

Media Brief | March 2019



Key issues in clinical oncology

What is clinical oncology and what does a clinical oncologist do?

Clinical oncology relates to all types of cancer treatment except surgery, including radiotherapy and systemic therapies (called systemic anti-cancer treatments - SACT).

Most cancer patients have more than one method of treatment, such as surgery to remove a tumour, followed by radiotherapy and SACT. Tumour surgery would be completed by a surgical oncologist and the other treatments would be organised and given by a clinical oncologist and their team.

Radiotherapy uses machine-generated radiation energy or particles and radioactive materials to precisely target and kill tumours. Radiotherapy typically refers to “external beam” radiotherapy, where patients are treated with high energy X-rays beamed into the body, most often created by a machine called a linear accelerator (LINAC). A newer type of external beam radiotherapy called proton beam therapy, which uses proton particles instead of X-rays, has also started being used in the UK for patients with a few very specific cancers.

Meanwhile, “brachytherapy” is a type of internal radiotherapy, where radioactive materials called radioisotopes are inserted inside a patient (usually for short periods but occasionally permanently) to kill cancer cells. Examples include using radioiodine to treat thyroid cancer and iridium to treat cervical cancer.

SACT drugs include chemotherapy, which stops cancer cells multiplying, hormone therapy, which limits hormones that can encourage cancer to grow, and immunotherapy, which primes the body’s immune system to fight cancer. New biologically targeted drugs are also being developed to block gene mutations in some cancers.

A clinical oncologist is a doctor who is expertly trained in prescribing both radiotherapy and systemic therapies, and they work across the UK’s 62 specialist cancer centres.

How do you become a clinical oncologist?

It usually takes at least 14 years training to become a clinical oncologist.

Following five years of medical school, all trainee doctors undertake a mandatory two-year foundation programme which gives them experience of various hospital roles and in primary and community care. After completing their foundation training doctors then decide to

specialise or go into general practice.

If a doctor decides they want to focus on medicine (instead of imaging, psychiatry, child health etc.) they complete another two years of core medical training as a physician, across a number of specialties. During that time, if they know they want to eventually specialise in clinical oncology they will get further exposure to oncology work.

After core medical training, trainees then complete five years of specialist training and exams in clinical oncology, set by The Royal College of Radiologists, to become dedicated clinical oncology consultants.

How to clinical oncologists fit in with other members of the cancer care team?

Together with a patient's GP, a clinical oncologist is often the key medical contact for a cancer patient, as these consultants can be involved in managing and overseeing treatment from beginning to end.

However, cancer treatment is extremely varied and complex depending on each patient's circumstances, and clinical oncologists work with a multidisciplinary team of other doctors and clinical staff to diagnose, treat and support patients.

Members of the cancer care team include a variety of other doctors, such as pathologists, who are experts in examining tissue and cells to make a precise diagnosis, and radiologists, who are experts in reading diagnostic scans. Haematologists treat patients with cancer of the blood with SACT. Medical oncologists treat patients who have cancers with SACT alone. Clinical oncologists can work alone or with medical oncologists and haematologists to deliver radiotherapy and SACT in combination.

These specialist consultants are supported by a broad team of clinicians, including therapeutic radiographers and physicists who plan and deliver radiotherapy, chemotherapy nurses and pharmacists who prescribe and administer chemotherapy drugs and clinical nurse specialists trained in supporting patients with different types of cancer.

What is the workforce crisis in UK clinical oncology?

Nearly [1,000 people are diagnosed with cancer every day](#), with patients needing access to a wide variety of treatments.

More and more people are also predicted to get cancer - projections from Cancer Research UK show that by 2035 there will be 514,000 new cases of cancer a year, compared to approximately 360,000 cases now.

[RCR figures](#) show that there were 876 consultant clinical oncologists working in the UK in 2017, the equivalent of 817 full-time doctors (as some work part-time) to treat hundreds of thousands of patients.

While we are seeing new consultants come into the workforce each year, the growth is not enough to keep up with demand. In 2017, 17 new consultants joined the workforce.

However, to cover vacancies and the overtime already being worked by over-stretched consultants, the UK actually needed another 144.

The RCR estimates that by 2022, the NHS will need a minimum of 1,102 full-time clinical oncology consultants to look after cancer patients. However, based on current trends, there will only be 855, meaning the UK will be 22 per cent short of the minimum number of consultants it needs.

What needs to happen to improve the consultant workforce crisis and wider clinical oncology services?

The primary solution to the workforce shortage across the UK is for more Government funding to be given to training agencies (Health Education England and its devolved counterparts) so that hundreds more doctors can begin training to become clinical oncology consultants. Given the time it takes to train a clinical oncologist, and the growing population of cancer patients, this cannot happen soon enough.

In England, NHS England has committed to addressing shortfalls across the cancer workforce in coming initiatives, but how far this will go will depend on future funding arrangements.

We want clinical oncology to continue to be an exciting and innovative area of medicine for UK doctors and healthcare workers, which also means investing in the equipment they use and how and where they work.

Nearly all cancer centres are now [running their LINAC radiotherapy machines for increasingly extended hours](#), meaning teams are constantly busy supporting and treating patients. The lack of “spare” capacity means that cancer teams struggle to find time to implement new ways of working and quality improvement, such as learning and rolling out new radiotherapy techniques.

While central Government has previously made cash injections to help upgrade cancer centre LINACs, there is no guaranteed rolling funding for radiotherapy machines and software, meaning those centres with older equipment are unable to implement newer radiotherapy techniques, such as stereotactic ablative radiotherapy, which uses high intensity radiation beams, targeted from different angles around the body.

Currently, [just over half of UK centres](#) are able to offer this modern technique.

Patient care is also being negatively affected by incompatible, inefficient IT programmes in our hospitals, as poor IT slows down information sharing and decision-making by clinicians.

So, along with the urgent need for more medical and oncology support staff, the RCR is calling for health bosses to plan ahead and strategically invest in sustainable radiotherapy machine upgrades and better IT linking hospital sites.

What is the future of clinical oncology?

Clinical oncology treatment is changing fast, with new types of radiotherapy, brachytherapy and immunotherapy undergoing trials and coming into practice.

We are seeing newer types of external beam radiotherapy – such as intensity modulated- and stereotactic body radiotherapy – being used in cancer centres, and the RCR is campaigning to ensure we have the staff and expertise to rollout these techniques across the UK.

December 2018 saw a milestone development for UK radiotherapy services, with the [first NHS patients treated with high-energy proton beam therapy](#) at The Christie centre in Manchester. This new technology will especially benefit some young cancer patients and those with very rare tumours, and the planned expansion of the programme will help the NHS to investigate more uses for this type of radiotherapy.

In brachytherapy, novel new radioisotopes such as radium 223 (which specifically binds to cancer cells) are starting to be used to boost treatments for prostate cancer and reduce treatment side-effects in patients.

Over the next decade, we predict [magnetic resonance scanner-enabled LINACs](#) – which enable allow clinical oncology teams to monitor changes in tumour position and avoid healthy tissue in real-time during radiotherapy – will become more widespread.

Great developments are expected around using immunotherapy drugs in combination with radiotherapy, and we hope that these systemic therapies will be proven to boost the local tissue immune-related changes that radiotherapy produces.

The UK Government is making big [commitments to expand genomics services](#), both to tailor cancer treatment and, hopefully, improve cancer prevention.

Advances in genetic mapping will mean cancer patients will have their tumours routinely 'decoded' in future, enabling clinical oncologists to prescribe targeted, fully personalised systemic and radiotherapy for every patient.

For more information, comment and interviews on the latest issues in diagnosing disease and in cancer treatment, please contact our Communications Team on media@rcr.ac.uk / 020 7406 5941 (Out of office hours please call 07554 998197). You can also follow us on Twitter @RCRadiologists