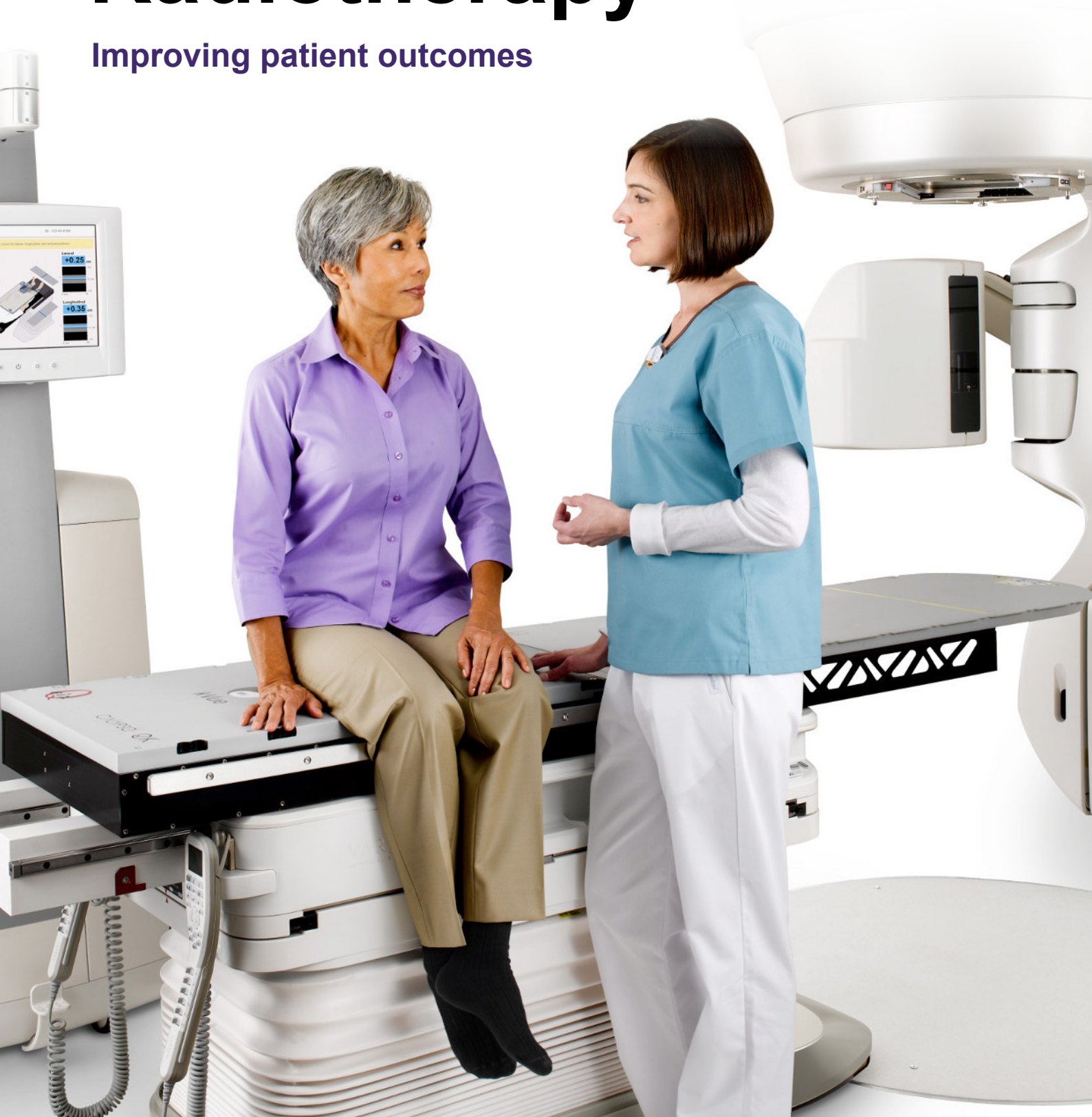




ASSOCIATION OF HEALTHCARE TECHNOLOGY
PROVIDERS FOR IMAGING, RADIOTHERAPY & CARE

Manifesto for Radiotherapy

Improving patient outcomes



Introduction to Radiotherapy, An Essential Role in Cancer Treatment

Cancer will affect nearly 50% of the UK population within their lifetime. When it does, radiotherapy plays a critical role in meeting this personal and national health challenge – **being of direct benefit to around 50% of cancer patients¹.**

Radiotherapy is a treatment used to kill cancer cells through targeting high-energy radiation precisely at tumours – delivered by specialist machines called linear accelerators or linacs.

Per patient, radiotherapy is the most cost-effective treatment when compared with surgery and chemotherapy.

Patients travel to a centre for daily fractions of radiotherapy treatment over courses that can last from a few days, up to four weeks or more. Services are generally offered within larger NHS hospitals along with some linked satellite centres to help with geographical spread of populations.

Although established for over 50 years as a treatment option, radiotherapy today remains underfunded and often underutilised compared with its true clinical value in treating cancer.



1. CRUK Vision for Radiotherapy 2014-2024.

Borras JM, Barton M, Grau C, et al. 2015. The impact of cancer incidence and stage on optimal utilization of radiotherapy: Methodology of a population based analysis by the ESTRO-HERO project. Radiotherapy and Oncol 116(1): 45-50.

Current Status and Optimism

Technical advances over the last ten years have transformed the way radiotherapy can precisely target tumours. These advancements have increased cure rates with fewer side effects and enabled shorter treatment courses that can be effectively delivered over just a few days. New software tools for planning, adapting and delivering patient treatment continue to raise the bar in what can be achieved.

Radiotherapy, as the primary treatment or when combined with surgery, chemotherapy or immunotherapy, has the potential to improve cancer outcomes. **The UK currently lags behind the European average in survival for nine out of the ten most common cancers².**

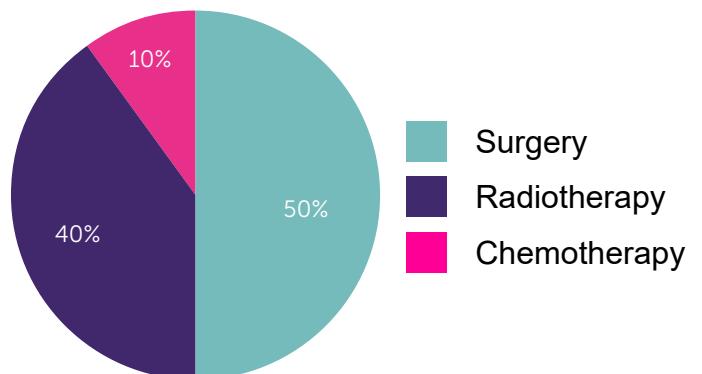


The importance of radiotherapy has been sharply evidenced during the COVID-19 crisis, where its focused, targeted approach has offered patients greater treatment choice. Radiotherapy provides an alternative to other methods of treatment, minimising the risk of infection posed by surgery, whilst maintaining the body's immune system and avoiding the potential side effects of chemotherapy.

As we move forward, advancing technologies will impact radiotherapy making it even more effective. **Through the predicted role of artificial intelligence (AI) in supporting clinical decision making, and the advance to personalised, adapted radiotherapy, further clinical benefit and improved outcomes can be expected.** This could include refinement to daily treatment with investment and adoption by the NHS.

Cancer Treatment Relative Effectiveness

Radiotherapy is important in a curative outcome for 40% of patients.



2. Comparator report on patients access to cancer medicines in Europe revisited-a UK perspective. IHE report 2017.

Key Patient, Health and Economic Benefits

Patient Benefits

- Radiotherapy can contribute to improving treatment outcomes for patients and supporting NHS targets to achieve **long-term patient survival at the European average for common cancers - this is currently lower in the UK.**
- **One in four people in the UK will need radiotherapy at some point in their life,** with 40% of patients undergoing treatment with curative intent receiving radiotherapy solely or in combination with other treatments³.
- Investment matters. Shorter treatment courses made possible with newer technology can support faster and more precise treatments which are more tolerable and effective.
- Radiotherapy continues to advance, becoming more surgical and precise through improved imaging and AI. This increases its value and potential impact in the fight against many common cancers.
- The ultimate goal of radiotherapy today is to provide individualised patient treatment.



Sadly, half of us will get cancer at some point in our lives and half of those with cancer will need radiotherapy - yet radiotherapy receives a mere 5% of the cancer budget. As we argue for a more ambitious approach to radiotherapy in the UK, I welcome the AXREM manifesto. The radiotherapy industry has a vital role to play in ensuring innovative radiotherapy solutions which reduce dosage, are more patient friendly and are made available freely through the NHS.

Tim Farron, MP

Health and Economic Benefits

- Chemotherapy generally has little effect on long-term survival. Just 2% of patients see long-term benefits, compared with 16% for radiotherapy⁴ - yet have **four times as much funding in the cancer budget**⁵.
- Patients undergoing radiotherapy, especially shorter courses, can maintain life as normally as possible, often with less impact on family life or returning to work. This not only improves patient experience but **brings associated societal benefit and cost saving** when compared with alternative treatments⁶.
- An ageing population means that the cost burden in health and social care continues to grow in the UK. An increasing number of cancer patients require intervention following initial diagnosis or re-treatment through surviving to require chronic disease management. It is crucial to recognise **radiotherapy's unique value in both saving lives and long-term cost benefit**.



The AXREM manifesto is clear; the post COVID-19 health crisis has brought the value of radiotherapy into sharp focus. It is already one of the most cost-effective and curative cancer treatments. Now it has the added benefit of being recognised as a COVID-19 safe waiting list busting solution. Investment in advanced radiotherapy should be at the heart of our plans to deliver world class cancer services.

Prof. Pat Price, Chair of Action Radiotherapy

4. Hanna TP, Shafiq J, Delaney GP, et al. 2018. The population benefit of evidence-based radiotherapy: 5-Year local control and overall survival benefits. Radiotherapy and Oncology 126(2): 191-97.

Recommendations for achieving a world class radiotherapy service in the UK: Final report for Cancer Research UK. Cullen et al 2014. Most drugs paid for by £1.27bn Cancer Drugs Fund had no "meaningful benefit" BMJ 2017 and New cancer drugs fund keeps within £340m a year budget BMJ 2018 <https://www.bmj.com/content/357/bmj.j2097> & <https://www.bmj.com/content/360/bmj.k461>

5. Social and General Statistics, House of Commons Library 2018.

Department of Health Cancer Policy Team. 2012 Radiotherapy Services in England 2012. London: Department of Health.

6. Expanding Global access to radiotherapy. Atun et al Lancet Oncology 2015;16:1153-86.

Overview of Current Challenges

Access to radiotherapy services varies regionally and consequently, this impacts the potential for saving lives.

In England, services are currently organised in geographical networks to promote knowledge sharing and to coordinate patient referrals, especially for more specialised treatments. Research consistently shows that travel times of more than 45 minutes impact a patient's decision making process, with many declining treatments due to distance⁷. This in turn leads to reductions in survival rates in under-serviced areas.

Analysis suggests that up to **24,000 people are not receiving the radiotherapy they need as part of their treatment for cancer**⁸.

- Not everyone can be guaranteed the best treatment option for cancer because advanced radiotherapy techniques are sometimes restricted. This can be due to policies, limited regional access, or lack of sustainable funding for newer technology⁹.
- The number of **linacs per million population is 25% lower than in comparative European countries**¹⁰. The UK has been consistently behind in this measure.
- Barriers to new technology exist, with adoption suffering from simplified national payment tariffs becoming outdated - stifling support for investment in treatment innovation⁹.
- Challenges are ongoing, with NHS hospitals forced to replace outdated radiotherapy equipment due to capital equipment budgets. **Sustainable, ringfenced, central funding for radiotherapy is key** to ensuring national investment in up to date equipment.

7. National Radiotherapy Advisory Group recommendations. http://www.axrem.org.uk/wp-content/uploads/2016/07/RESOURCE-DH_Radiotherapy_developing_first_class_service_NRAG.pdf and referred to in https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/213151/Radiotherapy-Services-in-England-2012.I

8. Borras JM, Lievens Y, Dunscombe P, et al. 2015. The optimal utilization proportion of external beam radiotherapy in European countries: An ESTRO-HERO analysis. *Radiotherapy and Oncology* 116(1): 38-44.

Action RT Analysis of number of patients not having access to the radiotherapy they should have to treat their cancer, 2019 <https://www.actionradiotherapy.org>

9. Radiotherapy Position Statement from The Institute of Cancer Research, London April 2021 <https://www.icr.ac.uk/about-us/policy-and-engagement/position-statements/radiotherapy>

10. Grau C, Defourny N, Malicki J, et al. 2014. Radiotherapy equipment and departments in the European countries: final results from the ESTRO-HERO survey. *Radiotherapy and Oncology* 112(2): 155-64

Manifesto for Radiotherapy

- Recognition of the health cost benefit to the NHS and patients, **funding radiotherapy as needed by allocating 6.5% annually within the cancer budget**. This compares with just 5% currently, significantly below the 11% invested by comparable European countries¹¹.
- Improved access to services for patients in rural and urban areas with expansion of treatment provision. This will ensure that radiotherapy can always be a patient's treatment choice, where clinically appropriate.
- With improved screening and diagnosis to detect cancer earlier, improved outcomes can be achieved through better treatment options such as targeted radiotherapy. This will also save on the higher cost of alternative treatment commonly used when patients present at a later stage.
- **Innovation in radiotherapy continues to be significant and impactful**. To be more effective and more widely available to patients within shorter timelines, commitment is needed to support focused clinical evaluation. This requires a new model of central funding and a strategy within the NHS for technology appraisal.
- Revised payment mechanisms. **There is need for a comprehensive review of radiotherapy tariffs considering the whole treatment** and reflecting new methods. Current payment incentives linked to quantity of fractions, without consideration of quality and innovation should be removed.
- Previous reports recommend a maximum 45 minute travel time for patients undergoing daily radiotherapy¹². Treatment machines and services across the country should be selectively expanded from current levels, including the provision of satellite radiotherapy centres.
- Within NHS radiotherapy networks it is key to establish clear funding models to support new IT and software support tools. This will improve efficiency in service management, track and manage patient outcomes, drive best practice and enhance overall treatment quality.

*Investment in radiotherapy
not only enables treatment of large
numbers of cancer cases to save lives,
but also brings positive economic benefits.*

Lancet Oncology¹³

11. Economic burden of cancer across the European Union: a population-based cost analysis. Luengo-Fernandez et al Lancet Oncol 2013;14:1165-7.

12. National Radiotherapy Advisory Group recommendations. http://www.axrem.org.uk/wp-content/uploads/2016/07/RESOURCE-DH_Radiotherapy_developing_first_class_service_NRAG.pdf and referred to in https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/213151/Radiotherapy-Services-in-England-2012.1

13. Expanding Global access to radiotherapy. Atun et al Lancet Oncology 2015;16:1153-86.