



Faculty of Radiation Oncology, RANZCR Submission to the  
Strategic Review of Health and Medical Research in Australia  
(Chair McKeon)

This submission can be made public

### About the Faculty of Radiation Oncology

The Faculty of Radiation Oncology, RANZCR, is the peak bi-national body advancing patient care and the specialty of radiation oncology through setting of quality standards, producing excellent radiation oncology specialists, and driving research, innovation and collaboration in the treatment of cancer.

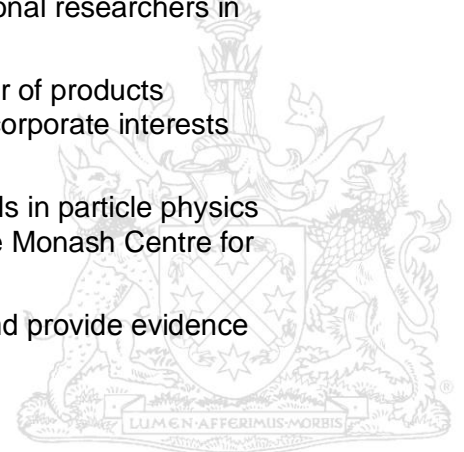
The Faculty vision is to have an innovative, world class radiation oncology specialty for Australia and New Zealand focused on patient needs and quality.

### About Radiation Oncology

Cancer is a leading cause of death in Australia – more than 43,000 people are estimated to have died from cancer in 2010. The use of ionizing radiation (radiotherapy) is one of the main treatments for cancer being the second most successful curative modality, and the medical specialty of Radiation Oncology has a pre-eminent role in this. It has been estimated that 52% of patients with cancer should receive radiotherapy as part of their treatment as in a multi-modality combination with surgery and/or chemotherapy it is very effective in both curing cancers and the palliative relief of advanced cancers.

### Why is it in Australia's interest to have a viable, internationally competitive health and medical research sector? (Terms of Reference 1 and 6)

1. The health and wellbeing of Australians is core to the nation's long-term productivity and economic viability - this in turn is underpinned by improvements in health service delivery made possible through health and medical research.
2. To ensure relevance of research to the Australian clinical context, taking into account the preferences of the Australian cancer population (including indigenous peoples), and geographical barriers.
3. To improve the quality of health services by fostering learning in hospital and health services and retain excellent clinicians and translational researchers in Australia
4. To manage the risk of Australia becoming a blind consumer of products developed and driven by device manufacturers and other corporate interests from overseas
5. To cross-fertilise with both existing and future National Skills in particle physics and radiobiology (in particular protons, carbon ions and the Monash Centre for Synchrotron Science (MCSS) and ANSTO)
6. To match Australia's unique health funding environment and provide evidence for cost effectiveness of cancer therapies



## **How might health and medical research be best managed and funded in Australia? (Terms of Reference 2, 3 and 7)**

It has been acknowledged that clinical trials are the vital research link between scientific laboratory discoveries and the availability of new treatments for cancer patients. The most valuable trials are those that are large scale to ensure power of the study, and these are most efficiently managed by multisite collaborative clinical trial groups. However, clinical trial groups are placed in a difficult position as the more successful they are at attracting grants, the greater their indirect costs.

Infrastructure funding for cooperative cancer clinical trials groups that are actively involved in clinical research is unreliable and continuity of adequate funding is currently a major issue. Clinical trials are the most valuable way to assess new interventions and treatments and must be performed through cooperative groups. They provide the evidence which changes practice. Large trials with large patient numbers ensure generalisability of the intervention and increase the power of the study, whereas small trials often create uncertainty. Hence, continuity of infrastructure funding for multisite collaborative clinical trials groups is important to ensure the feasibility of large clinical trials.

It is our view that multisite collaborative clinical trials groups need a dedicated recurrent funding stream through NHMRC in addition to the ad hoc project funding currently being provided to give these critical groups some surety of continuity. This dedicated funding should be contingent upon meeting of annual and pre-agreed Key Performance Indicators, such as:

- Number of open trials
- Number of patients on trials
- Number of publications and citations

The currently funding mechanisms for clinical research trials through NHMRC create high competition for a relatively small funding pool, meaning that many valuable projects are forced to look for other funding sources outside of NHMRC, most commonly for corporate pharmaceutical funding. In the radiotherapy sector, pharmaceuticals do not play a significant role in treatments and therefore in the absence of NHMRC funding, very limited alternative funding opportunities are available.

Overall, health and medical research funding in Australia should grow in real terms year on year. Expenditure on medical research in Australia is underfunded compared to international levels of investment.

## **What are the health and medical research strategic directions and priorities and how might we meet them? (Terms of Reference 5, 12 and 13)**

### **Key direction – medical technology**

From the perspective of radiation therapy, the rate of [technological change](#) and how this may affect costs, quality, and lead to [innovation](#) requires attention. Radiation oncology is entering a new age, driven by technology and there is an imperative to determine the best way to adapt clinical trials to meet these new opportunities. The enormous potential for more specific cancer treatment, coupled with the complexity of evaluating new, highly specific technology, requires a strategic view of research, evaluation and implementation.

- Development of medical technology and devices in Australia means that expertise can be developed locally. Development of Cochlear implant is an example of how this has been done successfully.
- Research and evaluation of medical technology is ad hoc, lacks consistency and is not appropriately funded in Australia. Differences between our health system and its international counterparts mean that Australian –specific evaluation of technologies is essential.
- Funding for the timely evaluation of medical technology is essential. As an example, Australia is over 15 years behind on implementing Intensity Modulated Radiation Therapy (IMRT) which offers superior sparing of normal organs next to the cancer being treated with radiation. This echoes a similar delay back in the 1990s with the introduction of Multi Leaf Collimators (MLC) in radiotherapy, which is an automated shielding device which protects normal organs from radiation.
- Australia needs a strategic view on technology development, research, evaluation and implementation.

#### **Key direction –multimodality treatment**

There is increasing recognition that for many cancers the best outcomes, in terms of cure and treatment related morbidity, are obtained by judicious combinations of surgery, radiotherapy and chemotherapy. Research therefore requires interdisciplinary collaboration. There is a pressing need to identify biomarkers of response to radiotherapy, chemotherapy and targeted therapies. New trial designs will be required to establish the safety and efficacy of combinations in order to “personalise” treatment according to the molecular characteristics of the tumour and the host’s genetic sensitivity. Trials also need to be simpler, more pragmatic, and less expensive. Where there is no consensus on the most appropriate treatment approach for a particular disease, comparative effectiveness research needs to be undertaken to provide evidence to underpin guideline development.

#### **Key direction– international trials**

Current funding is not equally supportive of Australian components of large international trials as compared to local Australian trials. Australia needs to participate in large international trials, because they accrue higher number of patients and answer the clinical questions relatively quickly. Results of these trials are as applicable in Australia as they are internationally in improving patient outcomes. Australian support and participation in such trials gives Australia a greater influence with future trials, including what questions should be answered. Such participation also builds good-will internationally which enables future support for Australian-initiated trials from overseas collaborators. At the implementation end of the process, Australian participation in international trials makes it easier to translate findings into the Australian clinical context due to existing expertise build locally through the trial process.

#### **Key direction – safety and quality**

There are enormous health gains to be made if we applied what we already know accurately across the Australian hospitals.

## **How can we optimise translation of health and medical research into better health and wellbeing? (Terms of Reference 4, 8, 9, 10 and 11)**

Within the Australian healthcare system, implementation in clinical context largely depends on the availability of reimbursement through such mechanisms as the Medicare Benefits Schedule. The introduction of new interventions often requires extra set up time and Quality Assurance, which are not cost neutral. Australia needs more research into implementation of new technology and change dynamics that delay implementation at clinical department level. Similarly, financial barriers to the implementation of new technologies and interventions need to be recognised in the funding models.

### Implementation of Evidence-based Quality Assurance Measures.

Australia has been an international leader in Radiotherapy Quality Assurance. Two decades of collaborative effort have seen a National Framework for Radiotherapy Standards which are unique world-wide. Radiation Oncology KPI's, e.g. RT Australian Council on Healthcare Standards (ACHS) Indicator Data Set are also unique worldwide. The Australian Clinical Dosimetry Service (ACDS) although formative is arguably in the world's top three international dosimetry services. The RANZCR Faculty of Radiation Oncology Clinical Audit Tool is also at the forefront in terms of clinician performance monitoring. The Collaboration for Cancer Outcomes Research and Evaluation (CCORE) is an international Leader in radiotherapy evaluation, research & development, quality assurance, cost effectiveness and patient based Research. TROG has also had significant impact in the area of technology evaluation QOL and Cost Effectiveness Research Further support for initiatives like these will ensure Australia remains well informed and safely supplied with cost effective RT Technology and Practice.