

National Radiotherapy Plan for Scotland

**Improving Radiotherapy Services and
Patient Outcomes Across Scotland**

March 2022



Scottish Government
Riaghaltas na h-Alba
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Foreword



Cancer can affect anyone at any age and touches not only the person receiving the diagnosis, but also their friends and family. Swift and safe treatment is a vital step in a patient's care.

Radiotherapy plays a key role in our national cancer services, with approximately half of all cancer patients expected to receive radiotherapy treatment¹. After surgery, radiotherapy is the next most effective modality of cancer treatment and is given to 40% of all patients who are cured².

The Scottish Government is committed to providing a world class radiotherapy service, that is of high quality, safe and effective for people in Scotland, regardless of where they live. That is why in our National Cancer Plan: *Recovery and Redesign: An Action Plan for Cancer Services*, published on 09 December 2020, we have set out a range of commitments to improve Scotland's radiotherapy services even further. One of which was to develop a national plan for Scotland's radiotherapy service. We have set out with a view to not only curing more cancers but also reducing the late effects associated with treatment by increasing access to the most modern treatments.

This plan sets out our ambition to provide equitable, timely access across NHS Scotland to safe, efficient and effective, person-centred radiotherapy services. In addition, the plan will seek to drive progress and embed access to clinical research trials.

As the pandemic impacts NHS Scotland and it continues in a phase of service recovery and renewal, this plan has been developed with 13 key targeted actions to improve Scotland's radiotherapy services. This plan will set out the timeframe for these actions, working to March 2025, and set out the key milestones and completion date within this period. The actions set out will drive improvement and development of our services, and ensure that progress is reviewed and maintained beyond March 2025.

The plan is underpinned by the on-going investment as set out in our National Cancer Plan, including £45 million in our long established LINAC Procurement Programme to ensure the most up to date radiotherapy equipment is available across Scotland's cancer centres. The technical specification & evaluation sub-group will continue to oversee this investment and work in partnership with our Radiotherapy Programme Board. In addition, up to £1.2 million has been awarded to increase the availability of SABR for Oligometastatic Disease across all centres and additional funding on a range of radiotherapy services, including £200,000 to ensure

¹ The Royal College of Radiologists. (July 2021). *Clinical Oncology. UK workforce census report 2020*. Accessed: [Clinical oncology UK workforce census 2020 report \(rcr.ac.uk\)](https://www.rcr.ac.uk/clinical-oncology-uk-workforce-census-2020-report)

² Baskar, R., Lee, KA., Yeo, R. & Yoeh, KW. (2012). *Cancer and Radiation Therapy: Current Advances and Future Directions*. Accessed: [Cancer and Radiation Therapy: Current Advances and Future Directions \(nih.gov\)](https://pubmed.ncbi.nlm.nih.gov/22111111/)

radiologist input within regional multidisciplinary cancer team, and £81,000 to enable increased access to home working.

Developed in collaboration with the National Radiotherapy Programme Board, we have worked with key stakeholders across Scotland's five cancer centres in Glasgow, Edinburgh, Dundee, Inverness and Aberdeen to ensure targeted intervention where it is needed most. I would like to thank those involved in its development and in its delivery over the next 3 years.

A handwritten signature in black ink, appearing to read 'H. Yousaf', is positioned above the printed name.

Humza Yousaf MSP

Cabinet Secretary for Health and Social Care

Introduction

In December 2020, The Scottish Government published the National Cancer Plan 'Recovery and Redesign: an action plan for cancer services'. The plan includes an investment of up to £114.5 million until March 2023. Within the National Cancer Plan, the following action was committed:

Action 38 - *We will work with the Scottish radiotherapy community to develop a national plan for the Scotland's radiotherapy service, with a view to curing more cancers, and increasing access to the most modern treatments. The plan will also seek to embed access to clinical research trials across all centres.*

In May 2021, the National Radiotherapy Programme Board (RTPB) was convened with the intention of aiding the development of a National Radiotherapy Plan for Scotland. The programme board was formed with a wide range of key stakeholders from across all cancer centres and included a wide range of professionals, from clinical oncologists, radiographers and physicists to researchers and regional leads.

Along with driving the development of a national RT plan, the Programme Board was tasked with monitoring and delivering the actions contained within the National Cancer Plan and acting as a forum for national escalation from local & regional levels. The plan will be monitored by the RTPB and reported against to the National Cancer Recovery Group on a regular basis.

With the RTPB established, the development of this plan began in Summer 2021. Subsequently the plan underwent an extensive consultation process with the wider Radiotherapy community.

This plan will drive positive innovations, accounting for the new environment in which our services must operate, while seeking to introduce a range of new areas of development for our radiotherapy services. The actions aim to both ensure Scotland remains at the forefront of treatment quality for patients and increase our services' overall resilience to future challenges. Our actions will focus on infrastructure, research, patient experience and workforce in order to enhance the quality and availability of radiotherapy for every patient in Scotland.

COVID-19

Since March 2020, the COVID-19 pandemic has placed an unprecedented demand on NHS Scotland and all those working in our health services. The Scottish Government has recognised this by ensuring that cancer services have been prioritised throughout the pandemic, and with changes to clinical guidance, safe delivery of treatment and our wider hospital environments. These are just some of the necessary mitigations we have put in place to address emerging risks and allow continued delivery of services within Scotland. However, the challenges we have faced, and will continue to face, require a collective approach to improve and adapt our services.

Radiotherapy in Scotland

Radiotherapy is currently delivered across each of Scotland's five centres and one satellite site. All sites are equipped with state-of-the-art Radiotherapy equipment and deliver treatments in line with modern international clinical standards. Intensity-modulated radiation therapy (IMRT) and Volumetric Modulated Arc Therapy (VMAT) are standard techniques for the majority of cancers alongside Image Guided Radiotherapy and Adaptive Radiotherapy in certain, appropriately selected cancers. Modern Brachytherapy is available in 4 of the 5 centres. This therapy is used mainly for Gynaecological cancers but also for Prostate cancer, both low and high-dose rate.

Over the past few years, stereotactic ablative radiotherapy (SABR) has become established as a standard method of treatment for appropriately selected lung cancer patients and some other cancer types. As its use for certain patients with metastatic disease is becoming more frequent, the Scottish Government has committed up to £1.2 million funding under the National Cancer Plan to improve access to this therapy and ensure equity of access across the country.

We have a £45 million rolling programme of ring-fenced capital funding for replacing Radiotherapy equipment, which is unique in UK and reflects our commitment to providing the best treatment for our patients.

Over the next couple of years, MRI will be introduced as part of imaging for radiotherapy planning, with Glasgow poised to begin in early 2022.

Isotope treatments such as radioactive Iodine, Radium 223, Lutetium, and MIBG are available across Scotland. However, due to the very specialised nature of some of the treatments, these are delivered on specialist sites. These treatment options continue to grow with a view to increasing their availability to all patients.

While it is an encouraging landscape in Scotland, with several pioneering initiatives and a willingness to incorporate new technologies, there is further progress that can be made. The development and implementation of the National Radiotherapy Plan for Scotland is another step in maintaining and improving these services across the whole country.

National Radiotherapy Plan for Scotland

A national plan for Scotland's radiotherapy service, with a view to curing more cancers, increasing access to the most modern treatments and embedding access to clinical research trials across Scotland's cancer services.

Aim

This plan has been produced with the aim of improving radiotherapy services and patient outcomes across Scotland. Along with improving technologies and equipment, we aim to ensure equitable access to radiotherapy treatment options wherever a patient may live. These improvements are important especially while the risk to COVID-19 persists and cancer patients are consistently prioritised.

1. National Radiotherapy Data-Set Training

We will ensure all radiotherapy staff who need to be are equipped with appropriate training to assure common understanding of new data systems and gain greater understanding of current services across the health workforce. This will ensure centres across Scotland can consistently monitor the delivery of their service and benchmark across Scotland and the rest of the UK.

2. Clinical Trials

Working alongside the Clinical Trials Resilience Group, we will look at and seek to overcome workforce barriers that may impact potential start up and access to clinical trials. Beyond that, we will regularly review the landscape with the aim of increasing radiotherapy trial participation in all 5 centres. This will lead to evidence-based service change, resulting in best outcomes for patients.

3. MRI in Radiotherapy

With clinical applicability already evidenced, and national service funding confirmed, this new technology will require new appropriate workforce with specialist training. The National Radiotherapy Programme Board will actively support developing the business case for revenue funding to support delivery of this service.

4. SABR for Oligometastatic Disease

This specialist service is currently minimally available in 3 of our 5 cancer centres. With national funding of up to £1.7 million we will develop sustainability for the service and support the development of a national framework around most appropriate management. Representatives from each centre will join a working group to oversee the delivery and implementation of the programme. This will ensure all patients have equitable access to treatment and build expertise across all cancer centres.

5. Optimising Workforce

To ensure continuity of current service delivery, in particular specialist services, we will need to begin using our workforce differently especially in centres where individual practitioners are operating on their own in a given tumour area(s). We will explore the potential of technology, for example AI for segmentation, to optimise efficiency. We will protect and aim to increase training numbers throughout Scotland across all RT disciplines. We will encourage practitioners to work across centres where feasible and increase the use of a skills mix approach to support service delivery. We will support and share best practice in managing RT services in context of COVID-19 requirements.

6. Patient Experience

With 'Near Me' technology replacing some face-to-face consultations for the foreseeable future, we will ensure a consistent approach is taken across Scotland with regards to consent requirements (in line with Ionising Radiation (Medical Exposure) Regulations), along with the aim of ensuring a positive experience of care for the patient. We will undertake work to further understand patient experience, including through a possible redeployment of the National Radiotherapy Patient Experience survey.

7. Brachytherapy

We will monitor existing services, identify any challenges, and collaborate nationally to ensure equitable access to this specialist treatment.

8. Peer Review

COVID-19 has seen some changes in peer review, with technologies enabling remote review. The Programme Board will work on a unified approach across Health Boards, and develop recommendations to continue progression, considering the implications for clinical time.

9. Recovery Data

We will regularly review the demand and capacity data for radiotherapy through the Radiotherapy Programme Board to identify and inform any risks to delivery, drive collaboration and inform workforce requirements.

10. RTDS

We will coordinate feed into the Radiotherapy Data Set with the Scottish Cancer Registry and Intelligence Service to enhance the Scottish Cancer Registry, promote national consistency, improve data quality, and increase utilisation of a national RT dataset.

11. NSS Cross Border Referrals

We will monitor which patients are being referred out-with Scotland for highly specialist services, to assess if any of these patients could have been treated within

Scotland. We will work with NSS to ensure patients are being treated as close to home as possible.

12. Protons

Working with NSS, we will assess current evidence on use of photons vs proton beam and develop a long-term view of patient access in Scotland.

13. Common Protocols

We will identify opportunities to develop and agree common treatment protocols, including around hypofractionation and adaptive RT. We will agree common approaches to hypofractionation, ensuring all delivery is based on best evidence, and all patients receive the optimal treatment.

Timeline of Delivery

Milestones and Progress Monitoring

Tracking progress of the key actions within the National Radiotherapy Plan for Scotland will be key and help ensure continued development across all services. Where applicable, the below displays initial expected timelines for the completion of relevant actions. While some of the actions will already be underway, some will be completed beyond the timeframe of the National Cancer Plan (March 23).

Figure 1 - Actions and Milestones

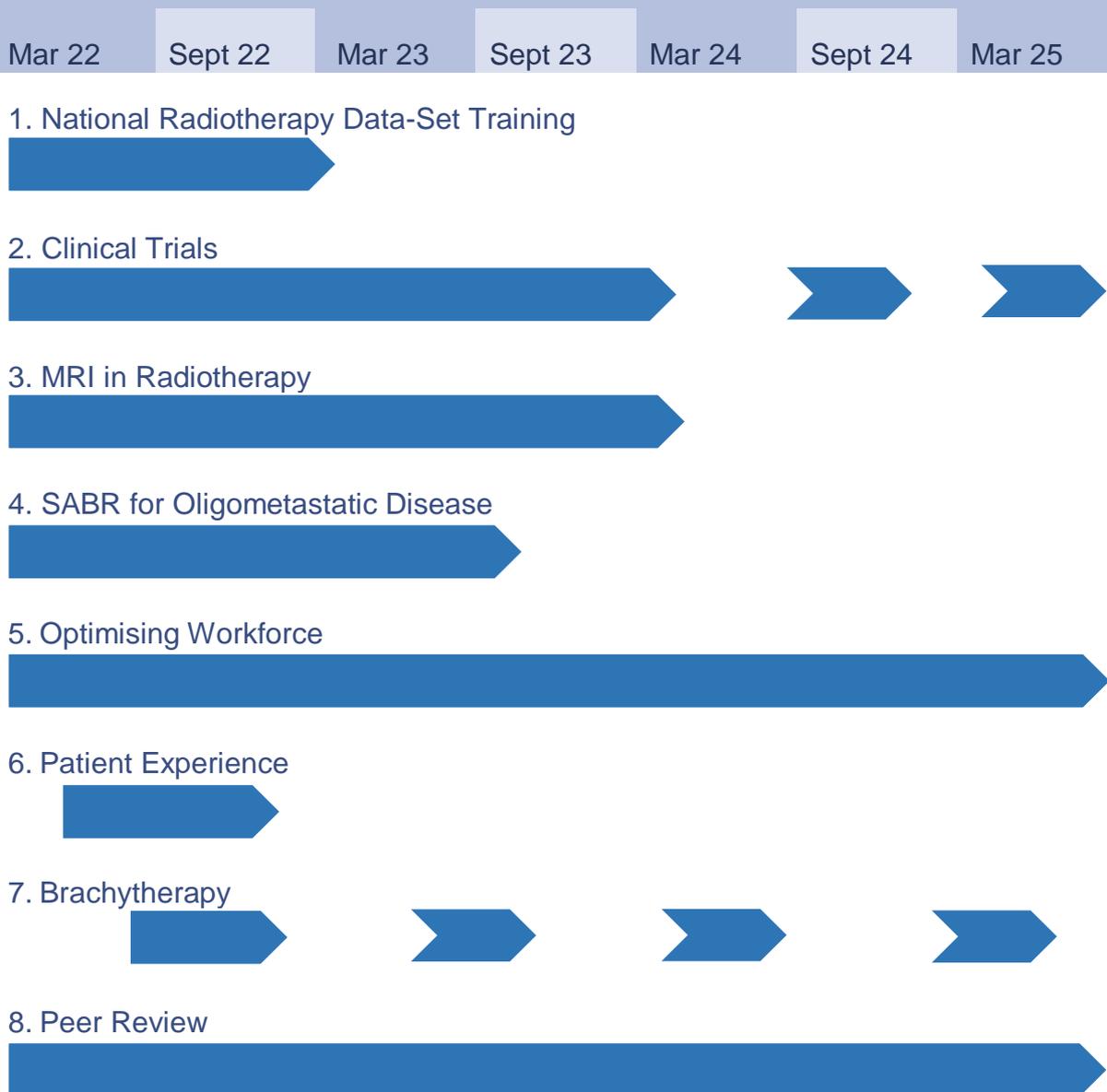


Figure 1 Cont. - Actions and Milestones

Mar 22 Sept 22 Mar 23 Sept 23 Mar 24 Sept 24 Mar 25

9. Recovery Data



10. RTDS



11. NSS Cross Border Referrals



12. Protons



13. Common Protocols





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