the workforce shortfall	£37,644,300	
	Moreover, economic modelling undertaken by the RCR in 2025 found that an increase of 150 radiology training places and 45 clinical oncology training places would generate a savings of £270 million by 2035 . ^v Therefore, this policy would rapidly recoup its cost. After 10 years, 52% of the radiology workforce shortfall and 109% of the oncology workforce shortfall would be filled, were this investment made.		
Impact	Diagnostics, and particularly the radiology workforce, underpin every other specialty and are central to boosting productivity in the NHS. Radiologists hold the key to early diagnosis, enabling patients to start treatment more quickly and be eligible for less-intensive treatment options. In turn, this leads to better outcomes and shorter stays in hospital or secondary care settings. Investing in the radiology workforce is central to spotting illnesses earlier, one of the three shifts of the government's 10-year health plan.		

10. Clinical Oncology

Policy	The government should commit to 45 expansion posts for clinical oncology, as part of a renewed 3-year specialty training programme, to enable early and effective cancer treatment and
	empower the NHS to meet its cancer waiting times targets.
Explanation	Recognising poor performance against waiting times, particularly in
	radiotherapy, the Government have invested £70 million into Linac

	machines. While we welcome this investment, there is limited
	evidence to suggest this will help outcomes without additional staff to supervise care. Clinical oncologists are the only workforce group able to manage radiotherapy, as well as chemotherapy (SACT). Demand for both treatments is rising, for instance, chemotherapy delivery is rising by around 6% annually, compared to a 3.5% growth in the workforce in 2023.
	However, shortages in this workforce group are limiting the efficacy and timeliness of cancer treatment delivery. Across England, there is a 16% shortfall of clinical oncologists, equivalent to 159 doctors. Without investment in doctors, certain oncology departments may be forced to limit access to treatment, risking patient outcomes and reintroducing a postcode lottery of care.
	We are proposing that the Government to provide 45 expansion specialty training posts in clinical oncology, to work to close this shortfall. This represents a 50% uplift of the baseline number of specialty training posts.
	In the pervious Spending Review, we included a bid for a CO specialty recruitment campaign, which was aimed at boosting fill rates for CO specialty training places. It is our understanding that this policy has been accepted in principle. We have already seen some improvements to CO fill rates, based on actions taken by the RCR and local oncology training programmes. Were the recruitment campaign to be delivered, we are confident that fill rates could be boosted further, which would mean that these additional 45 places would be very likely to be filled.
Cost- effectiveness	Economic modelling undertaken by the RCR in 2025 found that an increase of 150 radiology training places and 45 clinical oncology training places would generate a savings of £270 million by 2035. ^v Therefore, this policy would rapidly recoup its cost. After 10 years, 52% of the radiology workforce shortfall and 109% of the oncology workforce shortfall would be filled, were this investment made.
	CO specialty training fill rates are highly variable across geographic lines. For instance, the fill rate is 100% in London in 2024, but only 19% in the West Midlands. This policy would offer the opportunity to redress some of this imbalance by targeting the provision of these expansion posts to those regions of England that most struggle to recruit.
Impact	Cancer is a national priority. 1 in 2 people will now get cancer in their lifetime and incidence has risen 19% in the last decade. As demand rises, the need to ensure we have enough oncologists to deliver life-saving cancer treatment grows greater.

In recent months, the NHS has come close to meeting its interim
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cancer waiting times target of 70% of patients starting treatment
within 62 days of an urgent referral. The 28-day faster diagnosis
standard is now continually being met. However, these
achievements have been made in the face of ongoing,
unprecedented pressures. If the NHS is to go beyond these interim
targets and meet its ultimate performance standards by the end of
this Parliament, then further action will be required. The best and
only way to ensure all cancer waiting times targets are met is to
invest in the oncology workforce – so that all cancer patients can
receive the care they need in good time.

11. Recruitment freezes

- a. To ensure these training posts translate into an increase in staffing levels, the Government needs to intervene to ensure that trusts are continuing to invest in their consultant workforce. According to our preliminary 2024 workforce census data, at least a fifth of NHS trusts are freezing the recruitment of their cancer or diagnostics workforce, risking patient care and outcomes.^{vi} This short-sighted approach circumvents the Government's ambitions to bring down diagnostic waiting lists, double the number of diagnostic scanners in the NHS, and increase early diagnosis of cancer.
- b. While this does not necessarily require financial intervention, we do believe that the Government should publicly communicate that: 1) all trusts should be required to develop a long-term plan for their cancer and diagnostics workforce, and 2) trusts who have been placed under funding freezes should be allowed to continue to invest in their cancer and diagnostics workforce.
- c. Failing to do so means that newly trained radiologists and oncologists without a consultant post would be forced to apply for locum jobs, move abroad or leave healthcare altogether. Shortfalls drive higher costs for the NHS, since demand must be managed through locums and outsourcing to private companies. Outsourcing is already widespread in radiology, with 99% of trusts unable to meet their reporting requirements on their own in 2023, resulting in a national outsourcing bill of £276 million. This amount could pay the salaries of 2,690 consultants.

iRefer Clinical Decision Support

12. Completing the rollout of iRefer Clinical Decision Support (CDS):

Policy	NHS England should be supported to complete the rollout of iRefer CDS
	to all Trusts, and should receive funding to expand the use of iRefer to
	A&E departments and across non-imaging diagnostic modalities, in

	order to further drive up productivity. iRefer will support the NHS to move from treatment to early diagnosis, and represents a chance to maximise the value of recent investments to digitise the NHS.
Explanation	iRefer CDS is a clinical decision support system and accompanying set of evidence-based clinical radiology referral guidelines whose aim is to help healthcare professionals determine the right imaging test to request for their patients, first time.
	 iRefer benefits both clinicians and patients by: Supporting rapid diagnosis by ensuring the most appropriate imaging test is requested and conducted at the right time Driving up productivity by eliminating unhelpful or repeat imaging investigations Promoting the best use of resources to avoid waste and support a sustainable service Promoting uniform and best care for patients Protecting patients from unnecessary ionising radiation.
	The iRefer CDS is being rolled out across the NHS, in both primary and secondary care settings, as part of DHSC's initiative to level up diagnostic capacity. iRefer is now used in 65 NHSE trusts via the integrated CDS; it is also available via the iRefer website (for which trusts purchase subscriptions).
	After the 2020 Spending Review, the NHS received £22 million to purchase iRefer licenses for all trusts for a period of three years. Across those trusts who have subsequently adopted iRefer we have seen an average reduction in inappropriate referrals of 10-15% through changed (6-8%) and cancelled (3-6%) imaging requests. This has led to cost avoidance savings of up to £330,000 per year in trusts using the iRefer tool.
	During that Spending Review, funding was allocated for three years' worth of iRefer subscriptions. The initial bid had requested five years' funding to allow for the lengthy and complex deployment stage. Deployment can take a year or more, with some organisations opting to phase in iRefer gradually (i.e. across just primary care first, or in some imaging modalities first.)
	Here we present a series of recommendations for the next phase of the iRefer project. If funded, these actions would enable iRefer coverage to expand to 100% of NHS Trusts and would further expand the productivity gains to be made by deploying the iRefer CDS.
	The RCR has worked in collaboration with NHS England's Digital Capability Programme to develop these recommendations. The NHSE Transformation Directorate is also making a submission to this Spending Review, which will include recommendations on iRefer; these are the same

	as our recommendations in this document, and the two should be understood as identical and supportive bids.
Costings	One: Extension of previous funding arrangements to allow the
obstilligs	remaining eligible Trusts to avail of iRefer.
	 The cost of a year's iRefer license, plus maintenance and support is
	£4.35 million for all remaining eligible Trusts.
	 The one-off cost of implementation is £4.3 million for all remaining
	eligible Trusts.
	 Therefore across five years, the total cost is 4.3 + (4.35*5) = £26.05
	million.
	 We would suggest adding a 15% contingency to this amount to
	account for associated costs to Trusts, such as third-party fees
	from suppliers, integrators, networks, and non-ICE integrations.
	iRefer cannot be deployed unless a suitable order comms
	platform, such as Clinisys, is first in place. Additional funding is
	needed if such a platform must be procured in addition to iRefer
	CDS.
	Two: Extension of existing iRefer subscriptions by two years
	• This extension would enable Trusts currently using iRefer to
	continue to do so for another two years, and thereby realise greater
	benefit in terms of cost avoidance, productivity and patient care.
	It would enable Trusts currently midway through deployment to
	finalise the process and begin to use iRefer in clinical practice. The
	RCR believes that these additional two years are important as part
	of the initial funding allocation, rather than as a move towards
	'business as usual' funding, because in some cases three years
	was insufficient to properly establish iRefer.
	The cost of renewing iRefer for all Trusts currently using it for two
	years would be £8.7 million .
	Three: Expansion of iRefer to all NHSE A&E departments to boost
	productivity by eliminating unnecessary, low-value CT scans
	 Analysis by NHS England has revealed a significant rise (48%) in the
	number of unscheduled diagnostics activity since 2019/20, of
	which the greatest component is unscheduled CT scans in urgency
	and emergency care. ^{vii}
	This is cutting into the expanded diagnostics capacity brought
	about following the 2021 Spending Review. Of the 1,309,000
	additional key tests performed in Q1/Q2 23/24 versus Q1/Q2
	19/20, 903,000 were unscheduled tests. Community Diagnostic
	Centres performed 443,000 elective tests, enabling acute trusts to
	cover the growth in unscheduled activity. In other words, only
	around half of CDC activity was additional, limiting its impact on
	the diagnostics waiting list.
	NHS England modelling suggests that if this trend continues, it will
	be challenging for the NHS to meet the March 2025 target for

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	achieving 95% of patients receive their diagnostic test within 6 weeks.
	• One response is to reduce the unwarranted use of CT imaging in A&E departments, to free up capacity for elective tests and high-value unscheduled tests.
	• NHS England found from pilot trials in Milton Keynes and the Princess Alexandra that the iRefer CDS led to the potential to cancel 3% and 2.7% of CT tests requested in A&E departments, respectively.
	 It is therefore recommended that iRefer CDS is rolled out to all A&E departments across England, at a cost of £9 million^{vii}. This would cover the 28 Trusts that have already implemented iRefer in primary care, but have yet to extend it to secondary care.
	Four: Expansion of iRefer to cover all diagnostics modalities
	 iRefer CDS is currently restricted to diagnostic imaging. However, there is the potential to expand it to cover all diagnostic modalities. Karen Stalbow of NHS England made a presentation to the Academy of Medical Royal Colleges in July 2024, which set out various options for optimising demand for diagnostics.^{viii} Central to the proposal was to support decision-making on test referrals by expanding the availability and domain of iRefer. The RCR is co-operating a pilot programme with the British Society of Echocardiography, in which iRefer will be expanded to cover echocardiogram tests. This is progressing well, with content format agreed and shared with the CDS providers. The aim is to establish a proof of concept for a wider project involving stakeholders for the other diagnostic modalities. As the RCR holds the relationships with MedCurrent and xWave, the managers of the iRefer CDS, and because the RCR has firsthand experience with deploying iRefer, it is proposed that the RCR would provide a project management function to expand
	 iRefer further to additional diagnostic modalities (pathology, lung function testing, audiology, endoscopy etc.). The RCR would provide a cohesive approach and act as a single point of contact with the CDS vendors. This would ensure high quality standards and consistency in deployment and application.
	 It is estimated that this project would take two years, at a cost of £1.3 million. This cost would enable the RCR to hire the expert staff and meet the administrative costs required to manage the project. We estimate two years would be required to agree the content format with the relevant stakeholders, work with the CDS vendors to integrate the information, and test the new modalities in iRefer.
Impact	iRefer is a highly effective tool for boosting appropriate imaging requests,
	delivering early and effective diagnoses for patients, reducing
	inappropriate radiation exposure, and unlocking genuine cost savings to

the NHS. It will directly enable the NHS to achieve the shift of moving from treatment to early detection/prevention. It is an investment which would enable the NHS to reap significant savings down the line.
By enabling the avoidance of inappropriate costs, iRefer allows trusts and GP practices to reduce waste and to redirect funds towards patient care and other improvement projects. This is essential, given the rise in demand for healthcare that is projected over the next few decades.
The NHS has invested considerable sums recently in bringing healthcare into the digital age, by laying down frameworks and infrastructure. iRefer CDS is a perfect example of where value can be added to this infrastructure, thereby maximising the return on investment of that bedrock. By bringing the entire country on board with iRefer and making use of the digital landscape already funded, there is a huge opportunity to maximise efficiencies, standardise care, and unlock huge cost savings to the NHS.

Building system capacity

13. The sheer scale of the increased demand the NHS will soon face creates an inescapable need to invest in its capacity. This means that further funding will be required to expand the NHS estate and its capital. There are also enormous opportunities to update existing capital to bring the NHS into the twenty-first century and set it on a sustainable footing for its next 75 years

14. Radiotherapy equipment:

Invest a further £75.3 million to complete the modernisation of all linear accelerators in NHS England to provide highly effective radiotherapy to patients and progress towards meeting cancer waiting times targets.
In the Autumn 2024 budget, the government allocated £70 million for the purchase of new radiotherapy machines for NHS England. These are to replace existing, outdated machines. ^{ix} There remains a need, however, to continue this replacement programme to the end of the spending review period (to 2031, for capital expenditure), as this initial funding allocation will not suffice to replace all outdated machines.
Radiotherapy is a highly effective curative and palliative cancer treatment which uses radiation to shrink or destroy cancer cells in the body. Linear accelerators (linacs) are units which deliver high-energy X- rays to the tumour. Many of NHS England's linac machines are over 10 years old, which is their standard recommended equipment lifespan. These machines are

	slower and deliver greater radiation doses than their modern equivalents,
Costings	 and so need to be replaced. The ESTRO-HERO report provides data with which to estimate the cost of replacing England's ageing supply of linacs (using 2017 data).^x There are 64 linacs aged 10+ years in the NHS in England, the point at which replacement is recommended (~19% of the total of 336 linacs). The unit cost of a linac is £1.731 million as of 2017. Adjusted to 2024 prices as per the Bank of England's inflation calculator gives a unit cost of £2.270 million (in December 2024). The £70m committed at the previous spending review is extremely welcome. However, at this unit cost, it will enable approximately 70/2.270 = 31 machines to be purchased. This leaves at least 32 machines in need of replacement.
	 This would entail a further investment of £75.3 million. This analysis does not include: More recent figures on the total number of linacs that are over 10 years of age and thus in need of replacement as of 2025 Linac maintenance costs, estimated at between 10% of the unit price per year per unit The purchase and maintenance costs of CT/MRI scanners, used in the radiotherapy planning process prior to radiation delivery Discounts obtained by bulk purchasing (as have been demonstrated in the past).^{xi}
Impact	In England in 2022-23, over 142,000 courses of radiotherapy were delivered to patients. ^{xii} Furthermore, it is estimated that 40-50% of cancer patients in the UK will require some radiotherapy during their treatment, despite observed utilisation rates in NHS England being below this, at 25-38%. ^{ix} Radiotherapy is highly cost-effective, and is in many cases the optimal treatment (depending on the patient's exact cancer). There is therefore a clear need for modern radiotherapy equipment. Investing in these machines would be a critical component in delivering
	 the three shifts in healthcare deliver that the government has identified – most notably in minimising the amount of time patients spend in hospital, and reducing the likelihood of cancer recurrence via earlier intervention after detection. It would also enable the government to meet its target of ensuring 92% of cancer patients are treated within 18 weeks. It is important that older linacs are replaced before additional, new linacs are purchased; older machines are less effective, delivering a greater radiation dose than is clinically necessary and doing so with lower accuracy than modern equivalents. The payoff of replacing these older machines with modern counterparts is therefore significant.

It is acknowledged that NHSE will establish criteria by which new linacs
will be allocated to trusts. ^{viii} The RCR would emphasise the need to
include within these criteria both current inequalities in access to
treatment and machines and the prevalence of cancer regionally.

ⁱ Watt, Raymond, Head, Kypridemos, Kelly, and Charlesworth *Health in 2040: Projected patterns of illness in England*. The Health Foundation; 2023. (<u>https://doi.org/10.37829/HF-2023-RC03</u>)

ⁱⁱ Based on proposed 2024-25 pay scale as per August pay offer to BMA - <u>https://www.bma.org.uk/bma-</u> media-centre/bma-to-put-pay-offer-to-junior-doctors-in-england.

^{III} Based on standard Employers National Insurance Contributions calculator

^{iv} Based on employer contributions of 23.7% of pensionable pay

⁻ https://www.nhsemployers.org/articles/nhs-pension-scheme-employer-contributions-april-2024

^v Internal, unpublished RCR data – available on request.

^{vi} RCR (January 2025), *Workforce crisis: The extent of consultant hiring freezes in UK imaging and cancer departments*. Available at: <u>https://www.rcr.ac.uk/news-policy/policy-reports-initiatives/recruitment-freezes-in-uk-imaging-and-cancer-departments/</u>

 ^{vii} NHS England (5 Dec 2023) 'Additionality and the impact of CT demand in UEC'. PowerPoint presentation.
 ^{viii} NHS England Diagnostics Transformation Programme (31 July 2024) 'Diagnostics 2030 Vision and Demand Optimisation – meeting with AoMRC'.

^{ix} Gwynne, A. (2025) Radiotherapy: Finance. *UK Parliament Written answer*, 7 January, UIN 21492. Available at: <u>https://questions-statements.parliament.uk/written-questions/detail/2024-12-19/21492</u>

^x UK Radiotherapy Board (May 2024) *National costs and resource requirements of radiotherapy: costing estimate for England from the ESTRO-HERO project.* Available at: <u>https://www.rcr.ac.uk/news-policy/policy-reports-initiatives/recovering-radiotherapy-services-in-england/</u>

^{xi} NHS Supply Chain (21 May 2019) "£130 million investment in radiotherapy equipment". Available at: <u>https://www.supplychain.nhs.uk/news-article/130-million-investment-in-radiotherapy-equipment/</u>

^{xii} NHS England, National Disease Registration Service, Radiotherapy delivery in England (30 May 2024). Available at: <u>https://digital.nhs.uk/ndrs/data/data-outputs/cancer-data-hub/radiotherapy-delivery-in-england</u>