World-class radiotherapy in the UK: Right Patient, Right Treatment, Right Time.

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Radiotherapy is needed by 1 in 2 cancer patients. The Lancet Commission in 2015 reported that, with relatively modest investment, radiotherapy could treat large numbers of patients with cancer and save lives [1]. International efforts are underway to ensure equal access to radiotherapy through effective implementation of national cancer control plans (NCCP) with adequate sustainable financing mechanisms, and strong political commitment. The Global Coalition for Radiotherapy (GCR) has recommended radiotherapy essential standards [2] for inclusion in NCCPs and work has begun with the National Institutes for Health on the implementation of radiotherapy services.

In the UK cancer patients are experiencing a growing crisis in cancer care – facing some of the longest waiting times for treatment on record [3]. There is marked variation in cancer survival [4]. These inequalities mean that the UK remains near the bottom for cancer survival when benchmarked against other high-income countries [5]. To counter this decline, Lancet Oncology published a radical new cancer plan for the UK and within that called for a new radiotherapy strategy [3].

In the UK radiotherapy receives only 5% of the cancer budget [6], but is an essential part of cure for about 40% of patients with cancer in the UK [7]. International benchmarks set optimal utilisation rates for radiotherapy at about 50% [8], but currently only 27% [9] of patients with cancer in England receive it. Insufficient long-term planning and investment, and the lack of a NCCP, has caused serious challenges for radiotherapy services and the introduction of new technologies is slow and fragmented[6]. England currently lacks a dedicated

National Cancer Control Plan and poor operationalisation of plans elsewhere in the UK to adequately tackle and deal with entrenched problems has been characterised as 'strategic misdirection' [3]. There are chronic workforce shortages across all disciplines, driven by poor recruitment and retention, which is a major barrier to achieving world-class radiotherapy services. The UK has a 15% shortfall of clinical oncologists and by 2027, it is projected that the shortfall will rise to 25% [10]. For both therapeutic radiographers and medical physics posts the deficit is approaching 10% [10].

About 150,000 patients with cancer receive radiotherapy each year [10]. Throughout the UK, 61 NHS providers deliver treatment, by a multidisciplinary workforce of around 6,400 [10]. Radiotherapy is personalised to each patient, extremely cost-effective (around £3-4K per treatment course[10]) and technologically advanced. In the UK, radiotherapy professionals have high training standards, and the service enjoys extremely high degrees of quality and safety. There are examples of excellence throughout the UK. This system is primed to harness technology innovation. The NHS provides an excellent environment for the development of national coordination, data collection, the establishment of protocols for implementation of innovations, and the value-based assessment of new technologies that could enhance patient outcomes and streamline workforce operations. There is a potential of radiotherapy research to attract international collaborations and investments, positively influence economic development, and enhance recruitment and retention of staff. Unfortunately, these potential improvements are not being realised in the current framework.

Following 2 inquiries, the All Party Parliamentary Group for Radiotherapy (a cross-party group of parliamentarians at Westminster committed to improving radiotherapy services), commissioned a report, facilitated by the charity Radiotherapy UK, to develop a vision for world-class radiotherapy and how to achieve it in the next decade. Following engagement with a diverse group of stakeholders from the UK radiotherapy community, including patients and professionals, the report 'World-class radiotherapy in the UK; Right Patient, Right Treatment, Right Time' was launched on 6th February 2024 in the House of

Commons [10]. This paper sets out an ambitious but realistic vision to show what can be achieved over the next decade, transform radiotherapy services across the UK and improve cancer cure, while reducing side effects. It puts patients with cancer at its heart, outlines what a world-class radiotherapy service looks like, and the steps that need to be taken to achieve that.

Delivering world-class radiotherapy will transform cancer treatment and enhance patient outcomes in the UK, but to do so requires clear and focused direction and a national ambition to reach a world-class standard. Realising the vision is in the hands of politicians, NHS leaders and healthcare commissioners across the four nations. In doing so, world-class radiotherapy could be a reality nationwide by 2034. Planning and action need to start now.

Declaration of interests

We declare no competing interests.

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Table

Leadership	Effective leadership capable of delivering a national radiotherapy plan, that elevates the standard of cancer care, drives innovation, and quickly manages change.
Access	Action to ensure equity of access to radiotherapy across the UK. Patients must have equal access to the most appropriate, accurate and precise radiotherapy treatments personalised to their diagnosis.
Workforce	Urgent workforce planning to develop a sustainable and resilient radiotherapy workforce is needed with capacity to develop and train new staff, undertake personal development and harness the transformative potential of AI and other new technologies.
Data	A single integrated data system that can analyse nationally agreed metrics, monitor outcomes and variation in care, and utilise the learning gained to action change that improves outcomes quickly and effectively.
Research & Innovation	A fully funded radiotherapy research strategy is required that should encompass discovery and translational laboratory science, technological innovation, clinical trials and health systems research.
Investment	Long-term transformation investment with far-sighted, intelligent funding to deliver a national radiotherapy plan that supports the rapid technological and clinical development that characterises world-class radiotherapy services.