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COVID-19: a Catalyst for Change for UK Clinical Oncology

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COVID-19: a Catalyst for Change for UK Clinical Oncology

The United Kingdom (UK) has been severely affected by the Coronavirus Disease 2019 (COVID-19) pandemic. As the National Health Service (NHS) has urgently prioritised management of this outbreak, the UK clinical oncology community has had to adapt rapidly to maintain cancer services and training. These unprecedented times have altered countless aspects of cancer care, education and research, providing a legacy that will extend well beyond the pandemic which catalysed them. This editorial focuses on three key themes which distinguish the UK from many other countries.

The NHS and Clinical Oncology

There are particular aspects of the organisation of radiotherapy services in the UK that have framed the response to COVID-19. The first is our NHS which was established in 1948 to provide universal health care free at the point of delivery as a human right (1). It has grown to become the largest publicly funded health service in the world and almost all UK radiotherapy services are delivered by the NHS.

The NHS occupies a unique position in the national psyche and became integral to the government's key message during lockdown: "Stay Home, Protect the NHS, Save Lives". The ability to plan and adapt quickly across the UK enabled rapid establishment of NHS Nightingale field hospitals for acute care and NHS Seacole centres to rehabilitate patients with COVID-19. Research and development is also embedded in the NHS through the government-funded National Institute for Health Research (NIHR) which supports clinical trials in every hospital. This structure enables rapid recruitment to national clinical trials, best illustrated by over 10,000 patients being randomised between six different treatment arms in the RECOVERY trial over eight weeks (2). This is currently the largest randomised trial in the world investigating treatments for COVID-19.

The second aspect is the configuration of the specialty of clinical oncology (CO). The UK is one of the few countries which does not recognise radiation oncology as a separate specialty but has a combined specialty of CO delivering radiotherapy and systemic anti-cancer therapies (1). Standards for UK radiotherapy are overseen by the Clinical Oncology Faculty of the Royal College of Radiologists (RCR), which also defines the curriculum for specialty training in CO (3). Entry to a five-year CO training programme requires at least four years of postgraduate training in internal medicine. UK COs are responsible for delivering more systemic treatment than either medical or haemato-oncologists.

These factors have conferred a number of advantages when delivering cancer care during the pandemic. Cancer policy could be decided nationally, with rapid production and adoption of guidelines such as the NICE radiotherapy guidance which was published in late March 2020 (4). As cancer surgery ceased almost completely in some centres, COs quickly agreed site-specific guidance to support non-surgical cancer treatments including both radiotherapy and systemic therapy in all tumour types, mitigating risks of COVID-19 but compensating for lack of surgery. Within three weeks of opening, the RCR repository had 26 guidelines which have been downloaded more than 20,000 times (5). During the pandemic, COs also provided an additional workforce with skills in internal medicine. Many were deployed to help treat patients in COVID-19 wards and to support acute medical rotas.

The UK, and by extension the NHS, response to COVID-19 has not been without significant challenges, including difficulties in the supply chain for personal protection equipment, the potential seeding of COVID-19 in care homes through inappropriate discharge decisions, and inadequate antigen testing capabilities (6). The fallout from decision-making around these issues is likely to be debated nationally for some time, especially given that the UK has one of the highest excess deaths rates in Europe (7).

Adapting radiotherapy for COVID-19

The UK has more than three decades of experience in developing high quality, practice-changing randomised trials (RCTs) of hypofractionated radiotherapy in tumour sites including breast, urological, lung and gastrointestinal cancers (8). In a pandemic, giving fewer fractions reduces risk of nosocomial virus transmission and improves machine capacity when staffing levels are reduced due to sickness or re-deployment.

A national research framework fosters an inclusive, multidisciplinary approach with *all* UK radiotherapy centres encouraged to participate in centrally funded trials with support of the national Radiotherapy Trials Quality Assurance (RTTQA) group. This partnership between oncologists, physicists, radiographers, methodologists and patient advocates has enhanced the quality of radiation research and accelerated the introduction of new radiotherapy techniques (9).

An example pertinent to the pandemic is the FAST-Forward RCT in breast cancer. Engaging the research community and harnessing patient enthusiasm for the three-week versus just one-week breast radiotherapy trial design, this study recruited 4096 patients from 47 of the 62 radiotherapy centres across the UK in just 30 months. This was two years ahead of schedule and built on groundwork by the RTTQA group via the IMPORT trials (10-12). In early March 2020 with the FAST-Forward 5-year primary outcome results imminent but unpublished, a core group of FAST-Forward trialists realised the need to offer urgent guidance for breast radiotherapy. The existing framework of the UK clinical trials community, RTTQA and RCR provided an ideal background for collaborative working:

1. An international group of breast oncologists was convened over a weekend to produce emergency international guidelines for breast RT with authors from across the world (13). The time from concept to pre-print publication was around two weeks. The article appeared online on 31st March and by the end of April there had been more than 6,000 downloads.

2. Concurrently, the UK group posted the breast radiotherapy guidelines on the open access RCR COVID-19 guideline repository. The FAST-Forward protocol and radiotherapy planning pack were circulated as a link within the publication and the RCR repository ahead of the primary results publication.
3. Work continued on submission and fast-track review of the FAST-Forward manuscript which was published online on 28th April (10).

It is more than a decade since the UK START B trialists reported 5-year primary endpoint results. The change to moderate hypofractionation has been very slow for a number of reasons including concern regarding strength of evidence to support 15 fractions in certain subgroups such as those receiving nodal radiotherapy and financial concerns, with reimbursement systems based on payment per fraction (14-15). In contrast, rapid adoption of the FAST-Forward protocol prompted by COVID-19 will hopefully mean we arrive at an international consensus on who should have five fraction breast RT within months instead of years, so that our future patients have equitable access to evidence-based hypofractionation.

Education and Training

The coronavirus pandemic had an immediate and dramatic impact on training and recruitment of COs across the UK. As hospitals worked quickly to prepare for COVID-19, many CO trainees were re-deployed into acute medical or intensive care settings. Those remaining in oncology faced new challenges as they grappled with tele-medicine, COVID-specific changes in practice and increasingly complex risk-benefit decisions. Established training courses stopped suddenly and exams were cancelled. The unfortunate cessation of the national recruitment programme midway through a two-day interview process because of lockdown threw a previously well-tried and trusted process into disarray. Many trainees engaged in academic work also suspended their research and returned to full-time clinical work. Unsurprisingly, trainees reported considerable distress and frustration.

Strategies to mitigate the devastating impact of these acute challenges were initiated by national education bodies and consolidated by the RCR with strong input from the Oncology Registrars' Forum (ORF), a subcommittee of CO trainee representatives from across the UK. Flexibility has also been afforded to academic trainees to resume their research and key funders are facilitating additional research costs arising from the unavoidable delays.

Longer term, the impact of COVID-19 on CO training is likely to be more positive. The emergency implementation of a self-assessment process for recruitment has made the value of face-to-face interviews clear. With local training schemes under pressure, the RCR was able to step in as the overarching source of trainee guidance and education. This drive for greater national consistency in training was galvanised by COVID-19, directed in particular by the agile initiatives of the ORF and by sharing best practice with other specialties. Trainers and trainees are now empowered to use more modern teaching tools such as webinars and on-line fora. Many of these can be delivered nationally, to excellent quality-assured standards and with best practice shared quickly. There has been real empowerment of a trainee body resolute in taking responsibility for shaping their own training in response to COVID-19, an ethos which must be built on going forwards.

The Final Fellowship of the Royal College of Radiologists (FRCR) examination is taken in the penultimate year of training and consists of both written and practical components. Exam capacity is constrained by a clinical component held in a limited number of hospitals with a need for patient volunteers, and written papers taken in a large central examination hall. Before COVID-19, discussions about modernising the FRCR were just beginning. The need for change was prompted by a call to reflect the 'real-life' model of clinical decision making (16) and the new 2020 training curriculum.

The changes enforced by the pandemic now present us with a great opportunity to transform the examination. Anticipating ongoing travel restrictions, the current intention is for examinations to be taken in a greater number of locations throughout the United Kingdom than previously. We will thereby provide an examination close to the candidate's training base, cognisant of social distancing requirements which will be consistent across the entire country. Written examinations will be delivered in a digital format at each location. Structured oral examinations will also take place online maintaining individual interaction between candidate and examiner independent of location. The examination will be recorded with assessment by a second independent examiner, providing two assessments as would have been the case with the live exam. As it will not be possible to hold face to face clinical examinations with volunteer patients, these practical assessments will be undertaken through additional stations in the oral examination. They will be based on curriculum-focused clinical vignettes with practical elements to demonstrate clinical skills and assess decision-making ability, such as a multi-disciplinary meeting. The aim is to produce an exam format which is more versatile and responsive to increased capacity demands, evolves over time to reflect the changing needs of modern clinical practice and is flexible to trainee's needs. This model has potential for widespread adoption both within and beyond the UK. As in many other aspects of medicine, COVID-19 promises to be a catalyst of rapid and progressive change for the benefit of patients and healthcare professionals.

Conclusion

The full extent of the COVID-19 pandemic on the UK population remains to be seen but high death rates, enormous lifestyle changes and massive economic pressures will reshape society for generations. Cancer will still need treatment and the CO community is well-placed to adapt to the new order and change rapidly. Centrally-funded services and structures can promote fast and widespread dissemination of new techniques and therapies. Our next generation of experts can benefit from a modern approach to training and examinations. Spending on healthcare may not match that of other nations, but we have potential to adapt and develop in response to this unprecedented challenge,

providing access to high quality, evidence-based radiotherapy which remains free at the point of delivery to all in the UK.

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