**Executive Summary**

We are pleased that the Scottish Government has recognised the urgent need to prioritise radiotherapy, and we support the Scottish Government’s National Radiotherapy Plan for Scotland, however we urge that these measures are maintained and lengthened to ensure greater cancer care and delivery in Scotland. Specifically, we believe that there should be more attention and funding focused on reducing travel times to radiotherapy treatment centres (particularly for patients living in rural areas), increasing workforce and improving data collection.

We strongly feel that there are certain areas where additional focus and investment can yield substantial returns in the form of higher survival rates. In particular, we believe that the current situation, where patients in rural parts of the country are in some cases required to travel up to three hours to receive radiotherapy treatment, is unsustainable and necessitates urgent investment into the creation of new radiotherapy satellite hubs. We would also like to see more investment in the current and future radiotherapy workforce, including oncologists and medical physicists. Unfortunately, there are still treatment centres in Scotland lacking critical clinical staff and Scotland does not have an equivalent to England’s Higher Specialist Scientist Training (HSST) programme. To harness the full potential of the most recent technological and scientific advances in the field, funding for research is equally important. Radiotherapy has undergone a technological revolution in recent decades and patients can now be treated better and more effectively as a result of this. It is important to build on this progress. We further hope that clinicians can be empowered through data-gathering efforts and the establishment UK-wider cancer database. We would also advocate for further expansion of SABR, given the high incidence of lung cancer in Scotland.

**About Radiotherapy UK**

Radiotherapy UK is the only charity dedicated to improving radiotherapy treatment throughout the UK. We believe that everyone in the country – no matter who they are or where they live – should have access to the best radiotherapy treatment available.

Radiotherapy4Life is a campaign run by Radiotherapy UK to stop people dying and suffering needlessly by developing a world-class patient-first radiotherapy service in the UK to help boost the UK’s cancer survival rates to be the best in the developed world, rather than among the worst.

The [#CatchupWithCancerCampaign](https://www.radiotherapy4life.org/catchupwithcancer) was founded in July 2020 by Radiotherapy UK’s Radiotherapy4Life campaign in response to the grave concerns of patients and the public about the Covid-induced disruption to cancer services. It has been a focus of public and media discussions providing real time information and insight into the causes, scale, and effects of the disruption to cancer services in response to the Covid pandemic. The campaign has had the backing and support of a number of cancer charities, has nearly 400,000 engaged supporters with high profile celebrity support and the backing of over 100 parliamentarians. The campaign has been working with the All-Party Parliamentary Group (APPG) for Radiotherapy in the UK Parliament which in turn has been working with the APPG for Health and other APPGs related to cancer. In May 2021 the campaign supported these APPG produce a report following a cancer summit attended by APPG chairs, Royal Colleges, charities, and clinicians. [The Catch Up With Cancer Way Ahead](https://www.appgrt.co.uk/_files/ugd/b68571_a18ace5b95fa4c3fa3027456b5928faf.pdf) Document was contributed to by over 70 organisations from the cancer space. We also support the [APPGRT’s 6-point Covid-recovery plan](https://www.appgrt.co.uk/_files/ugd/4fcdc3_50d7f2b1bc5f4750a2f20fc81c70cdf7.pdf) to transform radiotherapy services.

The main problems in radiotherapy in Scotland that must be solved are:

1. **Not enough access to treatment:** International recommendations are thatradiotherapy should be given to 53-60% of cancer patients but according to CRUK figures only 27% of UK cancer patients receive it. This has disastrous consequences for patients. And because there is simply not enough radiotherapy available across the country, many patients in rural areas are unable to access it.
2. **Workforce**: To ensure the benefits of radiotherapy can be properly harnessed, more investment in the workforce is required. Radiotherapy relies on a well-trained workforce, however, radiotherapy workforce funding in Scotland has been sporadic. A more regular and predictable approach to funding is needed, both in terms of long-term workforce capacity and technical solutions which can unlock more capacity and give staff the tools they need.
3. **Access to latest technology:** There has been a technological revolution in radiotherapy in many other countries. Many relatively inexpensive connectivity technologies could allow clinicians to treat patients which would enable the expertise of top clinicians to be deployed anywhere.
4. **Bureaucracy:** Radiotherapy is held back by red tape that leads to underperformance, inefficiencies, and waste. There are perverse tariffs that mean even in centres that have more modern machines that can treat patients more quickly in fewer sessions, staff are not allowed to do so. Instead, they have to treat less effectively over more sessions as the current tariff generates income to the Trust based on the number of visits.

**The solution**

An overall increase in treatment capacity is needed. We welcome Scotland’s National Radiotherapy Plan and we want to ensure that this is maintained and strengthened.

1. **Expansion of capacity and access to radiotherapy.**
2. **Investment in the workforce to allow more patients to be treated. It is only by treating patients that we can improve survival and to do that we need investment in the cancer workforce.**
3. **An investment in the ‘off the shelf’ IT technology readily available to speed up and manage workflow, remote working and quality assurance, and peer review.**
4. **The removal of the bureaucracy and perverse tariffs in purchasing and putting improving patients’ care at the centre of decision making.**

**Vision, aims, principles, themes**

Earlier stage at diagnosis (aim b) and shorter time to treatment (aim c) only translate into higher survival rates (aim e) if the right treatment options are in place. This is where radiotherapy can play an important role. One in two cancer patients will require radiotherapy at some point in their cancer journey and radiotherapy plays a part in 40% of all cancer cures. We welcome the Scottish Government’s ongoing commitment to invest in radiotherapy by committing £45 million to a rolling programme of ring-fenced capital funding to replace ageing equipment and by funding the expansion of SABR for oligometastatic disease, and want to ensure that his replacement programme is protected and continues to be supported.

However, more could be done by investing in the current radiotherapy workforce, for example by employing more medical physicists and oncologists, as well as the future workforce, by introducing a Scottish version of the English Higher Specialist Scientist Training (HSST) programme. In addition, there should be a more concerted effort around data collection, such as by launching standardised data collection protocols and creating a UK-wide cancer database. Given the technology-centric nature of radiotherapy, funding for research is certain to pay dividends as new technological advances increase treatment effectiveness and survival rates. These benefits should be made accessible to patients regardless of where in Scotland they live by investing in more satellite radiotherapy centres. Currently, patients living in rural or islands areas have to travel up to three hours to receive life-saving treatment. This has a direct impact on access to this vital cancer treatment.

Further, lung cancer is particularly prevalent in Scotland and rightly features highly on the prevention agenda. However, more cases of lung cancer diagnosed early will require increased treatment capacity, particularly SABR and surgery. The provision of SABR needs to be expanded in line with expected demand. It is also important that the profile of radiotherapy is raised with patients.

**Timely access to care**

A focus on early diagnosis and shorter time to treatment should be complemented by investment into the appropriate treatment options. Early diagnosis and quicker treatment can make the difference between life and death if the right treatment options are in place for patients. Radiotherapy can play an important role in boosting survival rates particularly at the early stages of the cancer journey, as it is one of the most important treatments for treating and curing early-stage cancer.

There are currently five radiotherapy centres in Scotland. Due to Scotland being so sparsely populated, patients who live outside of the main urban areas often have to travel large distances to their nearest radiotherapy treatment centre. In some cases, patients may have to travel two to three hours to receive treatment. Investment in radiotherapy satellite centres in remote and rural areas is urgently needed to provide patients with access to care as close to where they live as possible. One of the points of the APPGRT’s 6-Point plan is to improve access to radiotherapy. Improving access to cancer services, no matter where you live, should be central in the Scotland Cancer Strategy.

The demand for radiotherapy treatment capacity is further increased by the COVID induced cancer backlog. Cancer experts warn the UK wide cancer backlog could be between 60,000 and 100,000 patients, with many of these undiagnosed and not within the cancer care pathway. Once these patients are diagnosed there will be a surge in demand for cancer treatments, around half of these patients will need radiotherapy. Radiotherapy is internationally recognised as the single most powerful weapon we have against the cancer backlog and future pandemics. It is highly COVID resilient, as an outpatient treatment, and can substitute for surgery to bring down wait lists. With the right investment and planning radiotherapy can be future proofed to ensure world class cancer care is available all across Scotland.

**High quality care**

To ensure the benefits of radiotherapy can be properly harnessed, more investment in the workforce is required. Radiotherapy relies on a well-trained workforce, including therapeutic radiographers, medical physicists, engineers and clinical oncologists, amongst others. However, radiotherapy workforce funding in Scotland has been sporadic. While there is no shortage of applicants to become clinical scientists, recruitment is limited by funded places and the difficulties of work-based training. While there is support for clinical technologists, this is limited and must be continued annually. There is also a need to expand the workforce of medical physicists, who are vital to the success of radiotherapy.

A more regular and predictable approach to funding is needed, both in terms of long-term workforce capacity and technical solutions which can unlock more capacity and give staff the tools they need. Some trusts, such as Tayside, are reporting a lack of clinical oncologists. There is also an oncologist shortage in Dundee – currently, there are no breast cancer clinical oncologists which means that breast cancer patients who are receiving radiotherapy are having to travel to Edinburgh, Glasgow and Aberdeen to receive radiotherapy treatments, which shows clearly how workforce shortages are affecting travel times and access to high-quality care.

In terms of MRI treatment, for example, while the capital has been agreed, we note that there is no revenue for staffing which is required by this new technology. To realise the full potential of this, both funding and recruitment for additional staff will need to be a focus. A funding route to support MRI treatment is critical.

In addition to that, to ensure workforce needs are covered in the longer term, radiotherapy would benefit from the introduction of a work-based training programme supported by a university, such as the Higher Specialist Scientists Training (HSST) programme. Such a programme is currently available to trainees in England but not in Scotland. As outlined above, radiotherapy relies on a well-trained and multidisciplinary workforce. We would suggest introducing a similar programme in Scotland to ensure newly trained specialists continuously enter the radiotherapy workforce and patients continue to receive the highest quality of care in the future. Increasing the radiotherapy workforce is one of the recommendations in the APPGRT’s 6-point plan. Across the UK, there is a 10-20% shortage of all three multidisciplinary professional groups. Recruitment is failing to keep pace with demand, and numbers are now on the verge of reaching crisis levels.

**Safe, effective treatments**

Radiotherapy is one of the safest and most effective cancer treatments. It is needed by half of all cancer patients and plays a rule in 40% of all cancer cures. Radiotherapy is also internationally recognised as the most COVID secure cancer treatment. It can substitute for surgery to bring down waiting lists and can be delivered safely in an outpatient setting. Investment in radiotherapy would therefore have the added benefit of future-proofing the cancer service from disruptions like the pandemic.

Outdated radiotherapy machines that are past their 10-year suggested life span frequently exhibit reliability issues and an inability to deliver modern precise radiotherapy. Replacing outdated and aging radiotherapy machines is therefore one of the key recommendations in the APPGRT’s 6-point plan, and we therefore strongly support the £45 million rolling programme of ring-fenced capital funding for radiotherapy equipment. This is exemplar and shows the Scottish Government have recognised the importance of modern radiotherapy equipment in the fight against cancer. Unfortunately, this programme is currently only funded until 2026/27. We hope that this can be extended further in time to ensure patients continue to be treated with modern and effective radiotherapy equipment in the long term.

**Quality of life**

As well as having curative applications, radiotherapy can also be employed as a palliative treatment method to relieve symptoms and slow down the growth of cancer. Unfortunately, there is little investment in palliative radiotherapy and the 2022 National Radiotherapy Plan for Scotland does not mention the palliative uses of radiotherapy at all. We feel this represents a missed opportunity as radiotherapy can be deployed to effectively control symptoms of advanced cancers and greatly improve a terminally ill patient’s quality of life.

**Data**

The right data can help clinicians understand what is working and provide better, more effective treatment. Data collection thus plays an important role. We would advocate for the introduction of a central cancer database with standardised data collection protocols covering all of the countries in the UK.

Radiotherapy is a highly technology-driven form of treatment. The APPGRT recommends investment in advanced IT and technology solutions, and to establish a ring-fenced innovation fund for networked advanced radiotherapy, IT and technical solutions. This would be best achieved by working with industry to allow the introduction of AI and machine learning. By virtue of its technology-centric nature it is constantly evolving with each new iteration improving the effectiveness of treatment and thus also survival rates. Allocating financial resources to supporting research and development within the field of radiotherapy should thus be a key focus of any cancer plan.

**Outcomes**

In terms of measurement to ensure that the goals for improving cancer care and outcomes are being achieved, there should a larger focus looking at the inequalities of cancer care, specifically radiotherapy treatment services, around Scotland. This should be measured in looking at travel time, and how to ensure that this is reduced. The 45-minute travel time to a patient’s nearest radiotherapy centre is a good way of assessing the gaps in provision across Scotland, particularly in more rural areas, and where needs more focus. Measuring travel time can ensure that cancer care is spread effectively and evenly and that everyone who needs it can access it.

**Earlier diagnosis vision**

Early diagnosis is often cited as the key to improving cancer outcomes but that only translates into better cancer outcomes if it is combined with the capacity to actually cure the patients. Simply put, increased diagnosis capacity needs to be matched with treatment capacity. And currently that capacity is massively lacking in vital areas like radiotherapy. Unless that is corrected, we will see no increase in the total number cured simply by diagnosing more patients earlier. Improvements to early diagnosis are welcomed, however, this will only translate into better cancer survival outcomes if these improvements in early diagnosis are matched with improvements into curative treatments, like radiotherapy.

Lung cancer is particularly prevalent in Scotland and rightly features highly on the prevention agenda. However, more early diagnosis of lung cancer will need more SABR treatment, as well as surgery. Whilst surgery is patient preference, the provision of SABR needs to be expanded in line with expected demand.

**Inequalities**

Scotland has just under 10% of the population of England yet is about two-thirds the size of England. People in some of the more sparsely populated areas of Scotland, such as the Highlands, often face difficulties accessing medical care close to where they live. Scotland currently has five radiotherapy centres. However, they tend to be clustered around urban areas. People who require radiotherapy but happen to live outside of the main urban agglomerations thus often have to travel up to three hours to receive life saving radiotherapy treatment. This situation could be remedied by funding the creation of more radiotherapy satellite centres for people living in rural or island communities.