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Review article

Blending work-integrated learning with distance education in an Australian radiation therapy advanced practice curriculum

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ABSTRACT

Advanced practice for radiation therapists has been a part of the international landscape for several years; however formal implementation into the Australian health care system is yet to happen. Despite this, three short course radiation therapy advanced practitioner programs have been established by an Australian tertiary institution in response to clinical service needs at several organisations. This paper describes the rationale for curriculum design and development of the program materials, the small-scale implementation of the programs at pilot sites, and the evolution of the curriculum to be available to registered radiation therapists nationally. Each program has been designed around a specific clinical role, where flexibility of delivery to busy practitioners was central to the decision to offer them via distance education. The curriculum comprises theoretical units of study which run in parallel to and underpin clinical practice units, where advanced competence in the specific area of practice is overseen by an experienced radiation oncologist mentor. Given the nature of the disparate clinical services requiring an advanced radiation therapy practitioner, the workplace learning component of the course is individually negotiated at a local level. Outcomes suggest that the flexible clinically based training underpinned by a distance education academic curriculum is able to support the development of advanced radiation therapy practitioners responsive to local service need, and ultimately may improve the patient experience.

Introduction

Advanced practice for radiation therapists has been well established in several countries throughout the world for over a decade; however formal implementation into the Australian health system has been inconsistent. Thus, there continues to be a lack of clarity and uncertainty as to how advanced practitioner roles might fit into the Australian radiation oncology service.[1] International evidence suggests that formally trained radiation therapists in advanced practitioner roles are able to practise in areas of delegated responsibility on behalf of the radiation oncologist, thereby improving patient access to services and throughput, and also enhancing multi-disciplinary working.[2–4] Somewhat unfortunately the momentum to support such roles formally in Australia has been slow to build. The professional body representing radiographers and radiation therapists in Australia has developed several discussion documents and strategies for advanced practice implementation during the last decade,[5,6] and more recently the Medical Radiation Practice Board of Australia (MRPBA: the body responsible for national registration) has announced the intention to convene a Workforce Innovation Reform Working Party. However, there is yet to be a national standard in definition, workplace role, training and assessment, or ongoing credentialing for advanced practice.[1]

Despite these local issues, over the past six years the authors have developed a series of distance education (online learning) short course Advanced Practice in Radiation Therapy programs for registered radiation therapists. The clinical roles which these programs support include advanced radiation therapy imaging, breast localisation and simulation, and radiation therapist treatment review. This paper describes the design, development and implementation of the work based curriculum for advanced radiation therapy practice.

Background

Although the 'Advanced Practice Working Group' of the professional body representing radiation therapists and radiographers

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in Australia (the Australian Institute of Radiography: AIR) proposed a definition for advanced practice in Australia several years ago,[6] there is still a lack of clarity regarding terminology and correlation with actual practice.[1] Several international authors have provided detailed analyses' of the intricacies of advanced practice compared to other extended work roles,[2,7,8] however for the purpose of this paper it is simply assumed to indicate working beyond one's traditional scope of practice underpinned by expert evidence based knowledge.[9]

The potential for advanced practice roles in Australia has been discussed for over a decade. In 2002 the Baume report of the 'Radiation Oncology Enquiry'[10] – written during a period of high level shortages of radiation therapy (RT) professionals – defined a tiered profession including advanced practitioners as one way to address radiation therapist attrition and lack of career structure. This recommendation led to a number of government and professional body directed investigations in subsequent years to determine how a restructure of the RT workforce could be defined and established.[5,6,11] However, increased numbers of radiation therapy graduates and workforce stability following a national response to other recommendations from the Baume report reduced the immediate need for a career restructure with an advanced practitioner option. As a result, although the professional body is still actively investigating an advanced practitioner pathway,[1] a clear strategy for the national implementation of RT advanced practitioner roles is yet to eventuate. Given the lack of clear national guidelines, RT advanced practitioner implementation to date has been 'ad-hoc' and determined by the clinical need for such a role in individual clinical centres, hence role definition, training and scope of practice has been broadly interpreted.

The creation of an advanced practitioner curriculum at the authors' University arose in response to the demand from several clinical organisations where there was a need to provide an underpinning educational and work-based clinical learning framework to support evidence based role development activities. The clinical centres selected as pilot sites for the advanced practice curriculum had self-determined areas of inefficiency within their service that could potentially be resolved through delegation of task responsibility from a radiation oncologist to a trained radiation therapist. For example, a treatment review radiation therapist similar to that described by several authors[12–14] was required in a regional centre where the radiation oncologist was not often in attendance and hence was under pressure to fulfil many clinical responsibilities when on site. Advanced RT practitioners responsible for breast tissue delineation were thought necessary in another centre to streamline the patient experience in CT Simulator, as exemplified by Johnson[15] in the UK. At this same centre, the development of an imaging advanced practitioner role was considered to be of value, although a novel role not yet reported in the literature. The intent of this role was to create a group of radiation therapists with expert knowledge of the appearance of anatomical structures on multiple imaging modalities, to support the application of medical imaging technologies across planning and treatment areas. These individuals were anticipated to support multi-modality imaging in target volume delineation, to take on a delegated scope in some volume delineation for specific body regions, and to support evidence based image guided and adaptive decision making and research on the treatment machine. The pilot treatment review role was intended to be a dedicated part-time position, while pilot breast and imaging roles were in conjunction with the usual work role of the radiation therapist.

Collaborations were established between the University and the clinical centres where the service need was identified, with some funding support provided to the clinical centres from the Victorian State Government Department of Health and the New South Wales Cancer Institute to pilot the creation and implementation of an advanced practice curriculum during 2006–08.

Designing the curriculum

Given the Australian evidence surrounding advanced practice for radiation therapists at the time of curriculum development was limited to discussion documents, the underpinning requirements of the program curriculum and intended clinical outcomes was largely sourced from a review of the international literature. Site visits to several radiation oncology clinical centres and a University delivering advanced practice programs in the UK were informative, as well as consultation with radiation therapists working in Australia who had undertaken advanced practice training in the UK. Supporting documentation such as the College of Radiographers Curriculum Framework[16] was consulted alongside the Australian Qualifications Framework[17] to establish local benchmarks for training requirements and learning outcomes. No other tertiary institution in Australia was providing a structured program specifically intended to graduate a clinically based advanced practitioner during this development period.

From the information gathered, it was determined a curriculum combining underpinning theoretical knowledge with a work-based competency framework was the most appropriate method of delivery given the intended outcome to develop a clinical expert able to perform a delegated work role. Eddy[18] describes work based learning combined with theoretical knowledge as essential to the development of the expert clinical skills and informed judgement required to perform in an extended role, which is also supported by Dixon's example of a radiographer advanced practitioner curriculum.[19] It was essential that both academic and clinically based assessment strategies allowed the trainee advanced practitioner to demonstrate the higher level cognitive skills of critical analysis, reflection, synthesis, utilisation of expert knowledge and evidence based practice.[9,16] Although a course-work Masters' degree is suggested to be ideal to provide the practitioner scope to demonstrate these skills and ultimately engage in autonomous practice,[9,17] the three years (part time) required to complete such a degree was not considered feasible to enable the clinical departments to meet their immediate need for an advanced practitioner. In addition, embedding a new program for delivery within the University requires a two year lead time, and requires a minimum of fifteen full-time equivalent students per unit to be considered financially viable. Although there is evidence from the UK that suggests the value of discrete advanced practice units delivered at Masters Level,[19] unfortunately the authors' tertiary institution has limited flexibility to develop and deliver similar units and be able to provide academic credit.

It was determined a twelve month program delivered by the University as a short course, with embedded assessment strategies requiring the practitioner to demonstrate skills of critical analysis and synthesis of the evidence base associated with their clinical practice,[17] would be more expedient and cost effective for the practitioner and clinical organisation while maintaining academic transparency. The program was structured as four complementary units of study with the intention that a formalised award could be established following the pilot period.

Throughout the development of the curriculum, the focus was to provide each clinical centre engaging RT advanced practitioner trainees with the ability to embed the program in a flexible way to meet the needs of their local service. Concurrently, it was equally important to ensure valid learning outcomes and assessment strategies to meet the academic requirements of the University. In order to enable transparent communication regarding these requirements, stakeholder working groups were established at the

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