

RESEARCH STRATEGIC PLAN



The Royal Australian
and New Zealand
College of Radiologists®

2017 - 2020

Purpose

The purpose of the College's Research Strategic Plan is to provide a blueprint to guide the development of our research investment and policy framework through articulating clear direction and priorities for the years 2017-2020.

College Profile

The Royal Australian and New Zealand College of Radiologists (RANZCR) is a not-for-profit association of members who deliver skills, knowledge, insight, time and commitment to promote the science and practice of the medical specialties of clinical radiology (diagnostic and interventional) and radiation oncology in Australia and New Zealand.

The College caters for members in Australia and New Zealand but also now has trainees in Singapore and members living in other parts of the world. It is intended that this document does not exclude them. All

initiatives will endeavour to provide opportunity for them.

The College is led by clinicians who are democratically elected by the membership. The ultimate oversight and responsibility for the College is vested in the RANZCR Board of Directors.

The work of the College is scrutinised and externally accredited against industry standard by the Australian Medical Council and the Medical Council of New Zealand.

College Vision

RANZCR is the peak body driving best practice in clinical radiology and radiation oncology for the benefit of our patients.

College Mission

To drive the appropriate, proper and safe use of clinical radiology and radiation oncology services for optimum health

outcomes by leading, training and sustaining professionals.

Values

- **Commitment to best practice**
- **Acting with integrity**
- **Accountability**

Context for the Planning

Process

As outlined in RANZCR's vision, mission and values, the College is strongly committed to best practice, patient safety, quality training and high professional standards. It is acknowledged that the safe and effective practice of modern medicine draws ever increasingly on the outputs of health and medical research and a commitment to evidence-based clinical decision-making. In addition, over the past decade there has been a growing emphasis on research translation and dissemination. This includes

generating new knowledge, taking the outcomes of research and moving the findings through to new treatments, interventions, improved decision-making, effective policy formulation and greater patient safety and outcomes.

Importance of Research

- **For our Patients:** Patients enrolled in clinical trials are more likely to have a better outcome.
- **For our Society:** Annual return of cancer research is estimated to be 40% (10% monetized health benefit + 30% spill overs).
- **For our members (Trainees, Educational Affiliates and Fellows):** Research stimulates team-working, collaboration and access to continuous professional development. The above increase job satisfaction and help prevent/reduce burnout.

- **For our Funders:** With limited resources and soaring costs, we hold a duty to provide a solid evidence-base rationale for technology innovation.

Medical practice, including the practice of clinical radiology and radiation oncology, is constantly moving forward. Clinicians need to be research literate and research active and should use their reflections on problems that are encountered on the ground to generate research questions to improve health outcomes. The aim of this Research Strategic Plan is to encourage and support members of the College in research in a range of ways throughout their careers - from training through to senior professional status.

Research goal

The current RANZCR Strategy to 2017 articulates 11 College-wide Strategic Pillars. Pillar 7, Research, states:

Clinical radiology and radiation oncology are recognised as professions

characterised by a research ethic, and Australia, and New Zealand become more competitive internationally.

Desired Plan Outcomes

- That research and evidence-based practice is embedded at all levels of training and practice throughout the career cycle of members.
- That research and evidence-based practice is embedded at all levels of the College's activities, decision-making and policy formulation.
- That research conducted by members of the College increasingly contributes to improved individual and community health outcomes.
- That career opportunities – including allocated time for research - are available to research-active clinical radiologists and radiation oncologists throughout the health system in Australia and New Zealand.

- That an increasing number of College members participate in productive research networks and collaborations.
- That the College is regarded as a valued, independent voice advocating for the role of research in the provision of efficient and effective health services, and improved and safer patient care.
- That productive research-based linkages are established with similar professional bodies around the world.
- That College members are well positioned to be successful with funding bodies.
- That research undertaken by College members is ethical, safe and in accordance with specific country codes for research. For Australia it is, **Code for the Responsible Conduct of Research:**
<https://www.nhmrc.gov.au/research/responsible-conduct-research/summary-australian-code-responsible-conduct-research>

Key Collaborators and Partners

Key collaborators and partners include:

- College members
- State and National Governments
- Public Health Services, private providers, equipment manufacturers and pharmaceutical companies
- Research funders in Australia, New Zealand, and internationally.
- Patients, families and the broader community.
- Local and International Universities and Medical Research Institutes.
- Consumer groups and charities.

Challenges

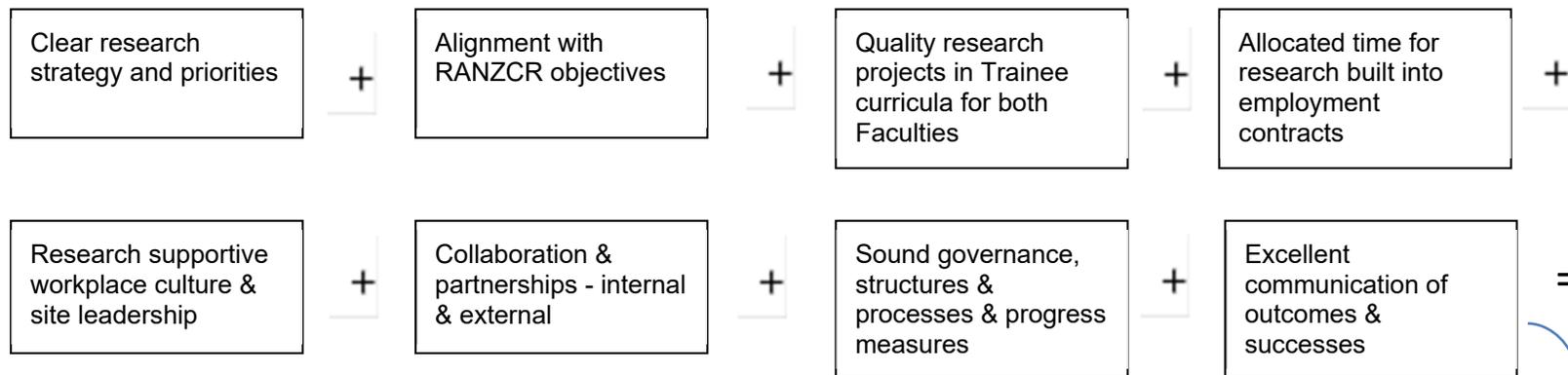
- Insufficient, unfunded and at times low quality research may adversely affect patient outcomes and the perceived contributions of clinical radiology and radiation oncology. Currently Australia

and New Zealand clinicians are largely reliant on research outcomes generated elsewhere to guide local practice.

- Clinicians have restricted or non-existent allocated time for research due to high workloads in both the public and private sectors. Partly this is because the position descriptions of radiation oncologists, clinical radiologists often do not include research as core duty.
- College trainees do not have enough opportunities to develop their research experience.
- Research engagement is not sufficiently professionally and financially rewarded.
- The disciplines of radiation oncology and clinical radiology are under-represented in academic institutions across Australia and New Zealand. Clinical radiology and radiation oncology research relies largely on investigator-initiated projects. Soaring costs and lack of funding are a huge threat to pharma-independent research.

Drivers of Success

Eight “drivers” underpin the success of the RANZCR’s Research Strategy:



Clinical radiology and radiation oncology are recognised as professions characterised by a research ethic, and Australia, New Zealand and Singapore become more research competitive internationally.

Research Priorities

Through an extensive process of consultation and reflection the College has identified five key priority areas in this Research Strategic Plan.

1. Strengthening research culture

The College has the opportunity to re-position the clinical radiology and radiation oncology professions around excellence, evidence-based practice and patient safety. It is essential that long term approach is taken to promoting and facilitating a research culture across the membership which encompasses all aspects of research (including basic science, clinical, translational and implementation research and big data).

2. Trainee research experience

Lifelong competence and interest in research commences with the way in which the

College selects trainees and the degree to which research is effectively embedded in the curricula of both Faculties.

The College will seek to incentivise and reward publication and encourage and mandate training sites to be supportive of research and evidence-based practice.

3. Partnerships and collaboration

The College is committed to enhancing internal collaboration and alignment across the two Faculties and to seeking out productive relationships and partnerships with a range of external organisations to the benefit of members, patients and the broader community.

4. Policy formulation

Members have a clear role to play in providing valuable perspectives on the organisation and delivery of health services. The health sector must become more adept at driving innovation and change more

quickly through health practice in a safe and cost effective manner. Clinical radiology and radiation oncology are vital and growing aspects of a modern health system in diagnosis and treatment. Quality of care and Patient safety are paramount as is value for public and private health providers. The College has a key role in advocating for policy changes on issues such as evidence-based practice, protected research time, safe working hours, health services and health economic research which leads to the creation of progressive clinical guidelines and health related outcomes.

5. Governance and performance

The College is committed to coordinated implementation of the research plan across both Faculties and to tracking and reporting on performance against Key Performance Indicators.

Strategic Objectives and Initiatives

1. Research culture

Strategic Objective	Outcomes	Priority Actions, and Initiatives
<p>To promote and facilitate a research culture across the career span.</p>	<ul style="list-style-type: none"> ▪ More and higher quality research projects funded. ▪ Greater numbers of members engaged in research. ▪ Promote and support more combined PhD/ Fellowships options. ▪ Research embedded in all levels of training and practice. ▪ Funding leveraged from within and outside the RANZCR. ▪ Effective internal and external communication of research opportunities and achievements. ▪ Strong awareness externally of the College's strategy and position on key health and medical research issues. 	<ul style="list-style-type: none"> ▪ Alignment of all College research funding including bespoke grants and scholarships to the goals of the research plan. ▪ Create incentives to improve engagement and performance where deficient. ▪ Investigate the option of creating a “research active” category for members who are research engaged and productive (clinical research pathway). ▪ Explore the option of creating a “virtual research institute” or centre either as a RANZCR venture or in partnership with another entity. ▪ Develop and strengthen the research mentor scheme to “buddy” experienced researchers with those seeking to start or re-visit their research careers. ▪ Establish support and incentives to encourage early and mid-career researchers. ▪ Ensure that the communication of research achievements by members is a regular aspect of all college publications. ▪ Encourage members to report on the outcome of awarded grants, including research findings and publications. ▪ Develop and publicise a limited number of high quality research questions, and align at least some College awards and incentives to investigating those questions. ▪ Adopt a research model similar to the Hierarchy of Diagnostic Efficacy Triangle¹. See Appendix 2.

¹ Strategic Planning Discussion Paper-Radiology Quality and Safety, RANZCR Quality and Safety Committee, January 2014

2. Trainee research experience

Strategic Objective	Outcomes	Priority Actions and Initiatives
<p>To provide a consistently high quality research experience for trainees that instils a life-long interest in research.</p>	<ul style="list-style-type: none"> ▪ A quality research training experience for all trainees. ▪ Structured Grants Program to support priority research areas. ▪ Structured Awards Program to recognise excellence in research. ▪ More trainee research publications. ▪ Increased number of trainees progressing as early career researchers. ▪ Alignment of curricula and expectation across both Faculties. ▪ Enhance coordination of research projects and training expectations. ▪ Academic evidence to underpin program structure, curricula and learning approaches including the role of research in clinician training. 	<ul style="list-style-type: none"> ▪ Prioritise prior research experience or activity in trainee selection. ▪ Align research expectations across both Faculties via the Education and Training Committee and Research Committees. ▪ Reward and recognise trainee publications. ▪ Include meeting research supportive culture and processes in Site Accreditation processes. ▪ Strengthen and support the role of site-based and network research mentors for trainees. ▪ Develop incentives and rewards for achievement in research including PhD, Masters, Doctor of Medical Science or other research higher degree completion. ▪ Create and support pathways for combined PhD/Fellowship training, where appropriate.

3. Partnership and collaboration

Strategic Objective	Outcomes	Priority Actions and Initiatives
<p>To encourage and promote research partnerships and collaborations that provide research opportunities for Fellows</p>	<ul style="list-style-type: none"> ▪ An increased number of high quality research organisations formally and informally partnering with the College and members. ▪ More funding and resources available directly and indirectly for clinical radiology and radiation oncology related research. ▪ Research partnerships with international organisations and like professional bodies. ▪ Strengthened relationships with public and private health services and industry. 	<ul style="list-style-type: none"> ▪ Create programs and processes to develop, strengthen and promote research networks across both Faculties. ▪ Investigate the possibility of inviting clinical radiologists to join the Trans Tasman Radiation Oncology Group (TROG). ▪ Develop a database of research funding opportunities for members. ▪ Explore the use of research Memoranda of Understandings (MoUs) to formalise relationships with reputable research organisations such as Universities, medical research institutes and commercial organisation research entities. ▪ Establish linkages where appropriate with similar international professional organisations that have research entities and clear goals. ▪ Benchmark and partner with other Radiology and Radiation Oncology Colleges and other Specialty Colleges. ▪ Develop relationships with external organisations and industry to promote financing in clinical radiology and radiation oncology research. ▪ Leverage funding with other research and professional organisations.

4. Policy formulation

Strategic Objective	Outcomes	Priority Actions and Initiatives
<p>To enhance the capacity of members to conduct high quality research that has a positive impact on health systems, outcomes for patient care and community well-being.</p>	<ul style="list-style-type: none"> ▪ Enhanced influence for the College on key research, economic value and safe practice issues. ▪ More members conducting and participating in high quality health services/systems research. ▪ Research time built into awards and employment contracts. ▪ Enhanced capacity of members to lead and facilitate innovation and health system/service improvements and promote opportunities for collaborative research. ▪ Improved patient and community health outcomes. ▪ Faster and safer uptake of research outcomes and innovation. ▪ Stronger relationships between the College and health services. 	<ul style="list-style-type: none"> ▪ Lobby public and private employers to include dedicated research time in contracts and awards. ▪ Create and maintain a priority list of high impact, unanswered research questions that includes clinical radiology and radiation oncology. ▪ Enhance the capacity of the College and Fellows to engage in debates about health system costs and value related to clinical radiology and radiation oncology. ▪ Lobby for the creation of more academic professorial appointments, especially in clinical radiology. ▪ Investigate options to promote clinical trials with established clinical trial organisations, especially for clinical radiology.

5. Governance and performance

Strategic Objective	Outcomes	Priority Actions and Initiatives
<p>To provide the governance frameworks and administrative support required to ensure that the strategic plan priorities and initiatives are efficiently and effectively implemented and reported on across all of the College's activities and with key partners.</p>	<ul style="list-style-type: none"> ▪ Measurable improvement over time in the number of members engaged in research – particularly amongst Clinical Radiologists. ▪ Awareness of the Research Plan across all key College bodies. ▪ Clear and effective internal College governance and decision-making frameworks. ▪ Sustainable funding for the research strategy. ▪ Alignment of research goals and measures across all relevant College committees and the Board. 	<ul style="list-style-type: none"> ▪ Strengthen collaboration across the Faculties including exploring the option of meetings between the two research committees. ▪ Agree on a limited number of research performance indicators that will be regularly reported on. ▪ Ensure alignment of Faculty processes, policies and plans on research across training, curricula, mentoring, and performance indicators. ▪ Approval of Research Strategic Plan by the RANZCR Board. ▪ Development of communication plan.

Appendix 1: Stakeholder Benefits Matrix

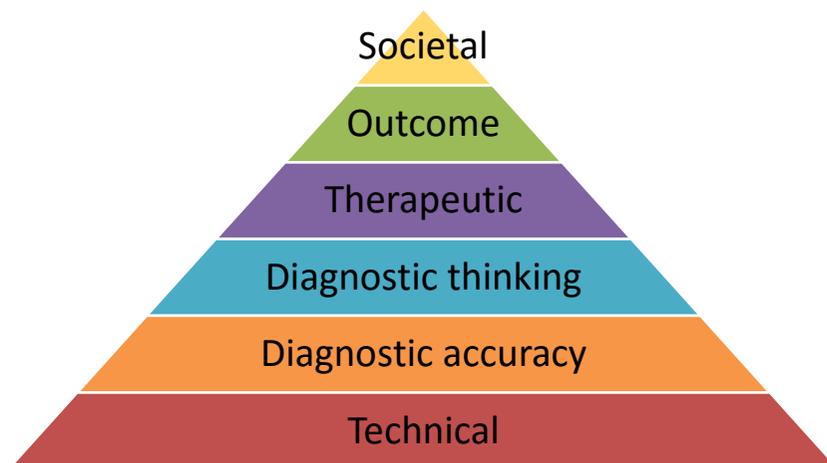
The benefits or outcomes key stakeholders would value from the research strategy.

Stakeholder	Benefit	Stakeholder	Benefit
RANZCR	<ul style="list-style-type: none"> Strategy and focus for research Profile as a research enabler and supporter, recognised by Fellows and external stakeholders Key issues addressed and improved Effective use of resources Consolidated approach to internal research support 	Consumers and Community	<ul style="list-style-type: none"> Improved health outcomes High quality care from well trained and research informed radiology and radiation oncology workforce Research response to local health issues and challenges Access to clinical trials and new treatments Participate and contribute to research
Fellows and Education Affiliates	<ul style="list-style-type: none"> Research networks to work with Research relevance to practice challenges Enhancement to membership Opportunity to participate in research Evidence-base for education and future re-certification Improved and novel collaboration and partnerships between clinical radiology and radiation oncology 	Governments	<ul style="list-style-type: none"> Cost effective clinical radiology and radiation oncology treatments Clinical and academic workforce that is well informed and considered world leaders Ideas and innovative approaches Independent, expert advice on health and medical research issues and challenges as they pertain to clinical radiology and radiation oncology Evidence-based health policy development
Trainees	<ul style="list-style-type: none"> Research pathway developed for Trainees that are interested in an academic career Funding for training and building a research career and enhanced research training Awards and scholarships Research Network to support future career 	Industry – pharma, equipment manufacturers etc.	<ul style="list-style-type: none"> Appropriate and productive partnerships Access to innovation Credibility Research and Clinical expertise of members

Stakeholder	Benefit	Stakeholder	Benefit
Health services and systems, Public and Private Health providers	<ul style="list-style-type: none"> ▪ Expert work force that is research-literate ▪ Better treatments and interventions ▪ Improved health outcomes ▪ Enhanced academic workforce ▪ Capacity to use research to address specific, local and global health issues ▪ Embedding research in healthcare settings 	Research funders (NHMRC, ARC, Consumer and Clinical Trial groups)	<ul style="list-style-type: none"> ▪ Research and research translation workforce ▪ College leverage for research funding allocated ▪ Focus on specific clinical and population or health system and service issues ▪ Advice and an independent view
Universities and medical research institutes	<ul style="list-style-type: none"> ▪ Access to Fellows as HDR supervisors and co-supervisors ▪ Enhanced capacity to evidence research impact ▪ Publications and research productivity ▪ Access to hospital and health system ▪ Access to patient populations and research materials ▪ Health systems and services research 	Sponsors, philanthropy and donors	<ul style="list-style-type: none"> ▪ Well organised policy and Governance framework to address research issues ▪ Prestige of the College ▪ Access to the expertise of the College Fellows ▪ Goodwill

Appendix 2: Hierarchy of diagnostic efficacy: RANZCR Strategic Plan, January 2014, RANZCR Quality and Safety Committee (QuaSC)

Hierarchy of diagnostic efficacy



Societal – cost benefit and cost effectiveness of the diagnostic test at population level

Outcome – whether performance of the diagnostic test has a demonstrable / measurable impact on morbidity and mortality or some other measure of patient health

Therapeutic – the extent to which performing a diagnostic test changes clinical decision making / patient management

Diagnostic thinking – likelihood ratios (which link pre and post-test probability to test performance)

Diagnostic accuracy – test performance (sensitivity, specificity, positive and negative predictive value)

Technical - image quality, radiation dose, equipment

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