The Royal Australian and New Zealand College of Radiologists

RANZCR submission to the Productivity Commission Health Workforce Study

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The RANZCR and the context of its involvement in matters of health workforce

The Royal Australian and New Zealand College of Radiologists (RANZCR) is the leading professional organisation for the promotion of the science and practice of the medical specialties of Radiology and Medical Imaging (Diagnostic and Interventional) and Radiation Oncology in Australia and New Zealand. It is responsible for the conduct of training in the medical specialties of Radiology and Radiation Oncology, and provides continuing professional programs for both fields.

The RANZCR recognises that it has a shared responsibility in ensuring that the Australian and New Zealand communities are served by sufficient and appropriately trained radiologists and radiation oncologists. The College's responsibility is in respect of the provision of a suitable training program, in determining the requirements for sites to conduct this training, and the assessment of applicants through examination against defined standards. It has been accredited by the Australian Medical Council to undertake these roles. The RANZCR reports data regarding its training and assessment activities to a range of bodies included the Australian Medical Workforce Advisory Committee of the National Health Workforce Secretariat, the Medical Training Review Panel, jurisdictions and various other organisations, including those compiling information for doctors-in-training.

Following successful completion of defined training and assessment (or assessment alone in the case of those applicants whose training was acquired outside of Australia or New Zealand) individuals are eligible to seek election to Fellowship of the College. The RANZCR undertakes, in accordance with agreed Australian Medical Council procedures, the assessment of overseas trained doctors for specialist recognition and area of need positions.

The RANZCR's responsibilities in workforce matters are shared with a large number of other groups and agencies. These include (but are not limited to):

- The Australian Government Department of Education, Science and Training (number of funded places available for entry into medical programs)
- Medical schools (content of curriculum, specifically that relating to the further study of radiology and radiation oncology)
- Jurisdictional governments (operation of Post Graduate Years (PGY) 1 & 2, funding of specialist training positions)
- Private sector health providers (funding of specialist training positions)
- Medical Boards (registration)
- The Australian Government Department of Health and Ageing
    - Health Workforce Branch
    - Diagnostics and Technology Branch
- Health Insurance Commission (provider numbers and special arrangements for registration of equipment and individual practitioners in regard to some radiology and radiation oncology services.)

In recognition of its responsibilities, the College conducts continuous review of its educational activities, both internally and with the assistance of outside agencies and consultants. Following an external review relating to assessment procedures, the College is at present conducting a Curriculum Development Project which will articulate the curriculum in respect of competencies relating to both Radiology and Radiation Oncology. This will be complemented by a Principles of Training project which will explicitly consider modes of delivery of various aspects of training, and the resources required in clinical and non-clinical environments to support delivery of the curriculum. Training sites will then be accredited on the basis of their capacity and capability to deliver

the training program. More detail about these projects is included later in the submission.

The RANZCR undertakes regular analysis of the Radiology and Radiation Oncology workforce through surveying its members to obtain snapshots of the current workforce. The results of these surveys be accessed on the College's website[1]. Additionally the RANZCR undertakes, commissions and collaborates in research into issues influencing the manner in which medical imaging and radiation oncology services may be provided in the future. This includes engagement in issues relating to the provision of cancer services, as well as considering the most effective models for the delivery of medical imaging and interventional radiology procedures.

The RANZCR is a party to the Quality and Outlays Memoranda of Understanding with the Commonwealth in relation to provision of Radiology and Obstetric and Gynaecological Ultrasound services through Medicare. The Radiology MoU includes a number of priority quality initiatives which have been integrated into the Quality Use of Diagnostic Imaging (QUDI) Program being managed by the College under contract to the Department of Health and Ageing. More detail about the scope of projects related to workforce being conducted under the QUDI Program is included later in this submission.

[1] 2004 Australian Radiology Workforce Report http://www.ranzcr.edu.au/documents/detail.cfm?ophileEntry=692&ophileLibrary=29&ophileReturnpage=list.cfm&llLetter=All (accessed 28 July 2005)

Mapping the Future

The RANZCR recognises that the field of health is one that involves significant and rapid change. This is especially evident in the fields of radiology and radiation oncology where there is an absolute linkage between the provision of the diagnostic test or treatment, the availability of appropriate equipment and technology and the knowledge and expertise of health workers, including medical practitioners.

The College continuously reviews the environment in which the specialties are practiced, and has adjusted its training programs, continuing professional development programs and assessment mechanisms to reflect the changing environment. It has worked with the Australian Government to connect the introduction of new technologies, such as Magnetic Resonance Imaging and Positron Emission Tomography to standards of training and ongoing professional development. It is the RANZCR's view, however, that there is scope for better linkage between the approval for use and funding of new technologies, which are conducted by the Therapeutic Goods Administration (TGA) and the Medical Services Advisory Committee (MSAC) respectively and the introduction of appropriate training and credentialling processes. At present, the manner of the MSAC approval process, does not give rise to an integrated, collaborative process.

As indicated in the Productivity Commission's recent reports on 'Economic Implications of an Ageing Australia' and 'Impact of Advances in Medical Technology on Healthcare Expenditure in Australia' it is anticipated that the costs associated with the provision of high technology imaging testing will continue to rise. The incidence and prevalence of cancer is also expected to increase, and thus, so too will the provision of radiotherapy treatments for patients with cancer both with external beam and brachytherapy There is a recognised gap between cancer patients known to benefit from radiation treatment (52%) and

those currently receiving (34%) that treatment, thus highlighting an existing gap in current capacity, including that of necessary workforce.

The College, on behalf of its members, and the Australian and New Zealand communities is committed to investigating and exploring the manner in which the provision of these services may evolve in the future. Advice about these explorations have been split into the two specialities.

Radiology

The practice of Radiology has become a more critical clinical link in patient assessment, evaluation and treatment review in recent times as technology, and the level of expertise within medical practice has increased. The field of interventional radiology has resulted in an increase in the performance of minimally invasive treatments which had previously required surgical procedures. These procedures accrue significant cost benefit both in terms of health expenditure dollars and in quality of life for patients and it is anticipated that they will become more prevalent in the future.

MRI is a mainstream imaging modality and the procedure of choice for the diagnosis of an increasing range of injuries and conditions. MRI is integral to the provision of a comprehensive radiology service. Australia is lagging behind other countries by at least 10 years in patient access to these services and the current licensing of MRI units for the purposes of restricting eligibility to MBS funding for MRI services is having a negative impact on the maintenance of viable, comprehensive imaging practices and on the effective substitution or transfer of technology to the safer, less invasive MRI. While the RANZCR does not support the proliferation of uneconomic MRI units except in specific areas of need or clinical priority, practices with unfunded units (which experience low utilisation) and those without an MRI unit are being seriously disadvantaged in their ability to attract and retain radiologists and radiographers. The College is currently aware of approximately 40 “unfunded” MRI units installed in practices that have seen the need to invest in MRI in order to compete for radiologists and radiographers in what is very much a global market.

As indicated above, the College is undertaking a number of significant projects which are informing its view as to the future direction of the provision of radiology services. The initial work undertaken through the Curriculum Development Project for instance is articulating the breadth of environments in which Radiologists practice at present, and perceptions of future developments. It is the College's view that future radiologists will be recognised as expert diagnosticians who are professionally engaged with patients and with working within multi-disciplinary teams, acknowledging a spectrum of chosen practice from the consultant role to the remote reporting role.

At present, the explanatory notes which accompany the Diagnostic Imaging Services Table of the Medicare Benefits Schedule book (Page 468)[2] notes that:

> "Before requesting a diagnostic imaging service, the requesting practitioner must turn his or her mind to the clinical relevance of the request and determine that the service is necessary for the appropriate professional care of the patient. For example: an ultrasound to determine the sex of a foetus is not a clinically relevant service (unless there is an indication that the sex of the foetus will determine further courses of treatment, eg. a genetic background to a sex-related disease or condition)."

The view of the RANZCR is that Radiologists have a role in collaborating and advising their medical colleagues in the determination of the most appropriate test for the assessment and ongoing professional care of a patient. As the range of imaging modalities and their capabilities expand, it will become increasing important that questions about the management of diagnosis are considered as critically as those related to treatment management.

In its initial year, the QUDI Program has commissioned two projects that have the potential to indicate and assess potential impacts on the current delivery model for radiology services.

Role evolution and the attraction and retention of non-medical Diagnostic Imaging staff to the radiological field

This project is investigating the roles and standards for non-medical imaging practitioners (sonographers and radiographers) and aims to identify and recommend pathways for extending the clinical role of the non-medical imaging practitioner and enhancing patient care by extending the capacity of the radiologist. Through

[2] Medicare Benefits Schedule Book - Explanatory Notes to the Diagnostic Imaging Table - page 468 - http://www7.health.gov.au/pubs/mbs/mbsmay05/mbsmay05.pdf

this project, the College is reviewing a range of initiatives that identify ways in which some non-medical imaging practitioners, and the expertise of radiologists, could be more effectively utilised in providing overall quality care and implementing new technological approaches to radiological services. The project will involve wide consultation with a range of key stakeholders, including the professional bodies representing radiographers, sonographers, scientists, etc to identify the issues and the possible pathways. Without pre-empting the outcome of this study, it is likely that any expanded roles will be under the supervision of the radiologist who is ultimately responsible for the interpretation of images.

Professional Supervision and Teleradiology

This project's objectives include

- identifying the key policy issues that need to be addressed in relation to the use of teleradiology and assess the implications for professional supervision of diagnostic imaging services;
- Developing and testing, in relation to procedures/examinations supervised by radiologists, best practice standards of:
    - professional supervision, or personal attendance, by the radiologist, according to a particular modality or procedural group; and
    - professional supervision of, or personal, reporting by the radiologist, of the results of a particular modality or procedural group.

Teleradiology is the electronic transmission of digital radiological images from one location to another. Geographically and demographically Australia is well suited to the application of teleradiology, with the potential to improve patient care in remote and regional centres where radiologist resources are limited and in

emergency on-call situations. However the use of teleradiology is a real and urgent issue to be addressed.

In the face of increasing demands for service delivery and serious staff and resource shortages, providers are assessing the options which teleradiology might bring to improve the delivery of radiological services and so to improve patient care. The College is of the view that radiologists using teleradiology should ensure the same professional supervision as conventional practice. The real value of teleradiology is in the ability to provide rapid expert review and advice where appropriate.

While the outcomes of these projects may ultimately lead to changes in the model of imaging service delivery, they may not deliver the quick solutions to workforce issues that some stakeholders may be expecting. Role evolution is unlikely to constitute a quick fix to current and short term future workforce problems. It is clearly recognised that there is already a shortage of radiographers and sonographers in Australia. Further aspects which will need to be assessed in respect of role evolution are the regulatory ones, relating both to supervision requirements and radiation licensing. This is an example of different, and not quite consistent Federal and State/Territory regulation.

Radiation Oncology

Radiation oncologists are specialist oncologists directly involved in the management of patients with cancers. Radiation oncologists also manage patients with non-malignant tumours and certain non-neoplastic diseases responsive to radiotherapy. A radiation oncologist is an experienced clinician who can manage all aspects of non-surgical cancer management for the benefit of patients and their families. They demonstrate technical competence and expertise in the application of radiation treatment. Radiation oncologists have a thorough knowledge of the varied natural

history of malignancies and are involved in all aspects of cancer patient care on a day-to-day basis.

It was established in the "Radiotherapy in Cancer Care: estimating the Optimal Utilisation from a review of evidence of evidence based clinical guidelines" report[3] in October 2003 that the optimal radiotherapy utilisation rate was 52.3%. This is not the level which is currently made available to the Australian community, and it is clear that it would not be possible for this level to be achieved with the current number of Radiation Oncologists, Radiation Therapists and Radiation Oncology Medical Physicists.

The provision of Radiation Oncology services, including workforce matters has been a matter of concern, investigation and report for a significant period. The Tripartite Committee, which consists of the professional bodies of Radiation Oncologists, Radiation Therapists and Radiation Oncology Medical Physicists developed in 2001, a National Strategic Plan for Radiation Oncology (Australia)[4] with funding from the then Commonwealth Department of Health and Aged Care. This report recognised that strategies for change in regard to workforce were:

- complex,
- only able to be progressed through collaboration across a number of bodies,

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[3] Collaboration for Cancer Outcomes Research and Evaluation (CCORE), Radiotherapy in Cancer care: estimating the Optimal Utilisation from a review of evidence based Clinical Guidelines, http://www.ncci.org.au/pdf/radiotherapyreport.pdf (Accessed 25 July 2005)

[4] Faculty of Radiation Oncology - RANZCR, Australian Institute of Radiography and the Australasian College of Physical Scientists and Engineers in Medicine, National Strategic Plan for Radiation Oncology (Australia), http://www.ranzcr.edu.au/documents/download.cfm/National%20Strategic%20Plan%20for%20Radiation%20Oncology.pdf?txtLibraryID=ranzcr&txtFileName=National%5FStrategic%5FPlan%5Ffor%5FRadiation%5FOncology%2Epdf (accessed 25 July 2005)

- must recognise the need for integrated workforce planning across the groups, and
- must recognise the availability of the equipment involved in treatment delivery.

Further work was undertaken as part of "A Vision for Radiotherapy: Report of the Radiation Oncology Inquiry"[5] presented to the Commonwealth Minister of Health and Ageing in June 2002 and subsequently by the Radiation Oncology Jurisdictional Implementation Group (ROJIG). ROJIG's final report[6] was presented to the Australian Health Ministers in November 2003. This report recommended the establishment of a further group, the Radiation Oncology Reform Implementation Committee, which continues to be operative.

The issues in Radiation Oncology have been construed at times as a microcosm of the issues across the health system more broadly, both in regard to service planning, funding and workforce issues. It is recognised that the Commonwealth has committed to and undertaken strategic interventions in regard to the establishment of additional university places and support for further training for radiation therapists and radiation oncology medical physicists. The state and territory governments have undertaken different initiatives, however, it remains the case that the lack of co-ordination continues to directly impact on growing a workforce able to provide sufficient services to patients with cancer.

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[5] A vision for radiotherapy: Report of the Radiation Oncology Inquiry, http://www.seniors.gov.au./internet/wcms/publishing.nsf/Content/health-roi-inquiry-report.htm/$FILE/roi.pdf (accessed 25 July 2005)

[6] Radiation Oncology Jurisdictional Implementation Group, Final Report, http://www.health.gov.au/internet/wcms/publishing.nsf/Content/health-roi-hpg-group-rojigrep.htm/$FILE/rojigrep.pdf (accessed 25 July 2005)

As indicated above, the Curriculum Development Project is being undertaken in relation to both Radiology and Radiation Oncology. This project is being informed by a review of the work and the manner in which that work is currently undertaken, and it is already clear that the treatment planning work of Radiation Oncologists is becoming more complex with the advent of new technologies, such as Intensity-Modulated Radiation Therapy (IMRT), which enables the treatment to be more directly focused on the tumour and thus limit the impact on healthy or normal tissue.

It is further evident that the provision of multi-disciplinary cancer care as outlined in the "Optimising Cancer Care in Australia" report[7] in 2003, which the Faculty of Radiation Oncology has endorsed, and that the community desire for better co-ordination of patient care impacts on the number of patients which an individual Radiation Oncologist can manage and support in a more complex treatment and supportive care environment. The increased use, for instance, of synchronous chemoradiation in cancer treatment, will require more direct management and communication between radiation and medical oncologists as the two treatments are delivered concurrently.

[7] Clinical Oncological Society of Australia, The Cancer Council Australia, and the National Cancer Control Initiative, Optimising Cancer Care in Australia, http://www.ncci.org.au/pdf/Optim_Cancer_Care.pdf (accessed 25 July 2005)

Training

The RANZCR believes that the greater part of specialist medical training for Radiology and Radiation Oncology should be conducted within a health service delivery environment. Some learning goals and activities within the competencies being developed with our Curriculum Development Project could be conducted within other environments (eg universities) and by other means, such as communication skills workshops, and management and advocacy training. These competencies may then be further developed or enhanced within the clinical setting. This is especially important in respect of smaller specialities, such as radiation oncology, where there may be as few as 1 trainee per jurisdiction. One of the perceived benefits of dispersed training is that workforce can be retained, rather than merely attracted.

The RANZCR supports the comments included in the statement from the Committee of Presidents of Medical Colleges in respect of recognising the importance of teaching and learning within a health service delivery environment:

> "The CPMC firmly believes that all health jurisdictions should encourage and preferably mandate teaching activities including quarantined time for trainees, as well-trained trainees provide good clinical service. Teachers should also receive protected time to ensure that they are able to teach given that they are in general willing to commit the time and effort to teach effectively. "

The RANZCR has already commenced informal discussions with a number of universities in regard to opportunities for future collaboration. The Curriculum Development project and the Principles of Training project will enable a platform to enable more constructive dialogue and investigation in the future.

Access to Training Positions

The RANZCR does not accredit individual training posts but rather accredits sites for training. Sites are approved for trainees to a maximum ratio of 1 consultant to 1.5 trainees in the case of Radiology, and 1 consultant to 1 trainee in the case of Radiation Oncology.

Sites are required to meet accreditation requirements underpinned by a single overarching principle: "Does the site provide an environment (including facilities and resources) supportive of, and conducive to the training of registrars?"

The RANZCR does not stipulate a defined process for selection into the training program. The selection process is undertaken by employers, whether they are private practices or departments in public hospitals. The College has supported local initiatives towards both rotational training schemes and co-ordinated interview and appointment schemes.

The major limiting factor in the availability of training positions in Radiology and Radiation Oncology is the willingness/ability of State and Territory Health Departments to fund training positions. The current approach in most jurisdictions of leaving the determination of specialist registrar positions to individual hospitals and area health services, within the context of local budgets, is very problematic and counter to any controlled or co-ordinated approach to meet future workforce needs. This system has no clear process of ensuring that enough workforce is produced nationally to take account of jurisdictions which do not undertake training. This is relevant in relation to both medical and non-medical health workers.

Entrants into the RANZCR specialist training programs are currently required to hold a basic medical degree and appropriate medical registration for the jurisdiction where the position is located. It is

required that all trainees have at least 24 months of general hospital training (PGY 1 & 2). To work effectively within the Australian medical system, experience in a hospital is necessary. During this time, trainees acquire some essential general competencies such as knowledge of the hospital system, the roles of various health professionals in the delivery of patient services, communications skills and experience in working as part of a multidisciplinary team.

Pooled funding for training positions

The RANZCR advocates the development of a pooled funding approach for registrar training. If a funding pool were identified, sufficient to allow for the specialist training numbers recommended by AMWAC, this would circumvent one of the most serious obstacles to the training of sufficient Radiologists and Radiation Oncologists. Hospitals and departments in both the public and private sector would be in a position to offer training positions, providing they met accreditation for training specifications.

In the case of radiologists, there is a split in respect of primary work setting between the private and public sectors of approximately 70:30. This demonstrates a limitation in the number of available teachers with the public sector alone. The College is engaging with private sector radiology providers both in the development of the new radiology curriculum and in determining how the private sector can become more involved in educating the significant component of the workforce which it does employ. The College also believes that it is crucial that this be developed as a means of expanding training opportunities and not replace those in the public sector in which developing technologies and academic radiology is pursued.

Pooled funding does not necessarily require the centralisation of all decision-making on medical workforce training. It would however require agreement across the Commonwealth, State and Territory governments

and private sector health providers involved in training about those costs involved, and a formula to determine and reflect priorities, recognising the long time frames involved in achieving significant change in the medical workforce.

This pooled funding model could be applied across allied health training to fund clinical placements where these are required to complete training. This lack of supernumerary (completion of training or professional development year (PDY)) funding is identified as one of the single largest barriers in training radiographers and radiation therapists.

Regulation

The RANZCR does not consider that it is a regulatory or licensing body, although it does acknowledge that current regulatory arrangements do place it within this structure, especially in respect of the *Health Insurance Act 1973 (Com).* Radiation Oncology to a lesser degree and Radiology to a greater degree are some of the most regulated specialities in medicine, with the possible exception of Pathology. Both are subject to the provisions of *the Health Insurance Amendment (Diagnostic Imaging, Radiation Oncology and Other Measures) Act 2003 (Com).* The regulatory framework which requires radiologists to provide services in response to a request from another medical practitioner, with limited scope to substitute a more appropriate test where the radiologist considers the requested test to be inappropriate, is a sub-optimal use of the expertise and skills of radiologists is inefficient and an added burden on health resources. This is increasingly the case as the technology advances and the complexity increases.

The College provides a voluntary continuing professional development program for its members, both those who hold the Fellowship of the College and Educational Affiliates – members who have obtained their

specialty qualification overseas. The RANZCR works in collaboration with state medical boards and the Medical Council of New Zealand to ensure that its program meets the particular requirements of each jurisdiction.

The present paradigm of medical education and training requires that specialists are to be broadly trained within a defined area of specialty. It is recognised that many individuals with a specialist qualification will continue to sub-specialise, whilst others will continue a 'general' specialist practice. This is noticeably the case in respect of practitioners who are providing services in rural and regional communities.

The development of credentialling for medical practitioners, in a manner consistent with the framework developed by the Australian Council on Safety and Quality in Healthcare may be a useful tool in defining activities, services and procedures which individual practitioners can perform. The RANZCR believes credentialling should be an integral aspect of a modern health workforce, and should explicitly recognize that the scope of practice for each practitioner be considered in conjunction with the capacity of the practice environment to provide the required infrastructure and related clinical services.

The RANZCR believes being credentialling being informed by principles of evidence-based medicine and embedded within a strong patient safety framework. To this end, credentialling is being pursued as an early area of activity by the College in the Quality Use of Diagnostic Imaging (QUDI) program in relation to Radiology, and in conjunction with other cancer related medical specialities through the Australian Cancer Network in relation to Radiation Oncology.

Credentialling serves as a means of further detailing the scope of practice following qualifications and registration, especially in those jurisdictions in which there is no specialist register. The process for the development of nationally consistent medical registration has been slow. The

historically evolved situation of medical practitioners being registered under state legislation, but recognised for Medicare billing purposes under Commonwealth legislation serves to complicate the regulatory environment pertaining to medical practice. It is noted that in regard to both Radiology and Radiation Oncology there is applicable legislation in each state in regard to radiation protection.

Advances in technology, eg PET-CT, 64 slice CT units are going to bring further pressure to restrict the practice of imaging, through credentialing linked to appropriate training. This will have workforce implications. For example, training is likely to be the biggest issue surrounding the PET-CT. PET-CT bridges two imaging techniques that have been under the purview of separate imaging specialties, posing significant challenges for seamless integration into clinical practice. For a physician not already trained in CT, additional training would be required to become knowledgeable about oncologic applications of PET-CT and that additional training would be required for nuclear medicine physicians interpreting PET-CT for neurologic applications. With the advent of 64-slice CT units, CT coronary angiography is expected to dramatically change cardiac imaging. Both radiologists and cardiologists will face learning curves for CT coronary angiography.

These emerging cross-specialty imaging issues are reinforcing the College's view that future radiologists should be recognised as expert diagnosticians who are professionally engaged with patients and with multi-disciplinary colleagues, central and indispensable to specialist multi-disciplinary teams.

The curriculum development exercise will focus on developing a clinical radiologist who is able to fulfil the role of a specialist consultant and multidisciplinary team member, acknowledging a spectrum of chosen practice from the consultant role to the remote reporting role. Key to the work being undertaken in the Curriculum Development Project is the

development of competencies in relation to the CanMEDS roles, including that of medical expert.

At present however, MBS funding arrangements relating to diagnostic imaging services are quarantined for different modalities in separate Memoranda of Understanding, which reinforce the demarcation between these services rather than encouraging and facilitating the most appropriate utilisation of scarce resources and engagement with issues of competencies and credentialling.