

"Working together to improve access to cutting edge treatments and improving patients' experiences"

April 2023 - March 2025

www.northernradiotherapynetwork.nhs.uk

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Chair and Clinical Lead introduction

Foreword from the Chair

It gives me great pleasure to introduce the Northern Radiotherapy Network's two-year progress report.

This report highlights the collaborative work over the last two years to achieve our aims and ambitions. Progress has been made on a diverse range of projects, from investment in career promotion activities and innovative virtual reality projects to raise awareness of the radiotherapy workforce, to improving access to patient information, aligning treatment protocols and increasing awareness of research and clinical trials in radiotherapy.

These achievements would not have been possible without the dedication, expertise and leadership of our Oversight Group members, as well as our radiotherapy workforce who have been involved in these projects, especially in the face of the significant ongoing challenges with workforce capacity and increasing demand for radiotherapy.

As we look ahead, we will continue to build a network that supports collaboration and service improvement, with a clear focus on our priorities to improve access to radiotherapy and improve experiences for every patient receiving radiotherapy in our region.

Thank you for taking the time to read this report and for your continued support for the network.

Alison Featherstone

Chair, Northern Radiotherapy Network

Introduction from the Clinical Lead

I am delighted to share the network's achievements in this two-year report. As a clinician, I see the difference high-quality, well-coordinated services can make, not only in treating cancer, but in improving patients' experiences and supporting their recovery.

By working together across the network, we've been able to share clinical expertise, align our protocols and reduce unwarranted variation, ensuring that our patients receive consistent, evidence-based care wherever they live. The Network has also provided the infrastructure to facilitate early access and adoption of innovative technologies and techniques that improve precision and reduce side-effects.

I am incredibly proud of the clinical leadership and shared commitment that has underpinned our progress so far. While there is still more to do and we have agreed clear priorities for the year ahead, this report reflects just how powerful and necessary this network approach is for delivering safe, innovative and equitable radiotherapy and care for all our patients.

Dr John Frew

Clinical Lead, Northern Radiotherapy Network



About us

Radiotherapy Networks have been established to achieve the aims of NHS England's ambition to provide modern, advanced and innovative radiotherapy to patients in England.

By working together as part of the Northern Radiotherapy Network, we can identify innovative solutions to some of the challenges we are facing in radiotherapy.

We can share best practice and learn from each other to substantially improve outcomes for patients, including higher cure rates and fewer side effects of treatment.

The Network covers the three radiotherapy centres in the Northeast and North Cumbria;

- The James Cook Cancer Institute at The James Cook University Hospital, Middlesbrough
- The Northern Centre for Cancer Care at Freeman Hospital, Newcastle upon Tyne
- The Northern Centre for Cancer Care at Cumberland Infirmary, Carlisle

A small core network team of a Programme Manager, Katy Lowery, Clinical Lead, Dr John Frew and Network Administrator, Lynn Barron, work closely with Heads of Services from each of the Provider Trusts to deliver the work programme and priorities.

Delivery of the work programme is overseen by the Network Oversight Group, which from April 2023-March 2025, was made up of the following:

- Sue Page Chief Executive Office, South Tees Hospitals NHS FT and Network Chair (to December 2023)
- Alison Featherstone Northern Cancer Alliance Director and Network Chair (from January 2024, previously Deputy Chair)
- Dr John Frew Consultant Clinical Oncologist and Network Clinical Lead
- Dr Clive Peedell Radiotherapy Clinical Lead
- Dr Helen Turnbull Radiotherapy Clinical Lead
- Claire Huntley Radiotherapy Service Manager
- Sharron Driver Radiotherapy Service Manager (to March 2024)
- Kevin Burke Head of Radiotherapy Physics
- Chris Walker Head of Radiotherapy Physics (to March 2024)
- Michael Trainer Head of Radiotherapy Physics (from July 2024)
- Cheryl Buchanan Assistant Director of Operations
- Julian Wenman Service Director
- Paul Cutler NHS England, Specialised Commissioning
- Dr Ian Pedley Northern Cancer Alliance, Clinical Lead
- Orla Hayman Head of Medical Physics
- Liz Jefferson Head of Nuclear Medicine (to December 2024)
- Katrina Cockburn Head of Nuclear Medicine (from January 2025)
- Suzanne Stanley Radiotherapy Operational Manager
- Dr Spyros Manolopoulos Deputy Head of Radiotherapy Physics

Summary of activity: 2023 and 2024



19,359 patients treated (episodes)



12 new patient videos released



199,799 fractions delivered (attendances)



83,997 views of videos on YouTube



4,400 watch hours on YouTube



415patients
participated in clinical trials



716 survey responses



289 YouTube subscribers



New trials opened*



43,667 website visits



261



184 posts

Videos with the highest number of views

64,726

Side effects following radiotherapy for prostate cancer

4,020

Coming for radiotherapy at The James Cook University Hospital

3,486

Radiotherapy for prostate cancer

3,093

Interested in a career as a clinical scientist?

* 2024 data only

Network priorities

The Network priorities are determined by the requirements of the Service Specification¹. These were agreed by the Network Oversight Group for 2023/24 and 2024/25 and included in the work programme and progress reported quarterly. Some achievements and highlights from the work programme over the past 2 years are included below. For more information about the work programme and projects undertaken, please visit the network website www.northernradiotherapynetwork.nhs.uk

1. Improving access to radiotherapy

We want to improve access across the network to modern, advanced and innovative radiotherapy treatments and techniques to ensure more of our patients can benefit from cutting-edge technology.

Stereotactic Ablative

Radiotherapy (SABR)

The national SABR rollout programme and the partnership between Newcastle upon Tyne Hospitals and North Cumbria Integrated Care means that our patients now have better access to more advanced and innovative treatments across the network.

SABR is a type of external beam radiotherapy used to treat cancer. It delivers high doses of radiation to a localised area, minimising damage to surrounding healthy tissues and reducing side effects from treatment.

For some time, SABR has been available for patients with lung cancer in Middlesbrough and Newcastle, and patients from Cumbria had to travel to The Northern Centre for Cancer Care to access this advanced treatment. With the opening of the new centre and installation of new equipment, as well as access to additional training and expertise, this treatment is now available for patients at The Northern Centre for Cancer Care, North Cumbria.



¹ Operational Delivery Networks for Adult External Beam Radiotherapy Services, NHS England

Surface guided radiotherapy (SGRT) implemented at Newcastle and Carlisle

Surface guided radiotherapy (SGRT) is a technique that involves tracking the patient's surface anatomy in real-time to ensure a faster, more streamlined treatment setup.

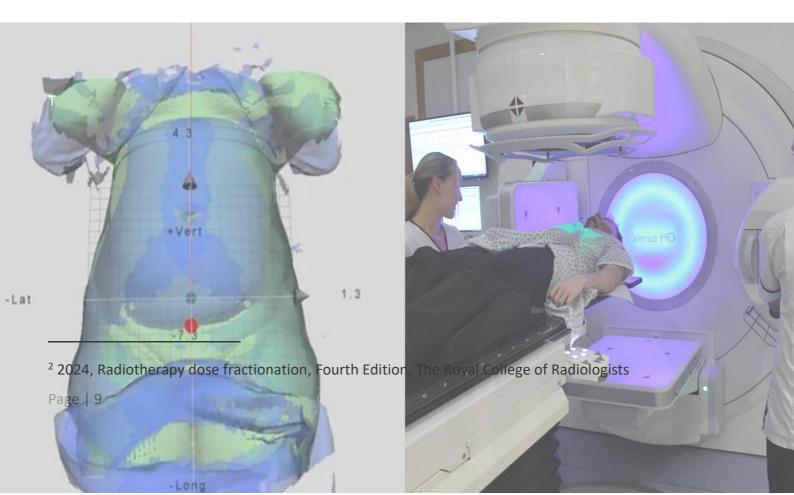
The James Cook Cancer Institute, Middlesbrough, was the first centre in the country to install the C-Rad SGRT system, Catalyst, in January 2015. The equipment has also now been generously funded by the Newcastle Hospitals Charity and has been rolled out across both sites at Newcastle and Carlisle.

As recommended by the Royal College of Radiologists (RCR)², SGRT also facilitates the use of deep inspiration breath hold (DIBH) techniques for patients receiving left-sided breast radiotherapy by providing real-time, non-invasive monitoring of the patient's breathing and

positioning. This helps to accurately reproduce the deep inspiration breath hold (DIBH) position during treatment and minimise the radiation dose to the heart and lungs, reducing the risk of long-term cardiac and pulmonary side-effects and complications.

The benefits of this technique for patients are:

- Improved accuracy which reduces the risk of radiation affecting surrounding healthy tissue.
- Faster, more efficient treatment set up times.
- Considerably less patient moving and handling which is both much nicer for the patients, and far better from a staff health and safety perspective.
- Real-time monitoring and automatic corrections, particularly beneficial for treatments where even slight movements such as breathing, can impact the accuracy of the treatment.
- Minimises the need for repeated X-ray imaging before each treatment.



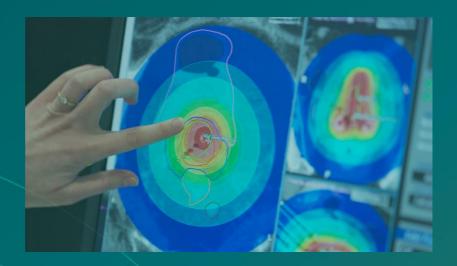
2. Reducing unwarranted variation

We have undertaken several projects over the past couple of years to ensure that patients in the network have access to the same standard of care, wherever they come for their treatment.

Al auto-contouring

MVision's Contour⁺ is an AI-powered auto-segmentation software that delivers fast and precise automatic delineation of organs at risk and lymph node areas for radiotherapy treatment planning. The benefits of AI auto-contouring are:

- Improved consistency in plan quality
- Reduced manual workload for clinical workforce
- Covers all major anatomical sites
- Standardised contouring and clinical protocols align to international contouring recommendations

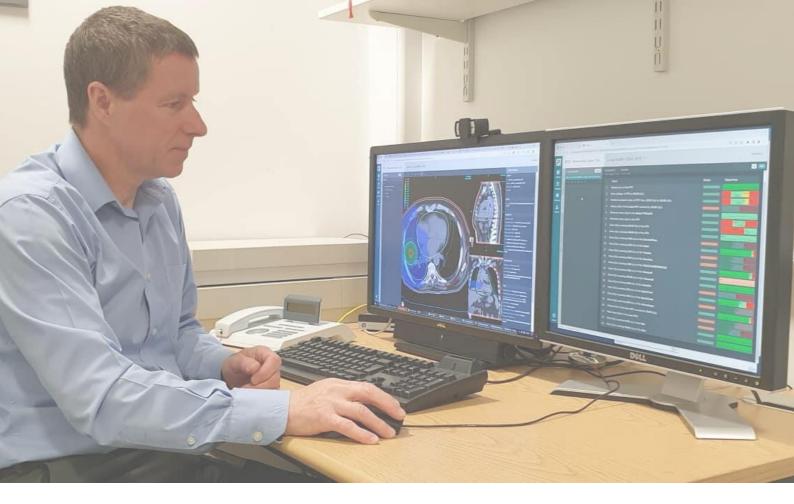


Over the past 3 years, early adoption of this innovative technology in the network has been funded and facilitated via several short-term contracts.

The funding from the network has allowed centres to optimise use of the software, observing real improvements in radiotherapy plan quality and time savings. Each centre has fully tested and implemented the software, which is now used routinely in the radiotherapy pathway for more than 60% of our patients.

All our centres have collaborated to improve auto-contouring for more complex treatments such as prostate and pelvic nodes, saving around 1 hour of the clinical pathway per patient. At The Northern Centre for Cancer Care, use of MVision has been a key component in pathway improvements for breast and prostate radiotherapy patients. The software also ensures that all radiotherapy treatments match the best practice guidelines for a wide range of cancer types, irrespective of the location of the patient's treatment.

Several staff from the Northern Radiotherapy Network have contributed to working groups for evaluation of this technology by the National Institute for Clinical Excellence (NICE), and the Royal College of Radiologist (RCR) guidelines for implementation and safe use of Al auto-contouring, so that expertise gained within the network has been shared at a national level.



Analysis of scorecards and local collections using ProKnow

In 2022, NHS England made available to all radiotherapy providers in England, a powerful cloud-based tool called ProKnow. ProKnow allows radiotherapy providers to easily extract radiotherapy dose distribution statistics from large datasets in their own centre and compare them with anonymised plans from other centres treating the same cohort of patients, according to the protocol.

The availability of ProKnow has allowed radiotherapy providers to undertake audits on a scale that was previously impossible to achieve. There are now more than 90,000 treatment plans uploaded, and more than 45,000 plans entered into 53 different national collections.

National audits have taken place for lung SABR, breast, conventional lung, prostate, lower gastrointestinal, oesophagus, head and neck and gynaecological diseases. These audits allow comparisons of planned organ at risk and tumour doses between radiotherapy centres in England.

Radiotherapy physics colleagues in our network have been at the forefront of this project, developing and overseeing the anonymisation setup and use of the system, leading the national rollout, chairing the national audit analysis group and ensuring a strong network contribution to the collections.

Audit reports will be published soon and will enable clinicians to identify areas of variation against other centres and best practice and ensure patients in our network are receiving the best standard of treatment.

We have also undertaken local ProKnow projects using Service Developing Funding (SDF) to assess the quality of plans for radiotherapy to the central nervous system using a new technique. The report from this project will be available soon.

Standardising treatment protocols

Our clinical teams already work together to align practice, but we have also been working towards standardising all our radiotherapy treatment protocols. There are now network protocols in place for the following tumour sites:

- Breast cancer
- Prostate cancer
- Colorectal cancer
- Gynaecological cancers

This means that patients coming for radiotherapy at The James Cook University Hospital in Middlesbrough and The Northern Centres for Cancer Care at Newcastle and Carlisle will all receive the same standard of treatment.

This is reflected in our network reports from the Radiotherapy Dataset (RTDS) which show consistency of treatment protocols used for radical treatment, especially for breast, prostate, head and neck and urology.

We have also drafted protocols for all radiotherapy treatments for lung cancer, which will be finalised and published soon.



3. Improving patients' experiences of care

We are always looking at ways to improve experiences for patients coming for radiotherapy at our centres. Some of this work is focused on improving the information available to patients and some of it is about responding to patient feedback following treatment.

Improving access to patient information

Following positive feedback from our first video project, where we produced information videos for patients about what to expect when coming for treatment at each of our centres, we have continued to produce information videos about coming for radiotherapy for specific tumours and advice and guidance for managing side effects following treatment.

We now have a wide range of videos relating to specific tumours, including lung cancer, brain tumours, head and neck cancers, prostate cancer, breast cancer.

Our patient videos are shared widely with tumour teams to ensure patients and are signposted to the videos before they come for treatment.

They are also available on the network website https://northernradiotherapynetwork.nhs.uk/videos and YouTube channel @NorthernRTN.



∓ 2 videos



Radiotherapy for lung cancer
Public

Radiotherapy for brain tumours

 Radiotherapy research and clinical trials







Radiotherapy for prostate cancer

Radiotherapy for head and neck cancer

Radiotherapy for breast cancer

National Radiotherapy Patient Experience Survey - September 2023

The Network team were heavily involved in the design and implementation of a national radiotherapy patient experience survey in 2023. All our centres participated in the survey with a good response rate from our patients who came for treatment during the survey window.

The initial results from the network were very reassuring with 100% of patients at The James Cook University Hospital and The Northern Centre for Cancer Care rating their care as excellent or good!

Network Patient Information Survey - November 2023

The Network also facilitated a survey in November 2023 to find out how patients preferred to receive information about their treatment. There were 120 responses to the survey during a two-week period.

90% received 'all the written information they would have liked'

95% of people reported 'always' being treated with dignity and respect in the department

People told us that they would prefer information in written and leaflet form, and access to web based resources

99% of people rated their radiotherapy care as 'excellent' (90%) or good (9%)

92% of people told us the quality of information was 'about right' Most common time to receive information was during the initial consultation, followed by the CT appointment

Prostate radiotherapy patient information survey – January 2024

During January and February 2024, we ran a survey to collect patient feedback on our new prostate patient information videos.

People starting a course of radiotherapy for prostate cancer at one of our centres were asked to complete a short anonymous survey about whether they had seen the information videos and whether they helped them feel prepared for treatment.

The aim was to measure the impact of the videos on patient preparedness for radiotherapy and make improvements based on responses.

4. Increasing participation in research and trials

Raising awareness of clinical trials and increasing patient recruitment are key priorities for the network. To support this work, we recruited James Holt as Quality Improvement Facilitator to the network team. James' post was funded by Service Development Funding from the National Programme of Care and he led on this work from May 2023 to March 2025

Why is research and trials important?

Clinical trials are essential to aid faster development of new, safe, effective treatments and drive the development of clinical services.

We wanted to expand the portfolio of radiotherapy clinical trials available for patients as part of their cancer treatment.

We've worked with a wide range of stakeholders to raise awareness of clinical trials, both with staff and patients. We wanted to improve understanding about why trials are important and what is involved.

So far we have:

- Promoted cross-organisation collaboration
- Identified gaps in the clinical trial portfolio
- Worked with stakeholders to understand the clinical trial process and identify areas for improvement
- Shared examples of good practice throughout the region
- Raised the profile of radiotherapy clinical trials in the Northeast and North Cumbria.

Improving access to information about research and trials

We engaged with patients and clinicians about how best to raise awareness of research and clinical trials, as well as how we could reduce the barriers to participation. We held focus groups with people with lived experience of cancer from across the country. We asked people to share their views about what should be included in a video and how to make research as accessible as possible.

In partnership with 3 Point Media, we produced some fantastic video resources for patients, including videos of two patients from our network who share their experiences of being part of a clinical trials. We have also made the resources available for all radiotherapy networks and centres to use so we can increase awareness as much as possible. The Institute for Cancer Research who are the trial team for the Parable trial, are also now using our video to promote their trial.

Watch the videos on our website here https://northernradiotherapynetwork.nhs.uk/res earch-and-trials and find out more about this project here

https://northernradiotherapynetwork.nhs.uk/clinical-trials





In this video, Vince shares his experience of being part of a radiotherapy clinical trial at The James Cook University Hospital in Middlesbrough. We hope Vince's story will be useful to help people decide whether they want to be involved in research and trial opportunities and to help answer questions about what is involved.

In this video, we hear from Michelle about her experience of being part of a radiotherapy clinical trial. When Michelle was diagnosed with breast cancer, her clinical discussed a clinical trial with her. Michelle explains why she felt it was so important to help with advancements in future treatments.



Thank you so much to Vince and Michelle for working with us to share their experiences of being involved in research. We hope these resources will benefit many patients in future. We're continuing with our work to improve access to the videos and measure the impact of them.

Workforce

Ensuring we have a skilled and competent radiotherapy workforce is crucial to ensure we can provide the best treatment for patients, continue to meet the growth in demand for radiotherapy services and ensure our patients don't have to wait for treatment.

One of our network priorities have been to raise awareness of the many different roles involved in prescribing, planning and delivering safe courses of radiotherapy. We have done this through the following projects which you can find out more about on the website here

https://northernradiotherapynetwork.nhs.uk/workforce

Career promotion videos

Thanks to all our radiotherapy colleagues who were involved in the filming and interviews to produce a range of short career promotion videos about radiotherapy careers.

Our content is available on our network website and YouTube channel and includes videos and interviews with Therapeutic Radiographers, Clinical Scientists and Clinical Technologists, as well as Radiotherapy Engineers and Healthcare Science Practitioner apprentices.

The videos have been washed over 6,400 times.



Interested in a career as a Senior Clinical Technologist i...

Northern Radiotherapy Network



Interested in a career as a Pre-Treatment Lead Radiographer...

Northern Radiotherapy Network



Interested in a career as a Clinical Specialist...

Northern Radiotherapy Network



Interested in becoming a Clinical Scientist?

Northern Radiotherapy Network



Interested in becoming a Therapeutic Radiographer?

Northern Radiotherapy Network



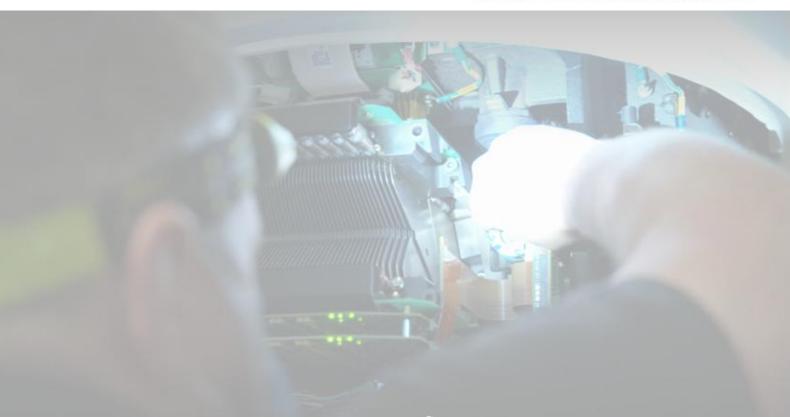
Interested in a career as a Clinical Scientist?

Northern Radiotherapy Network



Get Into Radiotherapy Careers (short)

Northern Radiotherapy Network





Get Into Radiotherapy Careers: A virtual reality radiotherapy workplace experience.

Following a successful funding bid, we received Service Development Funding (SDF) from the National Programme of Care to develop a virtual reality workplace experience to help us promote the range of careers available in radiotherapy.

Since January 2024, we've worked with radiotherapy colleagues from networks and centres from across the country to develop a virtual reality workplace experience. We worked with Animmersion UK who used high-tech 360 degree camera to film radiotherapy professionals in their work.

The content includes Therapeutic Radiography, Clinical Technology, including treatment planning, dosimetry, and engineering, and Clinical Science. Many centres have now purchased the headsets and we have 7 available throughout our network.

Over the last 6 months, the headsets have been used by hundreds of people at Trust careers events. NE1 careers events, and a National Apprenticeship event in Newcastle where we were invited to attend with colleagues from the Society and College of Radiographers (ScoR). The ScoR have also now purchased headsets and are using our content.

We also worked with 3 Point Media to produce a promotional film that can be used to promote careers events and entice people to come and try the headsets. You can watch the videos on our website here https://northernradiotherapynetwork.nhs.uk/workforce

Network Conferences

Following the success of the inaugural network conference in June 2023, the conference was held again in June 2024. The focus of the events was to showcase the research, innovation and technological advancements happening in our network. The conferences have provided opportunities for colleagues to share some of their innovative research and service improvements that are taking place in our centres all of the time and to learn from other work.

It was exciting to welcome some fantastic external speakers, including Dr Karen Horridge, a Visiting Professor of Childhood Disability and Health from The University of Sunderland, who presented her working using SNOMED-CT clinical coding to improve outcomes for patients, and Dr Alison Tree, who gave an inspiring and insightful talk on SABR for oligoprogressive disease, sparking lots of discussion with delegates.

Both events were well-attended by radiotherapy colleagues across the network and feedback about the event was excellent.

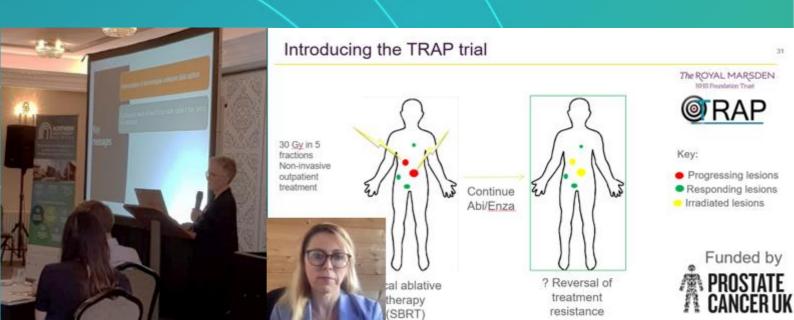
Thank you to our industry sponsors who supported the event.

The 2023 Conference programme included:

- ESTRO 2023 conference highlights
- Technical and therapeutic innovations
- Mini oral presentations
- Treatment deliver models for SABR/SRS
- Artificial Intelligence and Big Data
- Research and clinical trials and oral presentations

The 2024 Conference programme included:

- SABR for Oligoprogressive disease
- Conference highlights
- UK experiences of adaptive radiotherapy
- Oral presentations including research and ProKnow
- Advancements in radiotherapy reirradiation



Activity and performance data

The Radiotherapy Dataset (RTDS) collects standardised data monthly from all radiotherapy providers in England against a nationally defined dataset. Radiotherapy Networks in England are provided with dashboard reports from RTDS to provide comparable data that support network discussions to address variation and improve quality. Radiotherapy activity is measured in **episodes** and **attendances**.

An **episode** is defined as a continuous period of care for radiotherapy including all preparation, planning and delivery of radiotherapy.

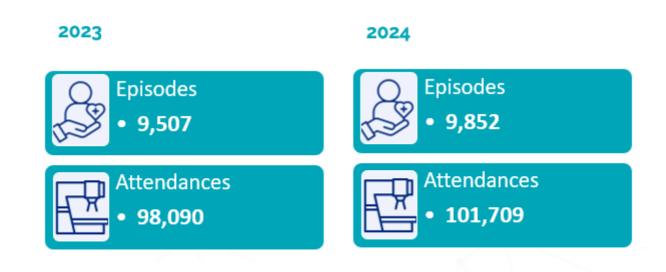
An **attendance** refers to the number of times a patient attends a radiotherapy department and receives treatment in an episode of care.

NB. Reporting periods do not include financial years. The data presented below is for calendar years 2023 and 2024.

Radiotherapy activity

From December 2022 to December 2024, radiotherapy episodes in the network increased by 8.28%.

From December 2022 to December 2024, radiotherapy attendances in the network increased by 6.70%.



Cancer Waiting Time performance

NB. Reporting periods do not include financial years. The data below is for calendar years 2023 and 2024.

Cancer waiting time (CWT) data is used nationally to monitor performance. Data is inputted manually, and we continue to review the data to ensure accuracy.

From the data available, the network was performing reasonably well against cancer waiting time (CWT) targets during 2023, with 90.3% of radiotherapy patients being seen within 31 days where radiotherapy was a first or subsequent treatment. This was above the national average. The national target is 96%.

During 2024, network CWT performance declined, with 81.9% of radiotherapy patients being seen within 31 days where radiotherapy was a first or subsequent treatment. This is below the England average of 88.3%. The national target is 96%.

Communication and engagement

We are continuing to use our network website, social media channels and email communications to raise awareness of radiotherapy with patients and stakeholders. Our aims for our communication and engagement activity are to;

- Improve patient outcomes and experiences by improving access to information to increase understanding and reduce anxieties
- Improve recruitment and retention of the radiotherapy workforce by promoting radiotherapy careers and keeping staff involved and informed about developments and opportunities

Northern Radiotherapy Network website

The NRN website is used as an information platform for patients, family members, stakeholders, colleagues and the wider radiotherapy community, as well as people who are interested in careers in radiotherapy. It is regularly updated with news and updates we receive from colleagues across the network. It includes dedicated sections for patients and families, where patient information videos and leaflets can be accessed, as well as radiotherapy careers, career promotion videos and education and training routes. The website content about radiotherapy research and clinical trials has also recently been updated.



YouTube

All network video resources are uploaded to YouTube and shared to the website and social media regularly to increase awareness.

YouTube activity data is below:

2023

- 8 new videos published
- 30,512 views
- 1,256 watch hours

2024

- 9 new videos published
- 42,498 views
- 2,454 watch hours

Total

- 20 videos published
- 73,010 total views
- 3,711 watch hours

Social media

X, Facebook and LinkedIn are being used to share information for patients and members of the public, stakeholders and professionals.

2023

- X 115 posts and 259 followers
- Facebook 74 posts and 96 followers
- LinkedIn 4 posts (joined October 2023)

2024

- X 146 posts and 352 followers
- Facebook 108 posts and 153 followers
- LinkedIn 16 posts

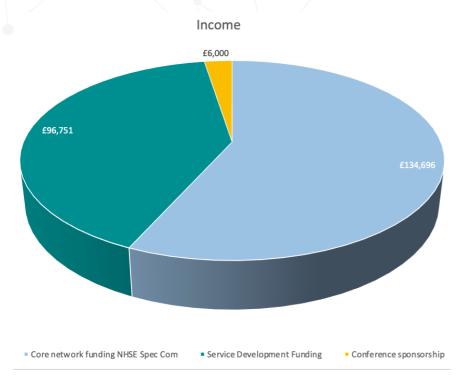
Total

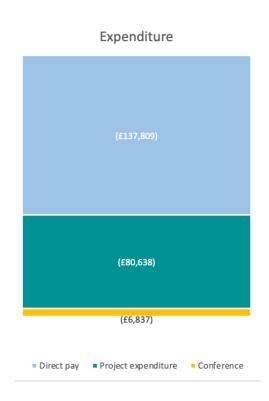
- 463 posts
- 249 followers

Finance

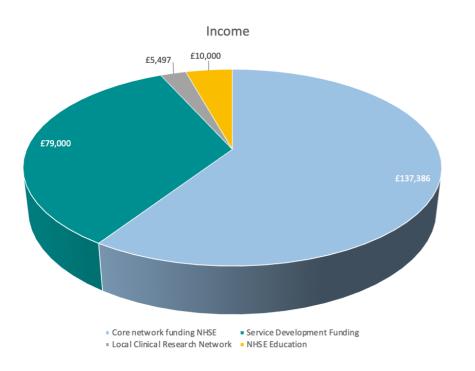
The network continues to receive core funding from NHS England Specialised Commissioning. Several successful bids for Service Development Funding from the National Programme of Care have been utilised to deliver network projects.

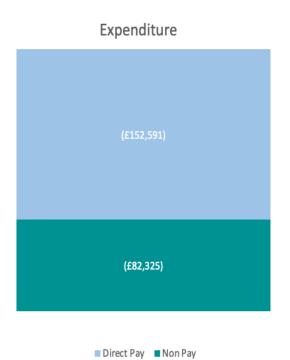
2023/24





2023/24





Acknowledgements

The Northern Radiotherapy Network would like to extend sincere thanks to all the patients, staff and organisations who have contributed to our work programme and delivery of this report between 2023 and 2025.

We are especially grateful to the dedicated clinical and operational teams across the network who have worked tirelessly to ensure the continued delivery of safe, effective and patient-centred radiotherapy services during particularly challenging times. Your commitment to innovation, collaboration and excellence is at the heart of everything we have achieved together.

We would like to acknowledge the invaluable input of our patients, their families and carers, whose perspectives and feedback have shaped our priorities and helped to always keep our focus on improving experiences and outcomes for people using our services.

Special thanks to our patients who have selflessly given up their time to help us develop our resources and materials that will benefit patients in the future; we're very proud of this work and we couldn't have done this without you.

This report is the result of collective effort, collaboration and commitment to continuous improvement for our patients. We are hugely appreciative of the time, expertise and dedication contributed by so many.

The Northern Radiotherapy Network Team

