



IPEM Institute of Physics and Engineering in Medicine

The Institute of Physics and Engineering in Medicine's (IPEM) response to the joint APPG Catch Up With Cancer consultation

About IPEM

- IPEM is a professional association and Learned Society with 4,500 members working in hospitals, academia and industry, who are physicists, engineers and technologists working with applications of physics and engineering applied to medicine and biology.
- Our mission is to constantly improve human health by the application of physics and engineering to prevention, diagnosis and treatment of disease through research, innovation, education and clinical practice. Our strategic objectives are to set and influence standards and best practice; influence and deliver education, training and continuing professional development; support and influence research and innovation; strengthen our public engagement and influence decision-makers; and influence and engage with national and international bodies.
- As a charity, IPEM's aim is to advance the application of physics and engineering to medicine for the public benefit and to advance public education in this field. We do so by supporting and publishing research, and supporting the dissemination of knowledge and innovation through project funding and scientific meetings; and by setting standards for education, training and continuing professional development for healthcare scientists and clinical engineers.
- In compiling this response, IPEM consulted with members of its Radiotherapy Professional Standards Panel.

How large is the cancer backlog and what are the risks to patients?

It is difficult to tell exactly how big the cancer backlog may be. In terms of radiotherapy, all services in the country remained open to patients throughout the waves of the pandemic. Great efforts were made to maintain radiotherapy service capacity and patient throughput as the Covid-19 virus pandemic resulted in an increase in hospital admissions and impacted upon patients requiring radiotherapy as well as radiotherapy staff. National guidance regarding modifications to patient treatments and prioritisation of patient groups were rapidly implemented. This allowed for appropriate changes or delays to radiotherapy without compromising the standards of care. In general, patients who were at most need of treatment received their course of radiotherapy and, where appropriate, with fewer daily visits to the hospital. Those patients who could be managed with a delay in starting radiotherapy, or temporarily managed with another treatment (for example, hormones for low-risk prostate cancer), had their radiotherapy appointments rescheduled for a later date.

Inevitably, the number of patient episodes and attendances for treatment have reduced since April 2020, and referrals were, at year end 2020, 85-90% of the levels reported at the end of 2019. However, most patients that have had previous treatment delays (following national guidance) have had their radiotherapy courses rescheduled. In addition, services were reconfigured to manage and treat the high-risk category of patients that were diagnosed Covid +ve during their course of radiotherapy and for whom an interruption to treatment would have a significant effect on their treatment outcome. This was a considerable achievement of all radiotherapy services during an extremely challenging time.

Has the current response of Government and NHS leaders to the COVID induced cancer backlog been sufficient and is the current system equipped to tackle the crisis? What is needed to change?

The response of radiotherapy services has been exceptional during the last 12 months. In April 2020, at the time of peak incidence of Covid-19 cases, 5-year follow up data for the FAST-Forward breast radiotherapy trial were published. These indicated the non-inferiority of a 5-fraction radiotherapy course of treatment compared to the 15-fraction standard of care for early stage breast cancer. This timely publication allowed for the implementation of 5-fraction adjuvant, post-surgery radiotherapy for patients with early stage disease. A group of patients who would otherwise have had 3 weeks of daily treatments could instead have their courses reduced by 2 weeks, thereby minimising the number of treatment appointments and time spent in the hospital environment. The widespread national implementation of the new treatment regime has allowed services to minimise the effects of the pandemic on radiotherapy patients and will help manage future increases in radiotherapy referrals.

However, the Government and NHS leaders will need to support services as they work to recover from delays further upstream to radiotherapy e.g. diagnostic and staging services, surgery and chemotherapy. There is an expectation that there will be a return to previous activity levels post pandemic and concerns that there will be a surge in referrals at some future time to account for the 'missing' patients who would have been referred for radiotherapy during 2020. However, the abilities of services to treat patients as efficiently as pre-Covid-19 times are affected by the new demands on radiotherapy staff to manage patients in a safe manner i.e. with full PPE and observing social distancing and higher standards of hygiene.

Radiotherapy services will need to be resourced sufficiently to manage the potential backlog of patients. Although fractions have been reduced for some groups of patients, there is an expectation that services will need to expand to meet future demand. Staff shortages need urgent attention and longer term investment in training new staff must be made to ensure services are better prepared to manage future workload and pressures caused by the ongoing pandemic response.

Do we have the capacity within cancer diagnostics services, cancer treatments and the cancer workforce to deal with the COVID induced cancer backlog?

Capacity will need to grow to meet future demand. As stated above, the abilities of services to treat patients as efficiently as pre-Covid-19 times has been affected by the new demands on staff to manage patients in a safer manner, that is, with full PPE and observing social distancing and higher standards of hygiene. Whilst PPE requirements continue, extra capacity will need to be found to ensure the cancer backlog can be addressed in a timely way.

Are current levels of funding enough to tackle the backlog?

Levels of funding were not sufficient pre-pandemic and increased funding in radiotherapy should be prioritised. This is now even more important for the post-pandemic recovery of cancer services.

What are the reforms, support and resources cancer services need to tackle the COVID induced cancer backlog.

A long term investment in training of staff (radiographers, clinical oncologists, clinical scientists clinical technologists and clinical engineers). A national equipment replacement programme should be established and funded to ensure most up-to-date treatment facilities are available to all patients. A review of patient access to services should also be made. There are concerns that lock-down constraints have meant patients have been less willing to travel long distances for cancer diagnoses and treatments. The pandemic has highlighted how critical it is for patients to have good local access to diagnostic and treatment facilities.

Are there any opportunities to tackle the cancer backlog being missed?

Locally, services have had to be innovative and creative in order to manage all patients, including those with a positive Covid-19 diagnosis. It is important that services are resourced sufficiently to be able to continue finding novel and effective ways of treating patients efficiently and appropriately.

What technological or innovative solutions might be implemented long and short term to tackle the cancer crisis?

It is anticipated that the roll-out of IT solutions within Radiotherapy Operational Delivery Networks (ODN) will help in establishing network peer-review and tools to understand the consistency of radiotherapy provision across the networks. It is critical that these software tools are rolled out immediately and that services are suitably resourced to take maximum advantage of them.

Building on this, there should be an initiative to increase access to new AI technologies that will enable auto-contouring and auto-planning for radiotherapy. Both will potentially bring much needed efficiencies to radiotherapy workflow. This should be done at the same time as longer term investment in the training of the new radiotherapy workforce, so that there is sufficient expertise in place to gain the most benefit from AI advances.

What do cancer services need to look like in the future to improve survival of cancer patients?

Services will need to evolve to ensure all patients have ready access to the latest, most effective treatments delivered in a safe and supportive environment. This may mean larger facilities or increased numbers of 'satellite' services to bring radiotherapy closer to patients. The pandemic has shown that many services are still being delivered in cramped, dated facilities not fit for purpose to ensure social distancing and Covid-safe environments. The focus on 'sweating assets' and maximising patient throughput on radiotherapy treatment machines needs to be reconciled with providing environments that will ensure patient safety during future pandemic situations.

Widespread implementation of remote working initiatives has been effective and are expected to continue to be used by services in future. IT infrastructure and network capacity therefore needs to be fit for this purpose. Technology to support staff working from home (for example, appropriate computing facilities, monitors, workspace etc) will need to be provided.

What policy recommendations should the APPGs make to the Government for tackling the Covid-induced cancer crisis.

Service provision really needs to be designed to be robust to face future challenges. The current radiotherapy service specification recommendations are all understandable and sensible, but they will stretch resources further. If there were another pandemic, at a time when we are nearer the service specification utilisation requirements, then it is doubtful whether the response would be the same as it has been during the last 14 months.

There also needs to be:

- National purchasing of equipment
- Increase in funded training for all staff groups
- Investment in IT services
- Support tackling Information Governance (IG) requirements to facilitate data sharing between centres in the same network, and from one network to another.

Anything else you would like to say?

The pandemic has demonstrated that radiotherapy services can be dynamic, innovative and creative in ensuring continuity of care for patients requiring treatments. The medical physics and engineering workforce have been key to this innovation. This creativity and dynamism needs ongoing support and investment so that the future workforce can continue to provide excellent standards of care whilst navigating ongoing and new challenges.

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