Fitness to practise: exploring radiation therapists' reporting preferences for departures from optimal professional behaviour

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Contents

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Abstract

In recent years, high profile cases from the medical and health care fields have reported practitioners who, through criminal behaviour, lack of competence or sub-optimal professional performance have failed to meet either the clinical or behavioural standards expected. Whilst gravely serious cases of less than optimal practice involving qualified health care practitioners are infrequent, there are published cases which highlight examples of sub-optimal practice amongst radiation therapists (RTs). However, in Australia these are a few and far between. The highly technical nature of the profession of radiation therapy may mean a greater emphasis is placed on the performance of equipment, machinery, and technology to the detriment of the requirement for fitness to practise (FTP) or to the professional performance of practitioners themselves. The aim of this research was to determine what radiation therapists understand about FTP and its integration into their daily work, with respect to the identification of and reporting of sub-optimal performance. A mixed method exploratory, sequential design was employed, with three initial focus group discussions undertaken to investigate the phenomena of FTP in radiation therapy. Qualitative data analysis was guided by grounded theory. The findings, specifically RTs definitions of fitness to practise (a continuum; behaviour and conduct; possession of qualification; and a state of mind) and their perceptions of the determinant classifications of FTP (impairment; competence; and values/ethics) were used to create a national online scenario-based survey. The anonymous online surveys depicting eight FTP dilemmas concerning issues related to: impairment; competence; and values/ethics were distributed to 1054 RT members of the professional association, with a response rate of 17.6% (N=185). Qualitative data analysis was undertaken and two key

themes emerged. Theme 1: 'dealing with the situation', involved the RTs suggesting immediate responses to the dilemmas. Theme 2: the RTs' obligation to report included the reporting preferences of RTs for each FTP dilemma (no reporting, internal mention to a senior practitioner, internal formal reporting and external formal reporting). Qualitative data was transposed into spreadsheet format and analysed quantitatively. Binary logistic regression was performed to determine whether any specific demographic characteristic (gender, number of years of clinical experience, location of clinical centre and sector of service delivery) were associated with higher odds of not reporting vs reporting and informal vs formal reporting. The strongest predictor of reporting preference was for RTs with six or more years of clinical experience. Data from the focus groups and the survey were integrated to formulate a substantive theory which encapsulated the findings of the research: Radiation therapists understanding of fitness to practise is contextually derived and subjectively interpreted, throughout the continuum of their professional working life. Radiation therapists demonstrate reluctance to report FTP issues and where reporting does occur, the number of years of professional experience of the RT is the demographic characteristic with the strongest predictive capacity for reporting preference.

In summary this study has demonstrated important gaps in the understanding and implementation of FTP by all stakeholders. There needs to be a cultural shift in the profession of RT, starting with the delivery of FTP education and awareness programs for entry level students. This should then be reinforced by clinical organisations, Chief RTs/RT managers and the registration board to ensure complete professionalisation of RTs, which may in turn make RTs more accountable for their actions and those of others.

General declaration

I hereby declare that this thesis contains no material which has been accepted for the award of any other degree or diploma at any university or equivalent institution and that, to the best of my knowledge and belief, this thesis contains no material previously published or written by another person, except where due reference is made in the text of the thesis.

This thesis includes *four* original papers published in peer reviewed journals and *one* unpublished paper. The core theme of the thesis is fitness to practise and reporting of sub-optimal practice in radiation therapy. The ideas, development and writing up of all the papers in the thesis were the principal responsibility of myself, the candidate, working within the Department of Medical Imaging and Radiation Sciences under the supervision of Professor Marilyn Baird, Associate Professor Michal Schneider and Professor Brian Jolly. The inclusion of co-authors reflects the fact the work came from active collaboration between researchers and acknowledges input into team-based research.

The four published papers which form part of the thesis are published with myself as primary author under the name of Caroline. A. Wright, however in the latter stage of the candidature I changed my name to Caroline. A. Hancock.

In the case of chapters *3,4,5, 7 and 8*, my contribution to the work involved the following:

Thesis chapter	Publication title	Publication status	Nature and extent of candidate's contribution
3	**Wright CA**, Schneider-Kolsky ME., Jolly B. and Baird MA. Using focus groups in radiation therapy: some ethical and methodological issues. Journal of Radiotherapy in Practice. 2012. 11:(4)217-228	Published	90% of concept and 85% of manuscript writing.
4	**Wright CA,** Schneider-Kolsky ME, Jolly B. and Baird MA. Defining fitness to practise in radiation therapy: a focus group study. Radiography. 2011. 17: (1) 6-13	Published	90% of concept, 95% study design, 100% data collection, 90% data analysis and 85% of manuscript writing
5	**Wright CA,** Schneider ME, Jolly B and Baird MA. Australian radiation therapists' perceptions of the determinants of fitness to practise; a mixed methods focus group study. Radiography. 2014. 20: (3) 264-270	Published	90% of concept, 95% study design, 100% data collection 90% data analysis and 85% of manuscript writing
7	**Wright CA,** Schneider ME, Jolly B and Baird MA. An on-line survey investigating Australian radiation therapists' responses to hypothetical dilemmas concerning impaired fitness to practise. Journal of Medical Imaging and Radiation Sciences. 2015: In press	Published	90% of concept, 95% study design, 100% data collection, 90% data analysis and 85% of manuscript writing
8	**Wright CA,** Schneider ME, Jolly B and Baird MA. Radiation therapists' reporting preferences to hypothetical fitness to practice dilemmas.	In preparation for publication	90% of concept, 95% study design, 100% data collection, 80% data analysis and 85% of manuscript writing

I have renumbered sections of submitted or published papers in order to generate a consistent presentation within the thesis.
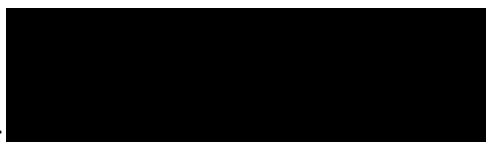
Student signature: ███████████████████ Date: 17/08/15

The undersigned hereby certify that the above declaration correctly reflects the nature and extent of the student and co-authors' contributions to this work.

Main Supervisor signature: ████████████████ Date:17/08/15

Acknowledgements

Abbreviations

AHPRA   Australian Health Practitioner Regulation Agency

AIR   Australian Institute of Radiography

AMA   Australian Medical Association

ANMB   Australian Nursing and Midwifery Board

Brachy   Brachytherapy

CT   Computed tomography

DVH   Dose volume histogram

EFR   External formal reporting response

EPA   Entrustable professional activity

FGs   Focus groups

FTP   Fitness to practise

GMC   General Medical Council of the United Kingdom

GTM   Grounded theory methodology

HCPC   Health and Care Professions Council

HPC   Health and Professions Council

HP   Hypothetical practitioner

IFR   Internal formal reporting response

IMS   Informal mention to senior practitioner

IRA   Independent research assistant

Linac   Linear accelerator

MDT   Multi-disciplinary team

MMR   Mixed methods research

MRI   Magnetic resonance imaging

MRP   Medical Radiation Practitioner/Medical Radiation Practice

MRPBA	Medical Radiation Practice Board of Australia
MRPBV	Medical Radiation Practitioners Board of Victoria
MRS	Medical Radiations Science
MUHREC	Monash University Human Research Ethics Committee
NRAS	National registration and accreditation scheme
NR	No (reporting) response
PET	Positron emission tomography
RO	Radiation oncologist/Radiation Oncology
ROMP	Radiation oncologist medical physicist/Radiation oncology medical physics
RT	Radiation therapist/Radiation therapy
U.K.	United Kingdom
UKNMC	United Kingdom Nursing and Midwifery Council
USA	United States of America

List of publications

1. **Wright CA**, Schneider-Kolsky ME, Jolly B, Baird MA. Defining fitness to practise in radiation therapy: a focus group study Radiography. 2011. 17: (1) 6-13.

2. **Wright CA**, Schneider-Kolsky ME, Jolly B, Baird MA. Using focus groups in radiation therapy research: ethical and practical considerations. Journal of Radiotherapy in Practice. 2012. 11:(4)217-228

3. **Wright CA**, Schneider ME, Jolly B and Baird MA. Australian radiation therapists' perceptions of the determinants of fitness to practise; a mixed methods focus group study. Radiography. 2014. 20 (3) 264-270

4. **Wright CA,** Schneider ME, Jolly B and Baird MA. An on-line survey investigating Australian radiation therapists' responses to hypothetical dilemmas concerning impaired fitness to practise. Journal of Medical Imaging and Radiation Sciences. 2015. In press.

Appendix A contains a list of conference presentations that have been delivered during the candidature.

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Chapter 1

Development of the research question

1.1 Introduction

This chapter presents an introduction to the thesis. The first section of this chapter will contain a background to my professional history, with particular reference to the bearing which this has on the development of the research question. It will provide expression of my professional context with reflections and insights from clinical and educational practice. The background will articulate the current issues within radiation therapy (RT) with respect to fitness to practise (FTP) and identify some of the complexities of these concepts. The context and setting of the research will be introduced later in the chapter, together with the research problem. At the conclusion of the chapter I will present an outline of the structure of the thesis.

1.2 The author's context and reflections

I started my professional life as a student radiation therapist (RT) in the United Kingdom (U.K.) in an era which was very much that of 'speak if you are spoken to', where students would often remain standing 'to attention' at all times, proceed in and out of the treatment room for every exposure, for every patient and would rarely question staff members. Throughout my years as a RT in the U.K., there was always an air of authority expressed by the more senior practitioners, often to the extent that a junior member of staff would not question anything they did, whether it was correct or otherwise. This may have been a

reaction to the medically dominated organisational culture which existed, where RTs would never contemplate questioning any of the radiation oncologists (ROs).

I remember a few occasions working alongside staff members who were 'notorious' for 'not liking' students or junior members of staff, and this was accepted because everyone knew the practitioner 'was like that'. The approach to daily work was however rather regimented and there always seemed to be a clearly defined line between what was acceptable performance or not. However, I never witnessed RTs take any form of action in response to sub-optimal performance of a colleague other than verbalising their views at the time to staff members.

Throughout my time in clinical practice, there were occasions where I observed and had subsequent concerns about the performance of both practitioners and students. I felt comfortable as a 'qualified practitioner' informing supervisors and the university staff about the behaviour of students if this was in question and, when required, I addressed the situation in what I believed to be an appropriate manner. However, I had not been trained on how to provide timely and effective feedback in my early years as an RT, rather I did what I had observed as a student. When it came to addressing situations where FTP was an issue with peers, this proved more of a challenge because in those early years, I did not want to 'create a fuss' or be labelled as a trouble maker, and it was sometimes the view of the majority of staff that 'we all know this person is like that, we just put up with them'.

The latter part of my professional experience to date has been in Australia in the university sector, delivering entry level RT programs. During this period, I have spent much of my time visiting students in the clinical environment. This has privileged me with further insights into issues surrounding the performance of both students and practitioners. Reflecting on the past ten years in Australia it is evident there are still some RTs with whom other practitioners want to avoid working because of their attitude or capability. However, a more laissez faire approach to RT clinical practice from the perspective of practitioner performance exists, where arguably technical competence takes a precedent over professional performance. The hierarchical and medically dominated organisational culture, analogous to the armed services, continues to exist albeit in a more diluted form, with the medical practitioners at the top of the pyramid. Although RTs are encouraged to report technical and dose errors, a culture of silence seems to exist when the professional behaviour of practitioners is questioned.

In addition, very seldom do students refer issues or concerns about practitioners to staff at the university. More often, concerns about the FTP of practitioners are reported in students' reflective portfolios. These are submitted upon completion of the clinical placement which presents additional challenges with following up on the cases in a timely manner. These experiences suggest in twenty years, even with the advent of national registration in Australia and greater support for those who identify and report sub-optimal practice, the same issues with professional performance persist. It may be RT students and practitioners alike find it a challenge to discern the difference between appropriate professional performance and sub-optimal performance. They may also be uncomfortable making the 'judgement call' as to whether or not a peer or superior is fit to practise and may not want to 'rock the boat' by reporting. Little appears to have changed in that regard.

1.3 Background

Over the past decade, high profile cases from the medical field have reported practitioners who, through criminal behaviour, lack of competence or sub-optimal professional performance, have failed to meet either the clinical or behavioural standards expected. In some of these cases, serious harm and even death of patients occurred.[1-4]

Fitness to practise has emerged as a priority theme over the past few years in health professions regulation and education. The interest in the notion of FTP may be a consequence of the 'fall out' from cases where the prevention, detection, subsequent reporting and monitoring of impaired or criminal practitioners has failed.[5,6]

In-depth investigations into these cases over time have resulted in concerns not only about the professionalism of the staff involved, but also the fidelity of the organisational reporting mechanisms and professional regulatory processes which were designed to protect patients and staff.[7]

Whilst gravely serious cases of less than optimal practice involving qualified medical practitioners are thankfully infrequent, there are published cases which highlight examples of sub-optimal practice amongst medical radiation practitioners (MRPs).[8-10] There are however different categories of sub-optimal practise, those deemed serious enough to warrant mandatory notification and those which are arguably less serious which warrant voluntary notification.[11] It is the instances of sub-optimal performance in the latter category which may not be perceived as 'bad enough' for action by the regulator, but still require improvement to fulfil acceptable professional behaviour towards patients and professional colleagues.[12] Such issues may be related to competence or an

inappropriate attitude towards colleagues or patients, however these may not cause serious harm. It is the less serious issues of sub-optimal practice which may be more difficult for the practitioner to discern whether making a notification is warranted. Nevertheless, there continues to be a safety risk with this category of performance issues because of the lack of clarity on the part of practitioners and the perceived gap in organisational and regulatory processes for making voluntary notifications or reporting.

1.4 The setting and context of the research

This research study is set in Australia within the profession of RT. The discipline of RT is one of three medical radiation practice (MRP) professions (including radiography and nuclear medicine technology) which are registered under the professional title of MRP. There has been recent interest in the concept of FTP and its role in regulation in the MRP professions since the inclusion of this profession into the National Registration and Accreditation Scheme (NRAS) in 2012. At this time, the Medical Radiation Practice Board of Australia (MRPBA) took on regulation of the professions.[13] This is in contrast to medicine for example, where the concept of FTP has been incorporated into curricula and regulatory processes for over a decade.[14,15]

The scope of practice for a RT is to plan, treat and care for patients with benign and malignant disease. Much of the work involves the use of 'hi-tech' equipment which generates ionising radiation (X-rays). Medical imaging equipment such as computed tomography (CT), magnetic resonance imaging (MRI) and positron emission tomography (PET) are used in RT to locate the area of the body which requires treatment. The radiation dose is then modelled and a treatment plan is created for each individual patient. This is visualised and analysed using computer algorithms to ensure the dose to the

patient is tumouricidal but safe. The treatment itself also involves the use of X-rays, but of a greater energy than those used in pre-treatment imaging. This greater energy results in deeper penetration into body tissues which affects cellular integrity and cellular reproduction. As a result the number of tumour cells is reduced. In the case of radical RT, high enough radiation doses cause eradication of the tumour. When palliative RT is used, the radiation dose reduces the tumour size and relieves the signs and symptoms of advanced or secondary disease.

Although all RTs will be rotated to planning (pre-treatment imaging and creation of individualised patient dosimetry plans) and treatment areas of practice, the two specialties are seen as being very distinct. Anecdotal evidence suggests the RTs who prefer to work in planning have a preference for the technical side of the profession. This is in contrast with RTs who prefer to work in the treatment area, who are perceived to prefer the humanistic side of patient care. In reality however, both areas of practice require highly developed technical and patient care skills.[16]

At all stages in the RT process, the RT deals with patients who are very vulnerable. Particularly patients receiving 'end of life' treatment, children, adolescents and young adults who may have children themselves. As such the role of the RT although very technically focussed, is also directed towards patient support and improvement in the patient's quality of life. Often patients are disrobed with parts of their body uncovered which they may have never exposed to people before. Patients also experience uncomfortable signs and symptoms from their disease and these are sometimes exacerbated by the side effects of the treatment, which can be equally distressing. In addition, patients have to be placed in uncomfortable positions and the treatment site has

to be immobilised for the duration of the planning or treatment encounter. It is therefore necessary for practitioners to touch the body to immobilise and position it correctly for treatment. Ensuring this is done in the appropriate manner with acquisition of consent and constant explanation/reassurance is important at all times.

The treatment planning stage is undertaken using medical imaging equipment such as CT, MRI and PET. This is the first stage of the patient pathway and therefore the RTs need to be very aware of patient needs. This is important given most of the patients have either been newly diagnosed with cancer at this stage or are having concomitant treatments such as chemotherapy. The imaging equipment captures images of the area which is to be treated (usually the site of a tumour). The information is then transferred to hi-tech computer equipment which allows for a calculation of the dose needed to either eradicate the tumour totally or relieve symptoms. This calculation of the radiation dose is modified for each individual patient. A number of factors such as the size of the patient, diagnosis and location of the tumour influence the dose delivered to the patient and the number of treatments the patient will receive. An individualised RT plan is then produced from these data and is used to position the patient and the treatment machine accurately and reproducibly for every treatment.

After the planning stages are completed and checked, the treatment commences. This high energy X-ray treatment is administered by a team of RTs who typically see the patient once a day for the duration of their treatment. A radical treatment (curative) usually entails the patient attending for daily treatments for approximately six weeks. The treatment machine and patient need to be positioned in the same place each day to ensure exactly the same tissues are being treated. In doing so the dose to the tumour is

maximised and the dose to surrounding tissues is minimised. The tasks associated with positioning and verifying the patient position as with planning are highly technical. They require in-depth understanding of anatomy, physiology and physics. At the same time, the RT has to interact effectively with team they are working with to ensure the needs of patients are met and radiation safety requirements adhered to. Precision in calculating the correct radiation dose for each patient and setting the correct positions are paramount if radiation incidents are to be avoided. The technical nature of the role of the RT may contribute to the perception that RTs are technicians rather than professional practitioners in their own right. Although the NRAS recognises RTs as professionals,[17] RT and the other MRP professions continue to be classified as one of the 'health associate technician' occupations by the International Labour Organisation, which suggests their roles include:

> *'The performance of technical and practical tasks to support diagnosis and treatment of illness, disease, injuries and impairments in humans and animals, and to support implementation of health care, treatment and referrals plans usually established by medical, veterinary, nursing and other health professionals'.[18]*

Specifically the medical imaging and therapeutic equipment technician is responsible for:

> *'The testing and operation of radiographic, ultrasound and other medical imaging equipment to produce images of body structures for the diagnosis and treatment of injury, disease and other impairments.'[18] 'The administration of radiation treatments to patients under the supervision of a radiologist or other health professional.'[18]*

Concerningly, these definitions focus on the technical and task oriented nature of the role of the RT. There is little regard for clinical decision making, patient care and the broader professional skills required to plan, treat and care for patients with cancer. The gradual, arguably incomplete professionalisation of RT has allowed for the acknowledgement of

not only technical competence but also for the recognition of professionalism. The concepts of professionalisation, competence and professional performance are all encapsulated within the concept FTP.

1.5 Research question and objectives

This research investigates the understandings and assumptions of RTs in relation to FTP within Australian RT and seeks to explore what may have shaped their perceptions with respect to this. More specifically, this study aims to examine RT practitioner understanding of FTP and its implementation as one of the mechanisms used in professional regulation. As a result of investigating these areas of interest, the study also allowed for exploration of the concept of reporting and notification of sub-optimal practice.

The primary research question was:

What do RTs understand about FTP and its integration into their day to day practice with respect to the identification of and reporting of sub-optimal performance?

The research objectives were to:

1. Determine a consensus definition of FTP in RT;

2. Determine the understanding that RTs have with respect to FTP in RT;

3. Determine any gaps in the knowledge of RTs in relation to FTP;

4. Identify the key determinants of FTP as perceived by RTs;

5. Determine RTs perceptions on the reporting of sub-optimal practice;

6. Determine RTs responses to hypothetical FTP dilemmas;

7. Determine whether there are any socio-demographic predictors related to the type of reporting an RT chooses;

8. Advance the theoretical understanding of FTP in RT and the broader health field.

Using a mixed methods study design enabled the aims to be achieved. The mixed methods approach consisted of a phase one study which used focus groups (FGs) to investigate objectives one to four. A subsequent online survey was employed in phase two of the research to explore objectives four to eight. In particular, the FGs allowed for insights into gaps in understanding on FTP and reporting processes to be ascertained. They also provided the impetus and ideas for the second phase of the study, by virtue of participants volunteering reflections on their own experiences of FTP dilemmas. The idea to investigate the responses of RTs to different FTP dilemmas was embraced in the second phase of the research, where a national survey of Australian RTs was undertaken, with both qualitative and quantitative data collection and analysis. This provided novel and valuable insight into RT perceptions and responses to FTP dilemmas and also provided information on the effect of socio-demographic factors regarding specific reporting preferences. The results, conclusions and recommendations which have been drawn have enhanced the theoretical understanding of FTP in RT and the wider field of health.

1.6 Scope of the study

The study was conducted in two phases, where phase one of the study investigated the understanding of RTs in relation to FTP and identified a consensus definition of FTP and the key determinants of FTP in RT. This also explored RTs experiences of FTP dilemmas

and reporting of these. This was a small scale FG study which was undertaken in State of Victoria. The findings of the FG study were then used in the design of the second phase of the study, a national anonymous online survey.

In both phases, the scope included a cross section of RTs with a variety of professional roles, years' of experience and seniority in the profession. Recruitment incorporated RTs from various levels of experience and roles in order to gather perspectives on FTP from a wide range of currently practising RTs.

1.7 Significance of the study

To date there has been no known research exploring the perceptions of RT with respect to FTP in the profession. Neither has there been any investigation into the reporting responses of RTs when instances of sub-optimal practice occur. It is also of note that there has been no investigation into these concepts in the broader MRP profession (radiography and nuclear medicine technology). However, the proposed research is of particular relevance to RT, given its historical grounding in technology focussed practice and the intimate and sustained patient contact which is not the case in radiography and nuclear medicine.

The study provides a unique insight into the diverse range of perceptions practitioners have on FTP and provides insight into how RTs interpretations of reality are shaped by the socio-political world within which their practice is situated. It fills a gap in the knowledge base on these issues and the findings may be useful in developing the skills of students at the pre-registration level and also educating practitioners post-graduation in

clinical organisations. The findings may also provide insights for regulatory bodies about RTs' understanding and implementation of regulatory processes.

1.8 The structure of the thesis

This thesis consists of ten chapters, some of which are based on four papers which were published in peer reviewed journals between 2011 and 2015. This first chapter provides detail about my context as a practitioner and educator and alludes to how the research question evolved. It also presents a background to the study and sets the scene in relation to the context, the research setting and scope. The primary aim and objectives of the research are stated together with the significance of the study and areas where it addresses the gaps in the current knowledge on FTP in RT. The last sections of this chapter present an outline of the structure of the thesis and conclusion.

Chapter two presents a review of the literature related to FTP in the health disciplines. The first section of this chapter outlines and critically analyses the literature (national and international) on the profession of RT and the evolution of professional regulation in the health professions. Subsequent sections of this chapter discuss the notion of FTP and how it relates to the concepts of professionalism and competence. The need for the research is stated and specific gaps in the literature are presented, after which a conclusion to this chapter is provided. There was a paucity of literature with respect to the topics discussed in the literature review in RT and the MRP professions specifically, and I have therefore broadened the scope of the review to include other health professions. This chapter closes with a conclusion which draws the key aspects of the research together.

The approach to the research including the methodology and theoretical framework are presented at the beginning of Chapter three. This is followed with a description of the methods used for reviewing the literature. A discussion related to the rationale for selection of mixed methods research is then provided. Subsequent to this, analysis and rationale for the use of qualitative research methods and FGs in phase one of the study are provided. The first paper of the thesis is presented in Chapter three. The paper discusses the ethical and practical challenges associated with FGs: 'Using FGs in RT research: ethical and practical considerations'.[19] The following section of Chapter three comprises detailed descriptions of study preparation, data collection and analysis, which is informed by grounded theory. Phase two survey methods are then provided with the rationale for the data collection and analysis strategies, after which a conclusion is provided.

Chapters four to eight comprise the findings of the data analysis for both the qualitative and quantitative elements of the research. Publications are presented examining the key aims of the research and a discussion is provided with respect to the current study and the literature.

Chapter nine comprises the integrative discussion which synthesises the key findings of the research. This chapter relates the findings to the profession using a series of recommendations. Chapter ten forms the main conclusions and future directions of the study.

1.9 Conclusion

Chapter one has presented an introduction to the thesis. The first section gave insight into my context as a practitioner and educator and described the evolution of the research

question. It provided a background to the study allowing for the context, setting and scope of the research to be introduced. The primary aim and objectives of the research were stated together with the significance of the study. Areas where the study addressed the gaps in the current knowledge on FTP in RT were posited. The last sections of this chapter presented an outline of the structure of the thesis.

The following chapter provides a critical analysis of the literature related to FTP and the profession of RT. This is set in context of the broader health care field due to a paucity of relevant current literature in RT and the MRP professions.

Chapter 2

Literature review

2.1 Introduction

As indicated in the previous chapter, the aim of the thesis is to explore FTP and its related concepts in RT. The literature reviews forming part of each publication which comprise the thesis chapters (Chapters four, five, six, seven and eight) relate to the specific areas of investigation and research which each paper presents. The following literature review is therefore complementary to these. It includes updates in the literature which are of particular relevance for the earlier publications (Chapter four and five) and presents discussion on issues which are related to the profession of RT and FTP from the literature which are relevant at this point in the thesis.

It should be noted at this point, that the methodological basis for the thesis is informed by grounded theory,[20] for which the role and extent of the literature review and recommendation for the timing of undertaking it during research has seen much debate [21-23] because prior knowledge of the literature may influence data analysis.[24-26] This will be discussed further in the methods section. Suffice to say, an introductory literature review was conducted initially.

The first section of this chapter seeks to provide an understanding of the evolution of the profession of RT from its technical roots to becoming of a profession in its own right. It

discusses the technical nature of the role of the RT, professionalisation and the inception of the first National Registration and Accreditation Scheme for MRP professionals. The second section of this chapter uses primarily the international literature from the wider health professions (particularly nursing and medicine) to critically review the concepts of professionalism and competence in order to discern how closely these concepts are related. The third section of the chapter appraises the current status of FTP in the literature and provides examples of FTP hearings and cases. It also introduces the concept of the radiation error and discusses whether these to date have been classified as FTP issues. The final sections of this chapter identify the gaps in the literature and the need for on-going research. A conclusion is then presented which draws the key findings together.

2.1.1 Search strategy

In order to identify relevant literature, a search strategy was devised to acquire information on FTP and the concepts of professionalism, clinical competency and professionalisation from local and international sources.

In order for a comprehensive review of literature to be undertaken, the scope of the review was expanded to include non-peer reviewed sources (grey literature). Documents such as government reports and policy statements, position statements, editorials in newspapers and other healthcare publications were examined. The websites of professional regulatory organisations (Australian Health Practitioner Regulation Agency (AHPRA), Health and Care Professions Council (HCPC), General Medical Council (GMC), Australian Medical Association (AMA), United Kingdom Nursing and Midwifery Council (UKNMC), Australian Nursing and Midwifery Board (ANMB)) were also explored for documents pertaining to the topic. These documents were accessed via

either Google or Google Scholar search engines and they provided context to the literature review.

The search terms used across all search strategies included: Fitness for practise, professionalism, professional behaviour, professionalisation, competence, capability, performance, radiation safety, radiation error and technology. In addition, RT specific phrases were also included in separate searches, including: radiation therapy/radiotherapy error reporting.

An initial search was undertaken using Medline, PubMed, CINAHL and Science Direct. The inclusion criteria were:

1. English language;

2. Publication between 1990 and 2015 because much of the early work on professionalism and competence occurred in the early 90's;

3. Peer reviewed papers and grey literature;

4. Full text availability.

The initial search of the literature resulted in 2947 papers on professionalism/unprofessional behaviour and 96 on clinical competence. There were 78 papers on FTP, 44 on professionalisation, ten on technological impacts on service delivery and patient care and 31 on RT errors and error reporting. After reviewing the titles and abstracts for relevance to the research question, 107 were selected for the literature review. In addition book chapters were also used to provide additional perspectives on the concepts reviewed. These were sourced either online or from the university catalogue.

In keeping with grounded theory methodology, not only was a literature review undertaken prior to the study commencing, review also took place during the data analysis phase of the study. As such, additional key words were included at the time of data analysis related to whistleblowing, regulation and the reporting of sub-optimal practice, with 149 papers relating to this found during the review. Papers relating to disclosure, whistleblowing and reporting of practitioners (51) were selected for the review, using the same selection criteria as above.

2.2 Professionalisation in radiation therapy

2.2.1 The role of the radiation therapist: technical or professional?

For years, the profession of RT (as is the case of the other MRP professions) has been dominated by its technical nature, sometimes to the detriment of patient care.[27-31] The 'soft' skills, such as caring were suggested to be undervalued by RTs in the findings of a Canadian study investigating the concept of caring in the profession.[16] The emphasis may be perceived as being placed on the performance of equipment and technology, rather than the provision of individualised patient care and tailored treatment to manage diagnoses. It is commonplace for the patient to be referred to by the RT (and student RTs) as the 'breast' or the 'prostate'. This notion of the 'patient as body part' concurs with the argument postulated in the field of intensive care nursing from 2001, where the focus on technology was suggested to result in deprivation of patient individuality, subjectivity and de-humanisation.[32] Indeed, in the field of nursing this de-humanisation attributed to technology, was linked to the perception that patients were an extension of the machinery, which could be the case in RT, given its very technical nature.[33,34]

The past fifteen years in RT has seen rapid developments in planning, treatment and imaging techniques directed at delivering higher doses to the tumour and sparing as much normal tissue as possible.[35] As such, there is anecdotal evidence suggesting the role of the RT in Australia remains heavily biased toward the technical aspect of practice rather than the professional perspective. Excellence in RT may be judged on technical expertise rather than professional values, ethics and attitudes as suggested in the findings of studies from the field of radiography.[36,37] Despite the focus on technology, the RT plays a key role in the multi-disciplinary care of the cancer patient, although this is not readily recognised in the literature.

The daily work of the RT is focussed around involvement of the multi-disciplinary team (MDT) in the care of the patient. Although there is a plethora of literature on the structure and roles of the MDT in cancer care,[38-40] seldom is the contribution of the RT to this team acknowledged. This leads one to question whether the RT is considered as one of the professionals who contributes to the care of the patient or rather the technician who uses equipment and machinery to plan and deliver the treatment. This misconception was aptly illustrated by a RO in 1999 who suggested; they (ROs) have a body of knowledge which allows them to use their professional judgement in decision making in treatment planning, while the RT 'turns the machine on'.[41] It is acknowledged this paper is not recent, however, anecdotal evidence suggests the issues highlighted remain prevalent in RT practice today. The debate is ongoing in the USA, where a more recent publication from radiography proffers the questions as to whether the term used to describe radiographers should be 'technician or technologist'.[42] It is suggested that these two terms are used interchangeably and it is the technologist who should be considered as a professional, with the technician being the occupation related to maintenance and repair of the

equipment.[42] Given this perception of RTs may remain today, the question as to whether RT is a profession requires further exploration in the context of professionalisation and its related elements.

2.2.2 Professionalisation in radiation therapy

Professionalisation refers to the process whereby an occupation changes its characteristics in-line with those of a profession.[43] In order for an occupation to be classed as a profession, its' work should be based on 'the mastery' of a complex body of knowledge and skills which are used to serve others, where academic knowledge is linked with knowledge gained through practice.[44] By virtue of this specialist knowledge, professionals retain exclusivity because they deliver a particular service which no other occupational group can offer.[45] Possession of this knowledge may place the general public in a vulnerable position and as such, the interests of society should be of primary concern to members of a profession and must always come before personal interests.[46]

Professionals are assumed by their clients and patients to situate their practice within a code of ethics. These serve to promote a professional's obligation to maintain expertise in their field, honesty, morality, philanthropy and the promotion of public wellbeing. Education, licensure and professional registration provide members of a profession with 'monopoly over the use of its knowledge base', independence and autonomy as well as the benefit of self-regulation.[47] More-over, professional registration serves to protect the public from being treated or examined by those who are not qualified to do so, whereby the transition from self-regulation to regulation via professional registration re-assures the State of a professional's capacity to practise safely.

As depicted in the previous paragraph, the notion of profession is multi-facetted and there is no consensus definition as to its constituent elements.[43,48,49] If these criteria are applied to the RT, then it may be suggested it has evolved as a profession in its own right. This is because over the past thirty years practitioners have developed many of these attributes, although the process of professionalisation in RT has proved somewhat challenging.[43,48]

The challenge in achieving professional status may be because (as with the other MRP professions) there remains an element of subservience with respect to the position of RTs in the health care team hierarchy, particularly in relation to medical practitioners and radiation oncology medical physicists.[36,49-52] It is postulated that this may stem from the historical notion that the MRP profession was one of the 'caring professions' whose work was supervised and applied rather than being theoretically informed and autonomous.[51] In the past, the knowledge base in RT (similarly to radiography) was created by physicists and medical doctors and applied in practice by the RT (they were not responsible for generating the knowledge).[45] This positivist 'scientific' knowledge, created by the physicist for example, was objective and externally verifiable. However, since the work of Schön[53], practitioners themselves have been proposed to be the creators of 'practice-based knowledge' which evolves through the act of reflection on practice. In a similar manner to the nursing profession, the hierarchical nature of the profession may have posed challenges to the profession developing its own sense of autonomy (which is one of the major elements of profession).[54]

The inception of post-technocratic, degree-based, professional, entry-level education[55] in the MRP professions (bachelor and masters level programs) has been a major vehicle for the generation of new knowledge specific to the professions. This evidence-base is now

increasing rapidly, given the dynamic nature of technological innovation in the field of RT and this provides a platform for practice change. Indeed one of the key features of a professional is the ability to employ the knowledge-base to solve problems where solutions previously did not exist.[56] It also incorporates regulation (self-regulation and legislative regulation) and the accreditation of entry level training programs by the MRPBA.

The process of becoming professional also occurs through 'beliefs and actions' where a true health professional is one who 'listens and empathises'.[57] A study undertaken on Australian radiographers has shown altruism, which is an integral element of professionalism[43] was lacking in their professional group.[49] Whilst the disciplines of RT and radiography are distinct, there are many similarities with the historical challenges which the professions have experienced and thus the lack of altruism may be apparent in the RT profession as well, although not reported.

In the MRP professions, the mechanisms for regulation have evolved over time in parallel with the transition to a profession. In 2012, the MRP professions were included into the AHPRA, NRAS and a new national registration board, the MRPBA was created. The MRPBA has over the past three years developed professional capabilities, guidelines and a policy framework for registration and accreditation of the MRP professions.[17] The AHPRA provides support for the MRPBA in its regulatory capacity[8], part of which deals with concerns about individual professionals' capacity to practice. Detailed information is provided from the MRPBA and AHPRA to assist those wishing to make Voluntary or Mandatory Notification about the performance of colleagues.[58]

Prior to the inception of the MRPBA in 2012, different jurisdictions had their own regulatory processes. In some states such as Victoria, MRPs were registered but not legally obliged to report concerns about their colleagues, nor was there any jurisdiction over interns (who have graduated from a three year degree program and who are gaining the requisite professional clinical experience required to make them eligible for general registration). However, a practitioner found guilty of a criminal offence was automatically reported to the Registration Board. In States such as New South Wales, there was no formal registration process for MRPs. The formation of the National Registration and Accreditation Scheme assumes the professionals who are registered with their respective Registration Board comprehend the implications of reporting and notification of sub-optimal practice and are able and willing to follow due process. However, there continue to be different notification processes for the States of New South Wales and Queensland.[59]

In 2013/14 a total of 15 notifications were made to the MRPBA.[10,8] The cases comprised a variety of allegations ranging from competence related issues to those relating to professionalism. Both of these concepts are nebulous in their own right and are often used interchangeably. The next section examines the two concepts and their relationship to each other.

2.3 Understanding professionalism and competence

2.3.1 Professionalism

Defining the concept of professionalism has eluded health care academics and researchers for many years now. This may be because of the inability to reconcile understandings

about these socially constructed artefacts. Using a variety of research methods, commentaries on academic discourse and systematic reviews of the literature, numerous authors have attempted, without success, to clarify what exactly professionalism is and how it relates to practitioners in their day to day practice.[60-71] The majority of the work published in this field relates to the medical profession. Thus professionalism as a construct has been shaped by the idiosyncrasies of this profession and then applied to other health professions, such as RT.[66]

Direct application of the definitions from medicine may not be transferable because of the differences in the roles of practitioners in the professions. It has been proposed the term 'professionalism' may well be interpreted differently and defined by the type of practice or clinical environment/setting and also the level of experience of a practitioner.[72-76] Some of the definitions suggest professionalism is more of a continuum and dynamic in nature and is related to situation awareness.[77] However given the paucity of literature on professionalism from the MRP professions, this together with findings from nursing and the other health professions[78] will be used as a reference. Interestingly, the literature from the MRP profession has focussed primarily on professionalisation rather than professionalism.[49,51]

There is a wealth of literature about professionalism published between 2000 and 2007.[61] This may have been as a result of high profile media cases involving medical practitioners such as the Shipman and Patel cases.[1-4] The lack of consensus on the definition of the term 'professionalism' may be in part due to the large range of characteristics which are attributed to professional performance. In the literature these are often presented as a list of attributes practitioners must achieve and display through practice, rather than as a

construct.[44,61] One interesting perspective to professionalism which has seen more recent attention in the literature is team professionalism[79] rather than the traditional emphasis on looking at it as an individual trait/attribute.[80] However, given the scope of the current literature review is directed towards FTP of individual practitioners, this will not be explored further.

Professionalism has been suggested to comprise a set of morally informed behaviours which practitioners exhibit in their interactions with patients, patients' families, other members of staff and the general public as a whole.[46,81] It is suggested in the literature the components of professionalism can be categorised into specific elements such as: understanding professional roles and norms, working with others; managing oneself; and contributing to the profession.[82]

It is believed professionalism incorporates a number of normative behaviours, values and attitudes, particularly humanistic qualities such as altruism, compassion and ethical practice.[5,83] This form of definition has, however, been criticised because it is not 'grounded in practice', rather it purports virtues which professionals are expected to possess.[77] There is often interchange between the concepts of professionalism and humanism and the associated personal attributes.[84,85] Although complementary to one-another, they should be considered as distinctive in their own right.[73] Humanism is seen to incorporate a practitioners' convictions, beliefs and virtues which may impact on the behaviours and actions of a professional (professionalism).[86,87]

In essence there are two opposing beliefs about the nature of professionalism. The first considers it from a behavioural perspective, comprising dimensions such as effective

communication, treating patients equally and working in a team.[64] In contrast, professionalism is considered by some to be a 'trait not state' which must be acquired.[72] From this perspective, the dimensions comprising professionalism are conceptual components, such as trustworthiness and honesty, sensitivity in relation to age, gender, religion, culture, sexual orientation and socio-economic status.[88] These relate to the notion of humanism, rather than behavioural manifestations such as punctuality and lack of clinical competence. For example, a health professional may "behave as they are supposed to (professionalism) without actually believing in the intrinsic worth of doing so".[86,87] Complexity is also introduced if one considers the influence of culture as a contextual factor for understanding and defining professionalism.[71,89,90]

Ethical practice has been demonstrated throughout this discussion to be crucial and an important sign of professionalism.[91] However, the findings of a study from the profession of radiography have suggested little attention is paid to ethics by practitioners because medical dominance has resulted in the profession being technically focussed.[50] This may be the case in the RT profession, given its evolutionary pathway has been similar to radiography thus far. It has also been postulated that some professionals working in the medical radiations science (MRS) professions in Australia (including RTs) display less altruism, (one of the key ethical and humanistic attributes) than other professionals.[49]

In addition to professionalism, the concept of competence presents challenges in both its definition and its articulation to daily practice. This will be discussed in the following section.

2.3.2 Competence

As with professionalism, there are a plethora of definitions of competence.[92-94] There is also a paucity of literature in relation to competence in RT and the MRP professions. It is suggested competence is the most common construct used to describe knowledge, skills and attributes of professionals.[95] In a paper which presented a systematic review of the definition of competence, 14 differing statements from publications were identified. The two key themes derived from the plethora of definitions were that competence is related to ability and attitudes (based on values and judgement).[92] A practitioners' ability was summarised to encompass: clinical reasoning; professional socialisation; reflection; and communication. This is in contrast to the attitudinal element of competence which encapsulates personal characteristics and values developed from experience in the profession and by observation of role models.[92]

Indeed, in the past, professional bodies and regulatory organisations have used the competency-based approach as a basis for entry-level practice standards and assessment as a baseline for the maintenance of professional skills and as a basis for decisions about professionalism.[96] When used as part of the regulatory process, it has been suggested 'high stakes' are placed on the information which competencies can tell us about the performance and capability of a practitioner.[97]

While there is no definition in the literature of what competence means in RT, it has been proposed competence in radiography is the ability to link technical knowledge with appropriate values in judgement making.[98] Interestingly, technical competence was cited as the primary element of competence by patients in a study which asked them to define nursing competence.[99] The results of recent research investigating competence in relation

to other health professionals (excluding nurses and doctors) revealed the patients and service users related competence to how the practitioner interacted, their compassion and the ability to communicate clearly and articulately.[96]

One of the issues with competence cited in the medical literature is it often relates to measurable performance. It does not take into consideration the depth of knowledge, conceptual understanding and strategic use of procedures, values and attitudes which are expected in medicine and the health professions.[100] It is suggested in medicine that effective performance is seldom uniform in nature and as such is context dependent.[101] This may indeed be similar for the other health professions such as RT. In addition, the literature on competence in radiography highlights the technological basis of the profession and this may be the case in RT.[98] This is in contrast to the current literature in health care, which supports the more humanistic dimensions of the professional role and competence such as communication and cultural competence.[102]

Some of the issues related to the abstract nature of competence and the complexity of non-uniform workplace factors affecting competence can be overcome if consideration is given to complementing the notion of competency assessment with the Entrustable Professional Activity (EPA).[100,103,104] The EPA is defined as:

> *"Those professional activities that together constitute the mass of critical elements that operationally define a profession."*[105]

The EPA was designed to assist in the translation of competencies to professional practice because competency frameworks may be too theoretical to be useful for every day training and assessment. A series of EPAs distinct from every-day tasks should be developed for a profession and these are the elements which must be assessed and

approved for the student/practitioner to meet the required level of practice.[103] There are eight conditions which a task should meet for it to be considered an EPA:

1. Part of essential professional work in a given context;

2. Must require adequate knowledge, skill, and attitude;

3. Must lead to recognised output of professional labour ;

4. Should be confined to qualified personnel;

5. Should be independently executable;

6. Should be executable within a time frame;

7. Should be observable and measurable in its process and outcome (well done or not well done);

8. Should reflect one or more competencies.

There are features of the EPA which may be useful in assisting the determination as to whether a professional is FTP in RT. Given the very dynamic nature of the profession, anecdotally, one of the issues with the previous iteration of professional competencies has been they get out-dated in a short period of time because of their very specific nature. This may be overcome somewhat by utilising the EPA in combination with these. The MRPBA capabilities[17] are more reflective of a combination of competencies and EPAs. There is no ideal form, rather they are socially and culturally determined. As Jolly argues, do we really need a one-size fits all approach to defining competence?[106] A concern for the smaller professions, however, is that unless each provides its own unique definition, the more powerful professions will continue to impose their views upon them. It is however important that concepts such as competence, competency and incompetence are distinguished from one-another, as exemplified by the Australian Medical Council in their consultation document on competence medical-based education.[94,107] One of the key

distinguishing elements is that competence is built on tacit knowledge, which is dependent on the quality of the learning experience, and opportunities for feedback and reflection. It is this which allows health care professionals to be able to make professional judgements required in complex clinical situations.[94] In closing this section it is worthy to note the finding of the United Kingdom (U.K.) study on competence, which indicated that just as engagement with work can reinforce competence, then disengagement can diminish it. The findings also propose personal circumstances and workload as factors affecting competence, particularly stress. In addition, personality and values were also suggested to influence competence.[96] Recently there has been much interest in the notion of team, rather than individual competence. As Lingard proposes, you can have a group of competent individuals who, when they come together as a team, can perform incompetently.[108] This is an area warranting further investigation in the context of RT given its team oriented nature, however it is beyond the scope of this thesis to explore this concept further.

As demonstrated in the previous discussion, both professionalism and competence are multi-facetted, complex concepts which exist independently of one-another but have many overlapping elements. The next section of the chapter explores how these two concepts relate to FTP.

2.4 Fitness to practise: the current picture

2.4.1 Defining fitness to practise

Regulatory processes which incorporate FTP have been established in the U.K., Canada, Australia and other countries in their health regulatory systems. The U.K. General

Medical Council (GMC)[109], Nursing and Midwifery Board[110] and the Health and Care Professions Council (HCPC) have all embraced FTP processes.[111] In Australia, the AHPRA and the Registration Boards for the professions have established processes for professional regulation and notifications. However, the processes used by the Australian regulatory authorities are not identified explicitly as FTP processes in the nomenclature. The MRPBA does, however, describe FTP in its Professional Capabilities.[17]

Whilst the notion of FTP has been evident in the health care literature for a number of years (particularly in the U.K.), there continue to be different interpretations of how it is defined. As a concept, it is often associated with the regulatory aspects of professional practice and is used for legal purposes.[112] It is postulated the term 'fitness' varies between contexts and users,[14] and it has been defined by the Council for Healthcare Regulatory Excellence in the U.K. as:

 "...whether someone meets the standard a regulatory body sets for competence or conduct"[112]

There is agreement in some of the literature that the concept differs from professionalism and competence because it encompasses not only professional behaviour, attitudes and observable skills, but also freedom from impairment, together with a legislative component.[14] The psychosocial elements of FTP have also been highlighted as important, such as the ability to reflect on practice and the development of self-confidence.[113] The key elements of FTP were divided into two categories by Walton (Table 2.1), namely Understanding and Application and also Demonstration (performance or skill based).[15]

Table 2.1 Walton's elements of fitness to practise

Understanding and Application	Demonstration
Licensing/registration authority expectations	Skills/knowledge for good and safe practice
Professional body standards	Recognition of limits of competence
Reporting requirements/process for	Consultation skills
unsafe/incompetent/unethical workers	Keeping up to date with laws and codes
Impact of stress and fatigue on performance	Reporting poor peer performance
Updating skills and knowledge	Recognition of stress and fatigue
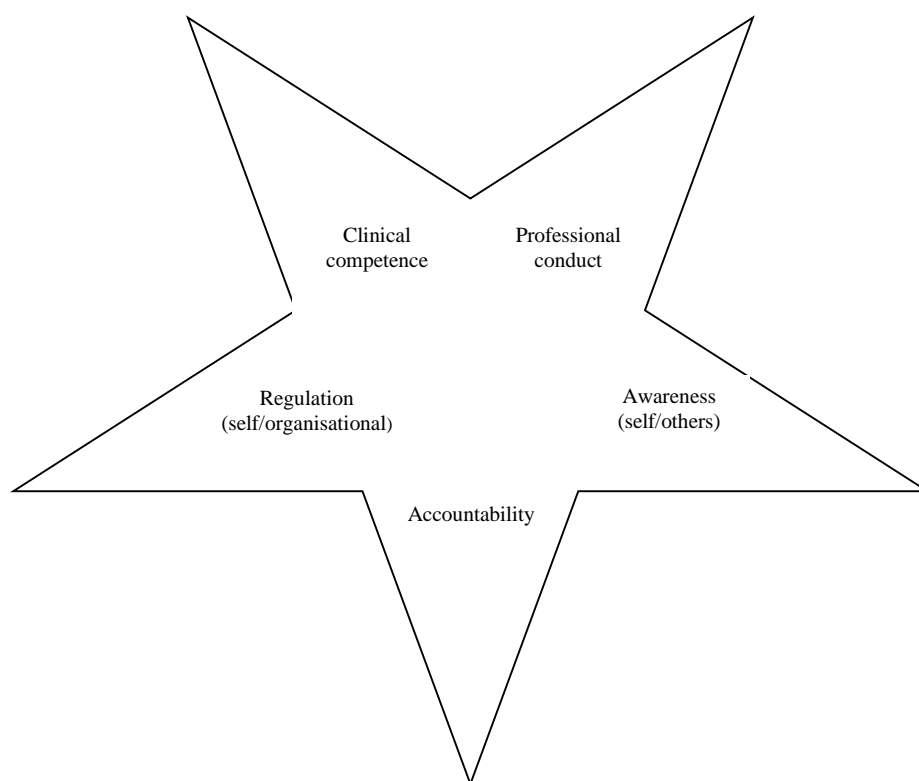
Figure 2.1 The star of fitness to practise[15]

Walton also describes another list of dimensions which are related to professionalism and ethics, which includes responsibility and accountability, but also encompasses some of the aspects described under the theme of FTP. During the process of the literature review a conceptual model 'the star of fitness to practise' was developed to encapsulate the key dimensions of FTP.[12,13,15,109-111]

This model combines the concepts related to FTP (Figure 2.1): professional performance (conduct); accountability; professional awareness; competence and regulatory aspects. It is unclear in the literature however, to what extent RTs themselves understand these concepts and their relationship to FTP.

Exploration of academic and clinical staff understanding of FTP in the nursing profession was undertaken in a Scottish study in 2014. Eleven academics at higher education institutions in Scotland were interviewed about FTP. Responses to a question relating to knowledge of the concept of FTP indicated there were differing degrees of understanding amongst students, academics and clinicians. Some of the interviewees highlighted they thought FTP was well understood by the different groups, while others identified gaps in understanding. The findings of this study suggested there were particular issues with the reporting and documenting of student FTP issues on the part of the clinical practitioners.[114]

In order to provide more detailed context to the FTP issues experienced in RT and the MRP professions, the next section provides insight into examples of cases of sub-optimal practise from regulatory organisation hearings.

2.4.2 Fitness to practise cases from radiation therapy and the medical radiation practice professions

This section seeks to provide insight into the different forms of notification made in the RT and wider MRP professions. A notification (under Australian National Law) is *'a complaint or a concern about the health, performance or conduct of registered health practitioner'*.[115] Anyone or any organisation (the 'notifier') can make a notification to

AHPRA. The most common form of notification is 'voluntary', where an individual or organisation raises their concern about a practitioner to AHPRA. However, for registered health practitioners, educators and employers there is a legal requirement to contact AHPRA if they have formed a reasonable belief that a health practitioner (or student) has behaved in a way that constitutes notifiable conduct in relation to the practice of their profession.[58]

The process of making a notification involves the notifier informing a National registration board via AHPRA about a practitioner. In order for a notification to be investigated, it must meet one or more of the legal grounds for notification:[115]

- Safe care was not provided by the practitioner because his/her standard of professional conduct was too low;
- The practitioner does not have reasonable knowledge, skill or judgement or exercise enough care
- The practitioner is not a suitable person to hold registration
- The practitioner is or may be ill and pose a risk to the public
- The practitioner has or may have broken the National Law
- The practitioner has, or may have, breached a condition on his/her registration or an undertaking, and/or
- The practitioner obtained his/her registration improperly

While it would have been beneficial to have been able to access specific information from FTP hearings of RTs in Australia, this information was not available in the public domain. As such, information form hearings in the UK (which are available through open access

from the HCPC website) has been used to illustrate some of the FTP cases which were heard between January 2014 and April 2015.

It should be noted, in the U.K. RTs are registered under the title Radiographer and as such the hearings for RTs (Therapy Radiographers/Radiotherapists) and Radiographers are combined under the title Radiography. Thus it was not always possible to identify from which MRP discipline the practitioners were from unless it related to a competence (the discipline could then be discerned from the details provided for each case). However, for criminal conduct which occurred outside of the workplace, but which nevertheless was a potential threat to a professionals' reputation or conduct in the workplace it was not possible to establish whether the practitioner was a radiographer or RT. Two such cases are outlined in Table 2.2.

Review of the cases presented on the HCPC website between January 2014 and April 2015 relating to impairment of FTP provided details of two hearings from RT. These related to the clinical competence of RTs during the course of their employment.[116,117] The elements of incompetence from these two cases are outlined in Table 2.3. The majority of the elements were technical in nature, which may be expected given the nature of the profession and the predominance of technology in the profession. There was an indication that one practitioner had issues with communication competence during their employment as well as technical competence (RR).[117]

Table 2.2 HCPC hearings 2014-2015: Criminal convictions

Practitioner Identifier	Date	Allegation
KE	24/03/2015	Criminal conviction of assault and abusive/disorderly behaviour, not declared to employer/HCPC
JCM	23/02/2015	Driving whilst under the influence of alcohol without due care and attention. Attending work whilst under the influence of alcohol on 3 occasions. 59/260 imaging scans did not meet national standards

Table 2.3 HCPC hearings 2014-2015: Competence

Practitioner Identifier	Date	Allegation
MS	03/06/2014	Unable to: Carry out linear accelerator procedures in a safe, competent and knowledgeable manner Demonstrate sound patient set-up skills Demonstrate adequate positioning and technique ability Demonstrate the ability to practice autonomously and required supervision and prompting from other staff
RR	24/11/2014	Unable to perform routine set-up and imaging processes Failure to check moves on the "Tattoo" system when completing Unable to demonstrate technical understanding, knowledge or skills FSD sheets and failure to calculate "+ to –" moves correctly Inaccurate documentation, incompetent handling of equipment Unable to demonstrate sound patient set-up skills Unable to demonstrate adequate positioning and technique ability Unable to communicate effectively with patients, for example ID confirmation, bladder emptying, response to patients side effects Unable to communicate effectively with colleagues

There were many more examples of cases where the competence of practitioners was in question from radiography during the same time period (January 2014 to April 2015). The cases from radiography related to the lack of competence in the use of equipment and sub-standard knowledge and skills of radiography technique, infection control, anatomy and imaging.[118] There were two cases related to alcohol impairment in radiography whilst the practitioner was at work.[119,120] One was the case of JEA which was heard on 5th January 2015.[120] The reason for this particular hearing was the practitioner had lied about why she was unable to have a random blood test from her employer. However, the hearing minutes proceed to suggest this practitioner was already on a 'Conditions of Practice Order' from the HCPC. In addition, she also had a Caution Order from her employer for a period of two years for attending work smelling strongly of alcohol and for allegedly attending work in an unfit state. There were however, no examples related to impairment of a physical or mental nature in the RT hearings (although it cannot be certain because some of the cases did contain details related to this form of FTP issue). In the USA in 2009, there were 2500 ethics violations which were investigated by the American Registry of Radiologic Technologists.[121] These were varied and included: "misrepresentation of ARRT credentials; falsification of quality control logs; and non-disclosure of convictions and performing procedures without an order from a licensed physician. Concerningly 15% of the cases were alcohol related.[121] This demonstrates similar issues are widespread and occur in other countries. However, notification rates in the MRP professions in Australia remain relatively low compared to the USA and the UK with only 15 notifications made to the MRPBA in 2013/14.[8]

In RT although not mentioned in the HCPC FTP hearings, as well as performance issues related to FTP there are technical errors which occur, minor ones being common place.[122]

The following section of the literature review explores these technical radiation errors (particularly dose errors) and the perception of the RT profession with respect to these.

2.4.3 Radiation therapy error: a question of fitness to practise?

An Australian report produced in 2003 commented there had been approximately 90 medico-legal proceedings related to RT in the preceding 25 year period. At least four of these were isolated RT planning overdose errors and two were serious brachytherapy errors.[123] There was however, no indication whether these incidents were solely related to radiation dose error or included cases related to professionalism or impaired FTP. The title of the publication presenting these findings included the term 'safety of RT'. Thus it may be interpreted that the results related to radiation dose and technical error rather than the FTP of members of the professions of RT, radiation oncology (RO) or radiation oncology medical physics (ROMP). The term, radiotherapy error has been defined as:

> *''A non-conformance where there is an unintended divergence between a radiotherapy treatment delivered or a radiotherapy process followed and that defined as correct by local protocol.''*[124]

It is unclear, whether incidents involving radiation dose and technical error are considered as FTP issues by the professions of RT, RO and ROMP. As can be seen from the definition, a radiation error is technically focussed and as such may not relate to professional capability or FTP. This may be because errors are often reported in the literature in relation to quality management human or systems error[125] and discussed in isolation to professional, competence or impairment issues. In addition, because of the team nature of the RT process with respect to machine calibration and dose calculation, often error cannot be attributed to one individual (this is an area for future investigation outside of the remit of the current thesis). In a paper published in 2007, RT errors which were considered to be moderate or minor were suggested to be common.[122] However,

reassuringly in a study reported from 2005 from a large cancer centre in Canada, 94% of the errors made were described as being of no or little significance by the RO. Serious errors (in the USA) have been proposed to constitute 0.2% of mistakes in RT.[126]

Closer to home, in Australia a radiation dose related error due to inaccurate calibration of equipment was reported to have occurred in South Australia between 2004 and 2006. As a result over seven hundred patients were given lower doses of radiation than usual.[127] One of the major issues with the South Australian case was it did not get formally reported or investigated for a long period of time. This was because the hospital deemed the issues to be insignificant. In addition, certain members of the team were unresponsive to the individual who eventually 'blew the whistle'.[128] Interestingly, the only professional retribution from this case was related to the whistleblower who was threatened with disciplinary action by the hospital if they brought their colleagues into disrepute.[128]

2.5 Gaps in the literature and in our understanding

The literature has revealed there is a void in the body of literature in RT and the MRP professions with respect to professionalisation, professionalism, competence and FTP. As such the literature from related professions of radiography, medicine and nursing has been applied to the RT context. Arguably, there are issues with the direct application of the literature to another field because the nature of each profession is different. In addition, much of the literature on professionalism, competence and FTP has emerged out of studies undertaken on students or newly qualified practitioners, rather than those who have been in the profession for a number of years. There may therefore be very different perspectives on these concepts depending on longevity in the profession and this has not been fully explored.

The literature is suggestive of the notion that because RT is a technically dominated profession, patient care may be compromised. This is because patients may be perceived by practitioners as 'extensions' of the machinery which is used to treat them. However, further studies specifically in RT would need to be conducted to affirm this and it is beyond the scope of the current thesis to explore this. There is no evidence in the literature of studies investigating RTs' understanding of FTP and how it relates to every day practice or sub-optimal performance. The approach taken by the MRPBA to accreditation has incorporated FTP processes, although it seldom mentions this as a concept in its own right other than in the professional capabilities. In contrast the U.K. health professions regulatory organisations (such as the HCPC) have well publicised FTP processes in their documents and on their websites.

The paucity in the literature related to this whole field of study in RT indicates there may be a limited understanding of the concepts and as such it may be challenging for students and practitioners to apply these to day to day practice. This may be evident in the education sector at the curriculum development level and also in the profession and at the regulatory level. It is for these reasons a thorough exploration of these concepts in relation to RT is warranted.

2.6 Conclusion

This chapter has examined and discussed some of the reasons for the technical emphasis in the profession of RT. This was related to literature from the nursing profession, particularly intensive care nursing because of the similarities with the emphasis on the use of highly specialised and technical machinery during the course of duty. It was proposed patients themselves become part of the technical and mechanical process rather than

being individual people who are treated with the use of technology. This discussion was extended into the discussion related to the RT being perceived as a technician and not an integral participant in the multi-disciplinary care of the patient. The factors associated with professionalisation were analysed with respect to the evolution of the role of the RT. It was concluded that the RT fulfils many of the criteria of a professional, although there is no evidence in the literature to support this. The literature review confirmed there remains a lack of consensus in health care professions as to the meaning of FTP, professionalism and competence, although these are all related and the terms are often used interchangeably and are context dependent.

In the next chapter the rationale for the research methodology and research methods will be described and defended.

Chapter 3

The research paradigm, methodological approach and methods

3.1 Introduction

The previous chapter presented a review of the literature related to RT and its professional context, together with a critical examination of the concept known as FTP. The literature review identified gaps in the literature especially in relation to our current understanding of FTP.

This chapter describes the methodological approach taken to the research and in particular how the study used an adaptation of grounded theory for the qualitative aspect of the inquiry. The methods associated with phase one (FGs) will be discussed and the first publication presented. The chapter will conclude with a critical account of the research methods used in phase two (the online survey).

The overarching methodological framework which informed the study was Mixed Methods Research (MMR). With its pragmatist leanings and post-modern turn in relation to the ontological and epistemological questions, MMR is well suited to research designed to find out 'what works in practice' within a problem-centred and practice-oriented profession such as RT.[129,130]

A research methodology which embraces the post-modern turn, acknowledges the constructivist proposition where multiple interpretations of what appears to be a unified social reality exist. Thus MMR has allowed for incorporation within this thesis of a multitude of participant voices and views.[129,131] The very nature of constructivist informed research celebrates the perspective that every human situation is novel, emergent and filled with differing, conflicting meanings and interpretations. This fitted with the aim and objectives of the study, an exploration of the perceptions of a number of RTs with respect to phenomena of FTP.[132] Cheeks' synopsis of post-modernism and its application to nursing and health care research neatly summarises the appeal of MMR to this research:

> *'Post-modern approaches offer one way of thinking deeply about nursing and health care. Practical, specific, and concrete research outcomes are needed in practice-based disciplines, but so are thoughtful practitioners who can influence and change practice. The two need not be, and must not be, mutually exclusive. If we only ever try to improve what is, it may well be the case that we never look beyond the seemingly obvious to consider what might be.'[131]*

The evolution and philosophical propositions of MMR will now be examined. This will be followed by an exploration of grounded theory methodology, used to guide the structure of the qualitative strands of the research.

3.2 Mixed methods research methodology

Mixed methods research is recognised as the third major research approach/paradigm (quantitative and qualitative being the other two).[133] The merging of quantitative and qualitative methodologies arguably enhances the rigour of research, rather than compromising methodological purity.[134] Pragmatism on the other hand has been closely associated with MMR because it combines multiple viewpoints, perspectives, positions

and standpoints.[133] In earlier forms of MMR the triangulation[135] of quantitative and qualitative research was known as the concept of 'multiple operationalism',[136] which shares many similarities of the MMR approach used today.

There have been a plethora of definitions of MMR, all of which attempt to justify its focus upon the data. Johnson et al[133] probably come close to encapsulating all of its elements when they argue MMR:

> *'...partners with the philosophy of pragmatism; follows the logic of mixed methods research (...and any other useful logics imported from qualitative or quantitative research...); relies on qualitative and quantitative viewpoints, data collection, analysis, and inference techniques combined according to the logic of mixed methods research to address one's research question(s); and is cognizant, appreciative, and inclusive of local and broader socio-political realities, resources, and needs.'[133]*

A useful way of conceptualising the extent to which qualitative and quantitative methods are used in MMR is illustrated in Figure 3.1.[133] As the figure shows, qualitative and quantitative approaches lie at opposite ends of this spectrum, with mixed methods in the middle. In the case of the current research, the qualitative element predominated over the quantitative and as such, the study could be defined in terms of a qualitative mixed study which:

> *'...relies on a qualitative, constructivist-poststructuralist-critical view of the research process, while concurrently recognizing that the addition of quantitative data and approaches are likely to benefit most research projects'.[133]*
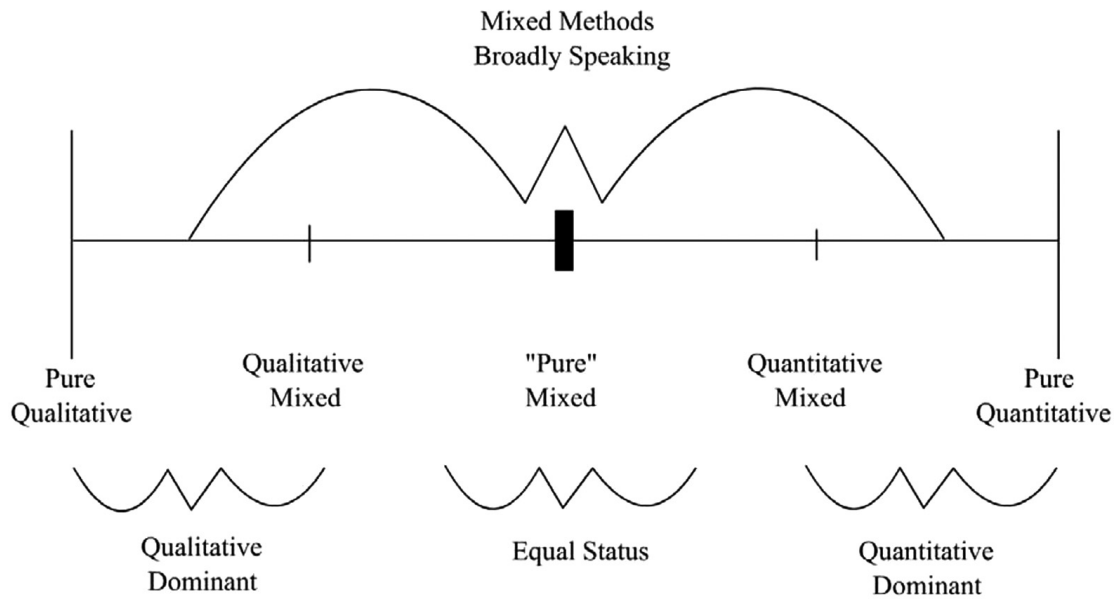
Figure 3.1 Diagrammatic representation of the three major research paradigms, including subtypes of mixed methods research[134]

3.2.1 Advantages and disadvantages of using mixed methods research

There are a number of advantages and disadvantages to using the MMR approach. One advantage is both exploratory and confirmatory questioning can be used to explore the phenomena.[137] The strengths of the different methods can be combined and from a practical perspective. The researcher is able to use all the research tools available not just the ones which are confined to a particular research tradition.[129] In this way a wider understanding of the phenomena under investigation may be possible with the use of MMR because initial analysis and findings may lead to further exploration of related assumptions.[137]

In order to undertake MMR, the researcher requires experience in both qualitative and quantitative methods of data collection and analysis. It does however mean the researcher needs to attend to issues related to reliability, validity, experimental control,

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generalisability, credibility and trustworthiness. Mixed methods studies may also be time consuming to prepare conduct and analyse the data and may well require more extensive resources.[129] One of the potential issues with using MMR is its relative recency in development as a methodology. Consequently traditionalists may not be open to its use (either because of their philosophical views or because they have not had the time to familiarise themselves with the principles and methods involved).[129]

Section 3.3 will now examine the specific methodological approach which was used to guide the qualitative strands of the research in phases one and phase two of the study.

3.3 Grounded theory methodology

Grounded theory methodology (GTM) was introduced into sociological and health research in the late 1960's by Glaser and Straus[138] and it has become increasingly popular in the nursing field.[21] Since its introduction, GTM has taken on different forms in particular, those advocated by Glaser,[24,139,140] Strauss and Corbin[20,141-143] and Charmaz.[144,145] In keeping with the pragmatist tradition, only those elements of Glaserian, Straussian and Charmazian GTM which would work in practice were incorporated into the research methods.

This research adopted aspects of the approach proffered by Strauss and Corbin whereby the theory is derived from the data and as such, the interpretation of each researcher is influenced by their previous experience, background, beliefs and values.[20,143]
The construction (rather than emergence) of the theory according to Strauss and Corbin uses precise procedures which involve high levels of verification and rigour, in contrast to Glaser's arguably 'laissez-faire' approach to data collection and analysis.[132,143] As a RT, I

could appreciate the fact that in clinical practice, professionals are conditioned to follow complex protocols and technical steps to deliver accurate treatment to patients. Thus this approach was appealing because of its procedural specificity.

In more recent years, Charmaz has been a key exponent of GTM (Charmazian GTM), where she has developed a less objective approach to GTM than Glaser and Strauss.[144] This more constructivist approach focusses on the participant experience and their construction of their social realities. It allows for multiple social interpretations to be formed in relation to the same phenomena.[144,145] As such, it is the researcher and the participant who construct the reality together. This approach fits well with the post-modern theoretical stance, which accommodates multiple constructions of social reality.

The practical nature and flexibility of Charmazian GTM with its retention of rigour makes it an attractive methodology to use in research. Indeed, Charmazian GTM has been described as being half-way between positivism and post-modernism, where 'middle ground' theory is developed.[144] Similarly to other methodological approaches related to qualitative research, GTM allows the investigator to explore everyday life experiences, value the perspectives of participants and allows the researcher and those being researched to interact with one another.[146] Grounded theory methodology incorporates a series of unique features, their use in the current study is described in the following section.[20,147]

3.3.1 Theoretical sensitivity

Theoretical sensitivity relates to the personal quality of the researcher and their ability to give meaning to data, understand it and sift relevant from irrelevant data.[20] The researcher

may come to the study with a certain level of theoretical sensitivity by virtue of their previous experience. However, sensitivity can also be further developed during the research process itself. The literature and the professional and personal experiences of the researcher can all provide background sensitivity. Theoretical sensitivity can also develop through the process of undertaking the research itself, by virtue of increasing one's understanding about the phenomena as data analysis occurs.[20]

Since the inception of GTM there has been debate as to how and when existing literature should be used.[21] A number of GTM 'purists' advocate the undertaking of an extensive review of literature prior to the emergence of a core category violates the basic premise of GTM.[140,52,53] The researcher has to 'learn not to know'[139] because the literature may:

> '...cloud the researcher's ability to remain open to the emergence of a completely new core category.'[140]

The GTM approach of 'ignoring' the literature is contrary to other qualitative research approaches, where gaining an understanding of the relevant literature on the topic is paramount.[21] It is postulated that if a researcher undertakes a literature review a priori then the knowledge and interpretations they take from the literature may support 'taken for granted' assumptions which are not relevant to the new area of study.[148] In addition Glaser argues if a researcher reviews the literature they may be overwhelmed with what others have done in the field and this may undermine their confidence in the realm of theory development.[24] Given the fluid nature of theory development in GTM, it is also proposed that if literature is reviewed a priori, it may not actually be relevant to the themes which emerge during data analysis. As such the researcher will have wasted their time pursuing literature which does not support or that cannot be used in explaining the theory.[24,149,150]

The view of Strauss and Corbin is that it is acceptable to undertake an early review of the literature,[20] because it can enable a rationale for research to be developed and provide justification for a specific approach to be taken. Performing a literature review can also orient the researcher and inform the researcher about what has been done in the research area previously.[151,152] In the current study, the literature was used for a number of reasons which accord with those proposed by Strauss and Corbin:[141]

- To make comparisons

- To enhance sensitivity

- To provide questions for initial observations and interviews

- To stimulate questions during the analysis

- To confirm the findings and illustrate where the literature only partially explains the phenomena

Sources of theoretical sensitivity in the focus group study included the preliminary literature review prior to data collection. This provided context upon which the research was developed and consisted of technical and non-technical literature (FTP cases published by the HCPC and AHPRA/MRPBA documents).[11,118,153] The literature review was undertaken to ensure no similar research had been undertaken previously. This was important because doctoral work requires the study of a novel phenomena. The literature review facilitated the development of a preliminary conceptual framework. In contrast, literature was reviewed at a later stage for the survey study as data analysis progressed and as the discussion sections for the publications were written.[24]

3.3.2 Theoretical sampling and saturation

Theoretical sampling is a unique component of GTM whereby the researcher samples participants in relation to the emerging theory. Given this, sampling is intimately related to and occurs concurrently with data collection.[20,132] The sample design should be flexible so it can evolve with the study and the sample units are selected serially, where the researcher looks for negative as well as positive cases.[154] Theoretical sampling includes sampling of situations, events and processes which are relevant to the emerging theory as well as people.[132] Sample sizes are selected on theoretical as opposed to statistical grounds, where sampling should occur in GTM studies until theoretical saturation occurs.[154]

Theoretical saturation of the data occurs at the point where no new or relevant data emerges, the relationship between categories are established (all elements related to the category have been considered) and the relationships between categories are well established and validated. [4,20,143]

The use of theoretical sampling in the focus group study was not possible because there were only a limited, finite number of practitioners interested in participating. Therefore it was not possible to sample until complete saturation of the data occurred for all themes. Saturation did however occur for some of the themes in the current study, even with the small number of FGs which were used.[132] Nor was cumulative sampling and iterative analysis possible, because the scheduling of the FGs did not provide enough time for transcription and data analysis between running each focus group.

Theoretical sampling was not used in the survey study because of the design employed for data collection. The survey was open for RTs to access for a finite time to maximise the response rate, thus irrespective of whether or not saturation had been reached I was unable to access any additional participants.

3.3.3 Theory formation

In order for theory to be generated, similar data have to be grouped and given conceptual meanings and labelled, rather than merely described.[20] Thus they have to be interpreted and statements of relationships used to relate similar concepts. This is where substantive theory arises. Substantive theories are usually descriptive in nature and developed prior to the formulation of a formal theory.[150] Substantive theories relate to the 'substance' or essence of issues, whereby the researcher seeks to provide explanation about an issue from a specific setting, by analysing the similarities and differences of concepts both across and within cases.[143,155] More abstract and generally more widely applicable formal theories are less frequently developed from the findings of studies.[143,156] A substantive theory was developed at the stage after integration and analysis of the data from the FGs and surveys. The theory was descriptive rather than an abstract formal theory.

3.3.4 Limitations of grounded theory methodology

- The process by which GTM are employed are often not fully described in publications, thus preventing the reader from verifying if the specific processes of GTM were indeed used.[157]

- The systematic processes and associated rigour in GTM are strongly linked with positivism. In particular, Straussian GTM has been criticised because the researcher's attention is directed to the procedures of data analysis and not what

the data itself reveals.[157] This contrasts with the post-modern theoretical approach to research where interest lies in data interpretation which may be dependent on the differing contexts of participants.

- The volume of data generated during a GTM study may be a limitation to the practicalities of using the approach, because of the amount of time it takes to transcribe and analyse the data. [158,159]

- Theoretical saturation is sometimes not possible in GTM studies because ethics committees among others require participant numbers and an indication of the duration of the data collection period prior to the study commencing.[160] These are generally acceptable unknowns in 'purist' GTM. In addition today's researcher may not have the luxury of being able to sample until saturation. Oktay suggests it is acceptable to use an approximation of GTM, where for example, theoretical sampling, data saturation and the creation of a theory does not occur.[161] However, it is important if this is the case the researcher articulates which elements of GTM they were unable to satisfy and why.

3.4 Mixed methods exploratory sequential design

This section considers MMR in terms of research design and the methods used to collect and analyse data which have been perceived by some as being more important than its philosophical origins.[162] There are a number of principles related to data collection and analysis in MMR which informed the design of the current study.[129]

1. The *interactivity* between the qualitative and quantitative data (findings from phase one informed the development of the phase two design).[163]

2. The *priority* given to qualitative and quantitative strands (a greater emphasis was placed on the qualitative methods in both phases of the research).

3. The timing of the qualitative and quantitative strands (a *multi-phase combination timing technique* was used).

4. The *stage* in the research process, where mixing of qualitative and quantitative strands occurred.

In the current study, there were a number of different points of integration between qualitative and quantitative strands.[164]

a) Mixing at the level of *study design* was achieved by using a combination of theoretical and methodological approaches.

b) Mixing at the level of *data collection*, where the findings of the FGs were used to develop the survey tool.

c) Mixing at the level of *data analysis* in phase one of the study by virtue of the data from the FGs being analysed from a qualitative perspective (coding and theming) and then a quantitative perspective (frequency distributions and descriptive statistics). Phase two data was initially analysed qualitatively, by undertaking coding and theming. Subsequent to this, cross over analysis,[165] specifically sequential mixed analysis[166] occurred where some of the themes were converted to numerical values for statistical analysis. Thus the data was 'transformed' and 'quantitised'.[165]

d) Mixing at the level of *final analysis* where the findings of the qualitative and quantitative strands for both phases of the study were interpreted together to provide a comprehensive discussion and substantive theory on the phenomena of FTP in RT.[129]

3.4.1 Mixed methods research design typology

The different configurations and extent to which qualitative and quantitative strands are integrated into research adds complexity, and makes each MMR design type unique. There are a number of different permutations of mixing qualitative and quantitative research, which gives rise to various typologies which are cited in the literature.[129,167] The current study was classified in relation to two typologies: the exploratory sequential design and the embedded design.[129]

A hybrid model which combined these two approaches was developed for the purposes of the current research. Figures 3.2 and 3.3 illustrate the stand alone versions of exploratory sequential design and embedded design respectively.[129] The exploratory sequential design commences with and prioritises the collection of qualitative data from a small number of participants in the first phase. In the case of the current research the method used was FGs. The findings from the FGs were then used to develop a quantitative data collection tool (an online survey) for use in phase two of the research.[168]
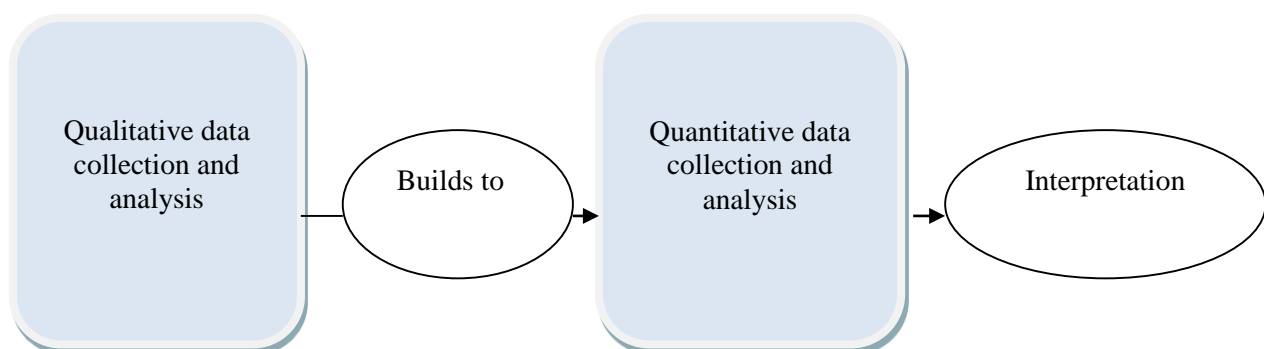
Figure 3.2 Diagram depicting the exploratory sequential MMR design

The embedded design (Figure 3.3) involves the researcher combining the collection and analysis of quantitative and qualitative data within a primary strand which has either a traditional qualitative or quantitative research design.[163] The collection and analysis of the secondary/supplementary dataset can occur before, during or after the primary data collection and analysis in the same phase.[169] In the current study, this allowed for different types of questions to be asked in the FGs and the survey with each eliciting answers which formed both qualitative and quantitative data types.

Qualitative (or Quantitative) design

Qualitative (or Quantitative) data collection and analysis

Quantitative (or Qualitative) data collection and analysis
Before, during or after

Interpretation
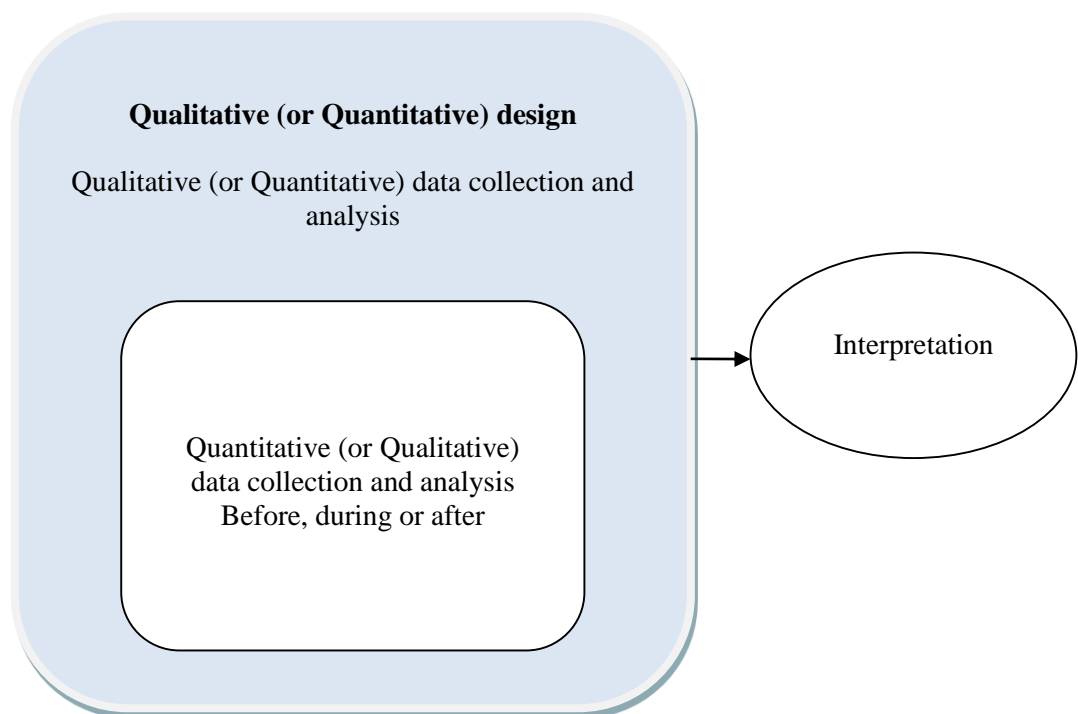
Figure 3.3 Diagram depicting the embedded MMR design

3.4.2 Adaptation of exploratory sequential and embedded designs

In phase one of the research, the focus group data collection technique was appropriate for the qualitative element of the exploratory sequential design.[129] However, in addition to the dominant qualitative element of this phase, quantitative data collection and analysis also played a role and was embedded into the design (Figure 3.3).

The survey tool also collected both qualitative (open ended questions) and quantitative data (closed ended questions), and once again, the quantitative method was embedded into the primary qualitative method.[165] As such the model developed for this research deviates from the purely quantitative role of phase two proposed by Cresswell and Plano-Clark in the exploratory sequential design.[129] Although the data from phase one of the current study was used in the development of the survey tool, it was also deemed important to consider this in the final interpretation of the findings, which is where the adapted model differs from the original models proposed by Cresswell and Plano-Clark (Figure 3.4).[129]

The research design was selected in order to maximise generation of new knowledge to describe phenomena of FTP in RT. Phase one of the study allowed for the investigation of the perceptions of different practitioners in relation to FTP and also the exploration of their experiences of sub-optimal practice.

```
┌─────────────────────────────┐        ┌─────────────────────────────┐
│   Phase 1: Focus groups     │        │      Phase 2: Survey        │
│                             │        │                             │
│  Primary strand: QUALITATIVE│        │  Primary strand: QUALITATIVE│
│   data collection and       │───────▶│   data collection and       │
│       analysis              │        │       analysis              │
│          +                  │        │          +                  │
│   Supplementary strand:     │        │   Supplementary strand:     │
│  Quantitative data collection│        │  Quantitative data collection│
│        and analysis         │        │        and analysis         │
└─────────────────────────────┘        └─────────────────────────────┘
              │                                      │
              ▼                                      ▼
        ┌───────────────────────────────────────────────┐
        │          Interpretation of findings            │
        └───────────────────────────────────────────────┘
```
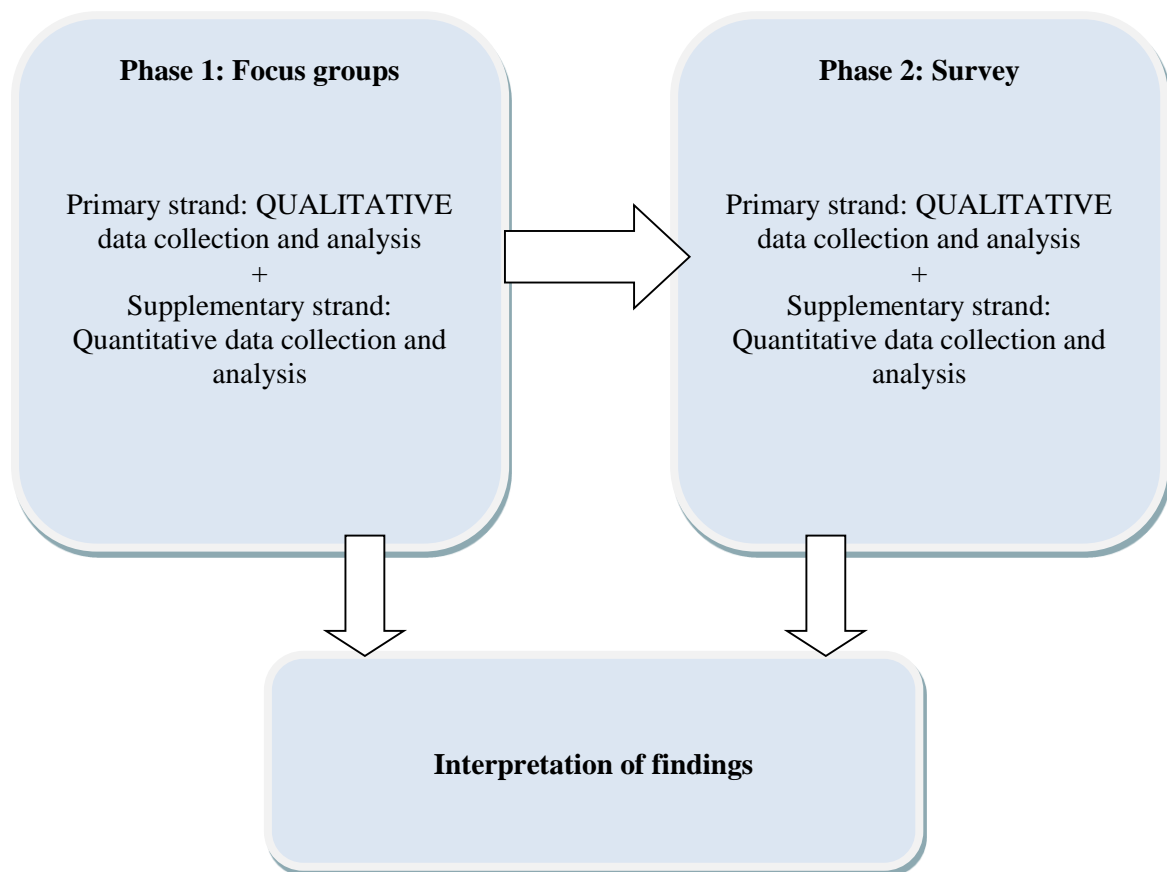
Figure 3.4 Diagram depicting the adapted exploratory sequential design utilised for the current research

The nation-wide online survey enabled a broad range of participants with varying levels of experience in the profession to contribute to creation of the knowledge base, with respect to their responses to hypothetical dilemmas related to sub-optimal practice. Figure 3.5 provides a more detailed diagram representing the key aspects to each phase and strand of the study, in particular the process, procedures and products of the research. There were many decisions required in order to ensure the tools used for data collection and analysis were appropriate for the research. However prior to implementing any of the procedures for data collection and analysis, thorough consideration needed to be given to the process of ethical approval.

Phase of study	Procedure	Product
Phase 1 QUALITATIVE Data Collection	Pilot focus group 3FGs + participant demographics survey + post focus group survey (N=21)	Textual data, transcripts
Phase 1 Quantitative Data Collection		Demographic data, rankings, data on participant satisfaction with conduct of FGs
Phase 1 QUALITATIVE Data Analysis	Coding, and thematic analysis guided by GTM using NVivo10	Visual concept maps, Coded text and themes, Examples of personal experience of sub-optimal practice in RT, Substantive theory
Phase 1 Quantitative Data Analysis	Enter numeric data into SPSS21, check entries and perform descriptive analysis	Descriptive statistics such as frequencies of demographic characteristics and ranking of the determinants of FTP
Survey tool development,	Consider themes related to definitions of FTP, classification and ranking of the determinants of FTP	4 themes defining FTP 3classifications of FTP determinant 8 FTP dilemmas used for survey
Phase 2 QUALITATIVE Data Collection	Online survey using Qualtrics (N=180), pre-test and pilot	Textual data
	Open ended questions	Textual data
Phase 2 Quantitative Data Collection	Closed ended questions	Numerical demographic data (ordinal classifications)
Phase 2 QUALITATIVE Data Analysis	Coding, and thematic analysis guided by GTM	Codes and themes leading to Substantive theory
Phase 2 Quantitative Data Analysis	Convert NVivo spreadsheet and codes to SPSS21: transform data. Descriptive analysis, Chi Sqaure and binary logistic regression analysis	Likelihood ratios, level of significance of data
Integration and Interpretation	Summarise dimensions, evidence for construct validity	Description of dimensions, themes, substantive theory, combined with odds and likelihood ratios from binary logistic regression

Figure 3.5 The methods involved in the two phases of the research

3.5 Ethical approval process

As specified by the National Health and Medical Research Council, prior to the commencement of both phases of the study, approval was sought from The Monash University Human Research Ethics Committee (MUHREC).[170] Ensuring participants were fully informed about the research in which they were participating was of paramount importance.[171] In order to achieve this explanatory statements and consent forms were developed using 'plain language' for each phase of the study.[172]

3.5.1 Focus groups: Ethical approval process

There were some initial concerns raised by MUHREC relating to the sensitive nature of the topic of FTP in RT and confidentiality of the discussion (its potential impact on participants and practitioners who may have been inadvertently mentioned during the discussion). In order to address the concerns of the MUHREC, the most sensitive questions relating to practitioners' experiences of less than optimal practise were removed from the FG guide. Also, additional literature was proffered which cited a similar study to support the argument to use FGs. In addition, pseudonyms were used during the FGs and these were the only names recorded in the transcripts and presented in the results. These strategies satisfied MUHREC and approval was granted (Appendix B).

Participant information was provided during the focus group preparation stages. This was sent by email to the participants for them to read in the period between them confirming their attendance and the day of the focus group. The same information was also available for participants immediately prior to the conduct of the FGs for participants to review before written consent was obtained.

Time was allocated to allow participants the opportunity to refresh their memory regarding the purpose and conduct of the FG and to ask any questions. A request was then made for participants to sign the form indicting they were happy to proceed. All consent forms were collected prior to conducting the study and returned to the researcher for storage in a secure environment.

3.5.2 Survey: Ethical approval process

Initial approval was sought from MUHREC for the pilot survey only because the aim was to test different data collection formats and it was anticipated these may differ from the final version of the national survey. In addition, the sampling process and analysis of the pilot study was different to that which would be used in the national survey. MUHREC approval was granted for the pilot study and then at the time of preparation for the national survey an amendment to the ethics submission for the existing pilot study was made. This amendment clarified the changes from the pilot to the national survey (including identification of differences in the sampling and recruitment techniques and survey questions). The ethical approval documents for the phase two pilot and national surveys are presented in Appendix C. Explanatory information for participants and consent statements for the pilot and national surveys were placed on the first page of both online surveys (Appendix C). This allowed participants to be fully informed about the nature of participation immediately prior to undertaking the survey. Voluntary completion of the survey implied consent and participants were informed that because their responses were anonymous it would not be possible to withdraw from the survey after commencement.

3.5.3 Confidentiality and disclosure of information

Unfortunately researchers are unable to guarantee total confidentiality due to the potential requirements to testify in court and because of some professions' mandatory reporting regulations for notifiable conduct.[132] Issues of confidentiality considered important in the current study included those surrounding maintenance of anonymity of participants, the disclosure of data by the researcher and storage of data. It should be noted, at the time of conducting phase one of the study where registration was under State level jurisdiction, there were no mandatory reporting requirements for RTs. However, this changed in the time period between phase one and phase two where national registration commenced under AHPRA. National registration, now obliges practitioners to notify the MRPBA about instances of sub-optimal practice.[58]

During the conduct of the FGs, in order to reduce the likelihood participants would be identifiable they were asked to provide a pseudonym. These were placed onto colour coded name badges and table place cards so at all times during the discussion participants could be identified by colour or pseudonym. As such neither the audio recording nor the written record of the FG discussion had a record of the 'real' names of participants. A room layout and table plan and was also produced to facilitate identification of participants by the Moderator and Moderator's Assistant (Appendix B). Disclosure of information by participants after the focus group was impossible to control, other than requesting confidentiality during the conduct of the focus group was maintained. To minimise the likelihood of any participant breaching confidentiality, guidelines were written in the explanatory statement and verbally reinforced on the day of the FG both prior to and at the end of the discussion.

In the survey the sampling method for the pilot study (discussed later in the chapter) meant the identity of the participants was known to the independent research assistant (IRA) who conducted the random sampling. This person was also responsible for distributing an email with a link to the survey to the participants of the pilot study. The IRA was briefed with respect to confidentiality and disclosure requirements and ethical research conduct prior to commencing recruitment. Consequently none of the details of the participants were disclosed to any other member of the research team and these were kept on a password protected computer.

The national survey was anonymous because the study information (which hosted a link to the survey) was distributed by an external independent organisation via email to its membership (the AIR).[173] Therefore, the identities of participants were unknown because the mail-out went to a large group of people from a list which was not in the public domain or held by the research team. In addition, the link to the survey was also sent to Chief RT (Head of the clinical centre) via email for them to distribute amongst their staff. Similarly, the identities of staff completing the surveys via this route were unknown.

3.5.4 Storage of data

The storage of all data conformed to MUHREC guidelines. Storage space was provided in a locked cupboard within a locked office on the university premises. Only the researchers were permitted access to the original data. The minimum storage term in the institution research protocol is stipulated as five years after which the recommended guidelines from the State of Victoria privacy law must be adhered to in discarding the confidential waste.

Further examination of the ethical and practical issues related to the use of FGs with RTs is provided in the following section. Part of this work has been published in the Journal of Radiotherapy in Practice.

3.6 Phase one design decisions: focus group methods

Prior to conducting the FGs a literature review was undertaken to determine whether FGs were an appropriate method for data collection and analysis. This literature review has been published as a review article as outlined below. The article is an exact copy of the one that was published in the Journal of Radiotherapy in Practice. In the case of the manuscript included in Chapter 3, the nature and extent of my contribution to the work was the following:

Nature of contribution	Extent of contribution (%)
Development of concept, literature review and manuscript writing.	85%

The following co-authors contributed to the work. If co-authors are students at Monash University, the extent of their contribution in percentage terms must be stated:

Name	Nature of contribution	Extent of contribution (%) for student co-authors only
Marilyn Baird	Editing of manuscript	N/A
Michal Schneider	Editing of manuscript	N/A
Brian Jolly	Editing of manuscript	N/A

The undersigned hereby certify that the above declaration correctly reflects the nature and extent of the candidate's and co-authors' contributions to this work*.

Candidate's Signature		**Date 17/08/15**

Main Supervisor's Signature		**Dat 17/08/15**

[1]Wright CA, [1]Schneider-Kolsky ME, [2]Jolly B, [1]Baird MA. Using focus groups in radiation therapy research: ethical and practical considerations. Journal of Radiotherapy in Practice. 2012. 11:(4)217-228

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3.6.1 Introduction

With an increasing emphasis being placed on patient centred care in RT (RT), the usefulness of qualitative research in for example, discovering patient perspectives and experiences (e.g. communication and information provision for patients undergoing RT)[174] is becoming evident. Qualitative professionally focussed research involving radiation therapists is also becoming more popular, with research into professional issues and education being prominent topics, (such as investigating the perceptions of radiation therapists on reflective practice, patient care and research into advanced practice roles). [16,175,176]

Amongst the various qualitative methods, focus groups (FGs) are particularly useful in exploring knowledge, understanding and personal experiences in relation to specific issues.[177] They can also be used when for ethical reasons or time constraints it is not possible for the researcher to go out into "the field" and engage in participant observation. Some of the ethical issues which may arise when undertaking participant observation are

related to non-disclosure of the true purpose for being in the field (covert investigation). This may be warranted if the researcher does not want to reveal themselves to the community under investigation, so as not to influence their behaviour.[154] FGs allow researchers to elicit both diverse or consensus responses (verbal and non-verbal) from a group of participants at one and the same time. This technique celebrates diversity allowing researchers to capture hitherto unknown personal attitudes, for example, investigating radiation therapists' perceptions of the notion of fitness to practise.[178]

This paper will provide a short history of the evolution of FGs and their use in health care research generally and more specifically within RT. It will also address a range of methodological and ethical issues related to the use of FGs, such as the challenges of ensuring a safe environment for free discussion. The paper will conclude with an examination of some of the techniques used to analyse FG data for appropriate and valid evaluation of the themes raised during FG discussions.

3.6.2 Defining and using focus groups

Focus group discussions provide a structured means for researchers to investigate peoples' views on a particular subject within a group forum.[177] They have been used in the past to study patient, practitioner and service provider experiences of health care.[179,180] The literature suggests that their use in RT research has been limited to a small number of studies, for example an evaluation of the perception of radiation therapists into the concept of caring.[16] Anecdotal evidence suggests that smaller scale local studies have used FGs as a means of clinical/professional governance rather than as research projects. This may be a reason for their paucity as a documented research method used for RT

studies in the literature. There are however a number of FG studies related to oncology which are cited in the literature. These include investigations into care of paediatric and adolescent patients, the involvement of users in service planning and investigations into the needs of patients with specific diagnoses (such as prostate cancer).[181-183]

FGs are defined as:

> ...*"a research technique that collects data through the group interaction on a topic determined by the researcher... It is the researchers' interest that provides the focus, whereas the data comes from the interaction...."*[184]

The emphasis of this definition lies not only with the group process, but also the interaction between participants. The dynamic interactive nature of FG discussions is one of the reasons why researchers select FGs as opposed to other qualitative methods of data collection.

3.6.3 When to use focus group methodology

FGs are well suited for investigating complex and sensitive clinical issues such as those requiring multi-disciplinary research across a number of clinical centres. For example, they could be used across the disciplines of radiation and clinical oncology with multi-disciplinary team members. One example of a topic which could be investigated is the quality of information provided to patients about radiation induced side effects. This could also be investigated using patients as participants to get their insight into the quality of information that is provided to them on side effects and self- care and what might be required.

Focus groups can been used as a means of hypothesis generation and also to facilitate the interpretation of surveys.[185] Their use has been advocated as a preliminary stage for the

development of survey tools, to ensure that the survey questions are structured in context with potential participants.[175,186] Indeed this is how we used them in our research investigating radiation therapists perceptions of FTP.[178] This approach allowed us access to a wide group of practitioners over a relatively short period of time and it provided a forum for participants to input their views and interact with one another. A greater amount of time would have been needed in order to undertake participant observation or individual interviews. The FG can also be used in a variety of other ways for gathering qualitative data.[187] They can be used as a 'stand-alone' instrument or to provide a multi-dimensional approach to data collection in the triangulation of research methods.[188,189] O'Donnell et al used a series of preliminary FGs to ensure that their survey questions (on professional behaviour and mal-practice of medical practitioners) were constructed clearly, thereby reducing the chance of the participants misinterpreting the questions.[190] There are circumstances when FG methods may not be the most suitable means with which to investigate a qualitative question. For instance, if a researcher wishes to gain in depth insight into how individuals feel about a topic and explore on a more personal level themes which arise, or if complete privacy is required, because the informants may have information that relates to a third party's actions. Focus groups would also be inappropriate if the researcher wants to establish what someone would do in a situation, rather than what they say they would do, then participant observation may be more suitable.

3.6.4 Differentiating between FGs and other types of qualitative group research

The participatory and interactive nature of FGs differentiates them from other research techniques such as nominal group data collection, where the 'group process' is only evident in presentation of the data, which is gathered from individual interviews.[191] FGs allow participants to refine their ideas and discuss perspectives on topics which they may not have previously considered.[192] The difference between FGs and the Delphi process is that FGs do not require a consensus to be achieved within the group.[193] In this way FGs allow topics such as patient's views on aspects of care to vary without participants feeling they need to conform to the views of the majority of the group. During FGs, the opportunity is provided to acquire the views of the participants and observe their verbal interactions, their intensity and those non-verbal cues that can never be captured by surveys. In our research into FTP in RT for example, notes were taken by an assistant documenting non-verbal cues when participants were speaking:

> *JRT2Q4 Pedro – "Uses both hands to explain to the group, looking around, is he seeking reassurance from the group or trying to engage the group?"*

> *SRTQ1 Basil – "Leans forwards using hands to explain, jumps in and engages the group, uses eye contact, may be to show disagreement?"*

Thus FGs provide researchers with a deeper insight into what people think and feel about a topic.[194] It should be noted however, that the setting for the implementation of FGs may be considered 'un-natural' and not authentic when compared to the environment in which participant observation is undertaken. This is because they are conducted outside of day to day 'real life' clinical practice and it is for this reason that FGs should not be used as a

substitute for investigating "lived experiences".[184,195] Nevertheless, FGs allow the researcher to gather data in a way in which open and frank discussions and the sharing of existing and new ideas are possible. In order to achieve this in our study an appropriately prepared independent moderator (academic from the field of medical radiation science) facilitated the FG discussions. A pilot FG discussion was conducted to allow the moderator to familiarise themselves with the discussion points. In particular, this enabled the FG prompt questions to be tested, some of which were subsequently modified prior to conducting the FGs proper. The moderator of our FGs ensured that new ideas were explored by the whole group and that the discussion maintained its focus.

3.6.5 Ethical considerations

It is imperative that researchers are cognisant of the potential ethical issues associated with the use of FGs. All research using FGs should be reviewed and approved by the institutional ethics committee (unless this technique is to be used for governance/audit, quality assurance or evaluation purposes and not intended for publication). As with all research studies the participants should be provided with explanatory information about the nature and conduct of the research and they should consent to voluntary participation, in the knowledge that they can withdraw at any time without any retribution if in any way they feel that they are unable to continue.

3.6.5.1 Suitability of the discussion topic for FG methods

The research question should be thoroughly considered to ensure its suitability for discussion in a group environment.[196] It is acceptable for topics to be controversial and sensitive in nature as long as the discussion is moderated appropriately and complete

anonymity of cases or incidents is maintained throughout the entire discussion. Some topics might be considered sensitive in nature and ethics committees may be wary of approving FGs as the method to collect data on these topics. This may be due to perceived risks in relation to confidentiality or the potential of the related discussions to cause harm or distress to participants. Examples of discussion topics which might be considered sensitive are those associated with children or other vulnerable members of the community. In our study these were topics relating to personal emotional experiences and those which had potential medico-legal ramifications. These included; asking practitioners what they would do if they discovered a colleague was; under the influence of alcohol whilst at work/instructing a student incorrectly/discussing patient details over a social networking site. The potential outcomes of discussing these types of topics needed to be carefully considered because of the potential for participants to disclose their experiences of less than optimal practice (which may have compromised the integrity and reputation of colleagues). On a number of occasions in our FGs, specific examples of unprofessional practice which participants had observed first hand were discussed. For instance the following example was the first of a 'snowball' of other examples of unprofessional practice in RT;

> *"...people who just, routinely forget to put a piece of shielding in and say, oh yep, she's right, it doesn't really matter and the, the old standby where some people just throw away the line 'oh it's only palliative', which just makes my blood boil."*
> *IIISRT-2*

In this FG, once one practitioner had been 'brave' enough to speak out and express their emotion and views, others then felt less inhibited and more comfortable doing the same. Although there are challenges associated with sensitive topics being discussed in the group environment, the advantages are that having the support of other participants may encourage those who might not usually divulge experiences to do so. In some cases when

medico-legal issues are discussed in FGs, mandatory reporting regulations may mean that confidentiality post discussion cannot be guaranteed. This is because there are ethical dilemmas related to the disclosure of potentially harmful information, such as illegal behaviour or behaviour that would signal intervention of a regulatory body, (such as inappropriate relations with a patient) or discussion about actions which may have been harmful to others.[132,196] Reporting regulations in different countries and perhaps states within countries may however vary in their policy relating to this type of disclosure. It is therefore important to prepare the participants for this eventuality. This should be done in the first instance in the written participant information which participants receive prior to agreeing to be involved in the study and again at the start of the FG discussion verbally.

It should be highlighted however, that with the use of a skilled moderator to facilitate the discussion, sensitive topics can be discussed in the FG environment. This is illustrated in research undertaken on the topic of parent end of life decisions in childhood cancer.[182] This study investigated the process involved when parents of children with terminal cancer have to decide between cytotoxic chemotherapy or supportive care alone. The secondary purpose of this study was to ask participants their views on the appropriateness a series of questions which were going to be used in a subsequent survey, related to end of life decisions. The results from this FG led to changes in the design of the subsequent study.

3.6.5.2 Incentives to participate in focus groups

The issue of whether participants should be offered incentives such as payment for being involved in research is contentious. Payment should not be seen as an 'inducement' or reward and indeed should only ever cover travel expenses and costs for inconvenience.[132] It is however possible to offer motivational incentives such as altruistic appeal (for the

good of the profession).[197]   In our use of FGs, participation was linked via the professional body to the professions' Continuing Professional Development program. In this way credit was given to the radiation therapists for participating, as this was seen as an activity by which they were engaging in critical reflection and analysis of practice. It was also hoped that this strategy would stimulate participation rates. Incentives such as refreshments were also used which aided the socialisation of the participants immediately prior to the focus group discussion (allowed participants to familiarise themselves with the environment and meet the other members of the group). It is suggested in the literature that in order to increase the chance that interested participants will attend the FG, the researcher needs to keep in close contact with them in the time frame between initial recruitment and conduct of the FG.[192]

3.6.6 Practical considerations

3.6.6.1 Participant selection issues

Ensuring that you have the appropriate participants for FGs is paramount in their success. An appropriate sampling technique which provides the researcher with participants who have the desired characteristics for the discussion is important from an ethical and practical perspective.[198] Purposive Sampling is the most common sampling technique used in FG research.[199] This sampling technique allows for participants to be chosen by virtue of their knowledge and understanding on a topic and what they can potentially contribute to the discussion.[200] This has been advocated because it generates rich sources of data as participants are informed about the subject and the emphasis is placed on the level of understanding which the participant has on the topic under investigation.[172,201] When 'Purposive Sampling' is used, the discussion groups are more likely to be

consistent in their composition (homogenous), thus the potential for sampling bias and power differentials between participants which may cause ethical issues and is reduced.[202]

3.6.6.2 The effect of familiarity between participants and the facilitator

In a small profession such as RT it is likely that if FGs are conducted the participants may know each other. This may affect how comfortable participants feel discussing certain issues. We attempted to overcome this in our research by placing a statement advising participants that they should not disclose any of the information which had been discussed in the FG with anyone outside it. We also highlighted that anonymity of participants in all publications would be ensured (pseudonyms were used for reporting of data).

The effects of familiarity between participants (participants knowing each other prior to the FG discussion) may be potentially restrictive in terms of the flow of the discussion. Also if participants knew each other prior to the FG, there may have been the chance that they would agree prior to participating not to discuss certain issues.[200] If participants are not strangers, the usual secure environment of the focus group which allows respect for personal views is compromised and familiarity between participants may to some extent inhibit freedom of speech and opinion.[203,204] For example, if a group of radiation therapists who know each other agree before a FG to direct the discussion in a certain way then this would challenge the FG facilitator to elicit honest responses. In order to minimise this in our research, where many of the participants were colleagues, the identities of the participants were not disclosed before the actual focus group took place. This was done to minimise the chance of participants entering into discussions with others who were in the same focus group as them prior to the event. However, this is not

always possible as some participants may collude to attend the same focus group together anyway. In our FGs, familiarity between some of the participants in the same group (some participants were work colleagues) helped 'break the ice' and potentially made participants feel more comfortable.

In addition to familiarity between participants within the groups, there is also the issue of familiarity of the researcher/FG facilitator with the participants. When undertaking FGs within a relatively small professional group such as in RT it is likely that the researcher will be known to the participants. This may introduce a potential power differential between the participants and the researcher which may be counter-productive and result in certain aspects being omitted from the discussion because of who the facilitator is. In order to eliminate this issue researchers can use an independent experienced focus group facilitator from a related Medical Radiation Science profession (so they have insight into the use of RT and professional jargon and understand some of the issues in the profession that may have arisen in the FG discussion). This reduced the likelihood that the participants would feel obliged to respond in the way they thought would be expected by the researcher. Nevertheless, in some studies it could be advantageous for the participants to know the facilitator, for example when patients are involved in sharing their experiences on aspects related to their diagnosis as this may be considered a safer environment in which to discuss issues.

3.6.6.3 The effect of power differentials

Interaction between participants during FG discussions is crucial for their success.[205] The extent to which the participants of a group contribute to a discussion may be determined by the characteristics of the other members of that group.[180] In order to maximise the

success of the focus group discussion it is therefore recommended that the groups are organised to minimise any potential barriers, thus eliminating any power differentials.[206] When undertaking FGs with patients, it may be necessary to use a specific illness as a means of grouping participants together, for example a focus group on the needs of men with prostate cancer.[183] This is because participants with similar backgrounds and experiences (homogeneous groups) feel more comfortable sharing their views with other group members.[207,208]

If, for instance, a study is being undertaken on members of the RT profession or radiation oncologists, then participants could be grouped according to area of expertise or seniority/promotional level. The latter was done in our study in the hope that it would allow participants to speak freely without their superiors listening. If the groups had comprised a combination of senior staff and recently qualified staff for example, it may have made the more junior participants uncomfortable sharing their true feelings in the presence of authority figures, particularly when the topic was related to professionalism (FTP). Feedback from our FGs demonstrated that 20 out of the 21 participants felt able to disclose their opinions freely;

> *"...everyone had a say, as much as they wanted." SRT-Bobbie*
> *".I felt comfortable and free to express my opinions." SRT-Ryan-*
> *"The group allowed the atmosphere so that I could contribute all that I needed to." JRT-Katherine*

The participant who indicated that they felt unable to be as open as they would have liked, felt overpowered by a dominant member of the FG. This experience highlights the importance of preparing the moderator to manage situations such as this and ensure equal participation of all FG members.

3.6.6.4 The effect heterogeneity

In contrast to the commonly held view that homogenous groups are most effective, group heterogeneity has been favoured to widen the scope of the discussion.[208] Thus depending on the research question, participants of various rank/seniority could all be allocated to the same group to stimulate ideas.[209] This may resemble more closely a realistic workplace environment and as such may be of use given the shift towards multi-disciplinary teams working across professional boundaries, with shared accountability and decision making in health care.[210] With a heterogeneous group there is a greater chance of spontaneity in the responses and openness of discussion because there is not as much commitment to the group from the participants.[211] This may be a challenge in RT however, because radiation therapists continue to be viewed as technicians, and in some respects to hold a non-professional status.[49]

3.6.6.5 Analysing data from focus groups

When analysing qualitative data, there are a series of recommended steps. These include; identification of key themes (immediately after the FGs have been conducted), data transcription, participant checking of the transcripts (for accuracy), coding of the data (including splitting and splicing) and an independent check of the coding.[212] The way in which these are undertaken may vary depending on the methodological research framework which guides data collection and analysis.

Thus in the case of our FG research, the key ideas were identified with the moderator the day after each FG had been conducted. Audio-tapes and notes of what transpired in the FG discussion were transcribed and reviewed three times. This allowed us to generate a

series of 'big picture' ideas. After the transcripts had been checked by the researcher, they were sent to participants for verification to minimise misinterpretation.[213]

We found it useful to use a qualitative data analysis package (NVivo8) to assist in organisation and coding of the data. Additional notes documenting body language and on non-verbal cues were imported into the program for ease of reference during coding. Using an electronic data analysis package facilitated the coding process, but did not replace the need to unitize the data and develop the codes. Transcripts from our study were coded initially for content and then re-coded using annotations linked to text in order to analyse the nature of individual responses and participant interaction data. Stevens suggests a series of prompts to stimulate questioning of the data which include consideration of a number of aspects such as dominance of viewpoint, group adherence to the topic, common experiences and contraindications in the discussion.[214] We also created summary documents for each focus group during analysis of the transcripts, which contained general ideas and comments relating to words used, their context, internal consistency, frequency and extensiveness, intensity and specificity.[202]

3.6.7 Coding the data

Coding of the data entails gathering related data together into categories and assigning each category a title/code. Dey provides a useful series of steps with which one can analyse the data and suggests that the starting point in data analysis can be a conceptual framework from which preliminary codes can be discerned.[212] In the research which we undertook investigating FTP in RT, we found it useful to devise a conceptual framework. This was developed from a review of the literature which we undertook prior to

conducting the research. Our initial conceptual framework was a diagrammatic representation of key ideas on the topic (Figure 3.6.) and there were a great number of 'raw' concepts, which had yet to be refined. Not all qualitative researchers favour utilising a conceptual framework in this manner, for example grounded theorists commence with carte blanche and allow the themes to emerge as analysis of the data takes place.[139] The first phase of transcript analysis is the carving of the data into small units (phrases, sentences and short paragraphs) and assigning them a relevant code. Asking the following questions facilitates the process of coding; What is going on here? Why is this being done? What if something changed? What category does this incident indicate?[215] An example of the initial codes that were created in our first phase of analysis for our research into FTP can be seen in Figure 3.7.

Some of the categories from the initial conceptual framework have been utilised, other themes have been disregarded and there were also new categories created from the data. The categories in Figure 3.7. were then re-analysed and spliced together to form four main themes as can be seen in Figure 3.8, namely: determinants, definitions, regulation and environment for FTP. It is also useful when creating the codes to include a short description of their defining properties, so that the researcher can be reminded of the inclusion criteria for each category.
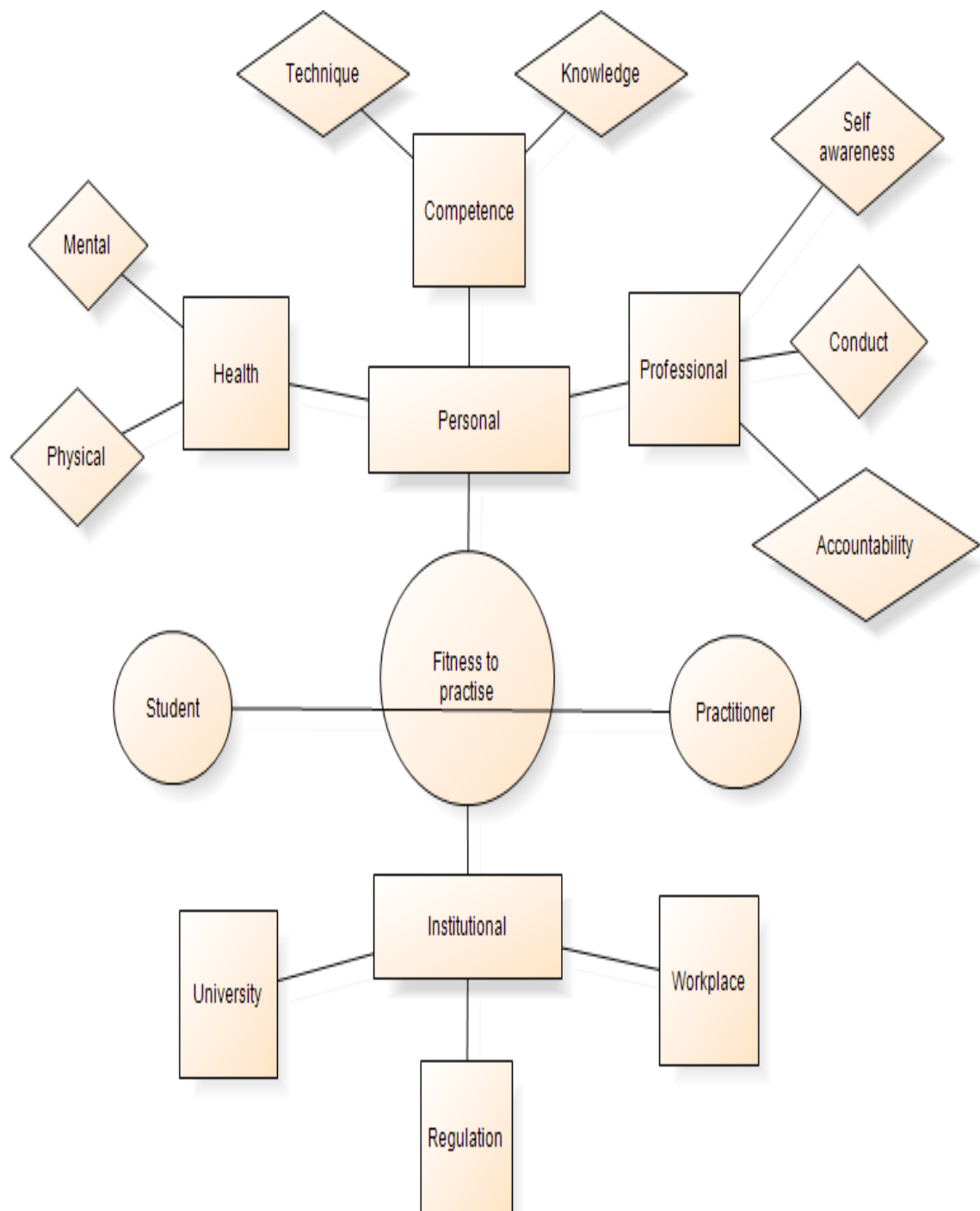
Figure 3.6 Conceptual framework: A focus group study into fitness to practise in radiation therapy
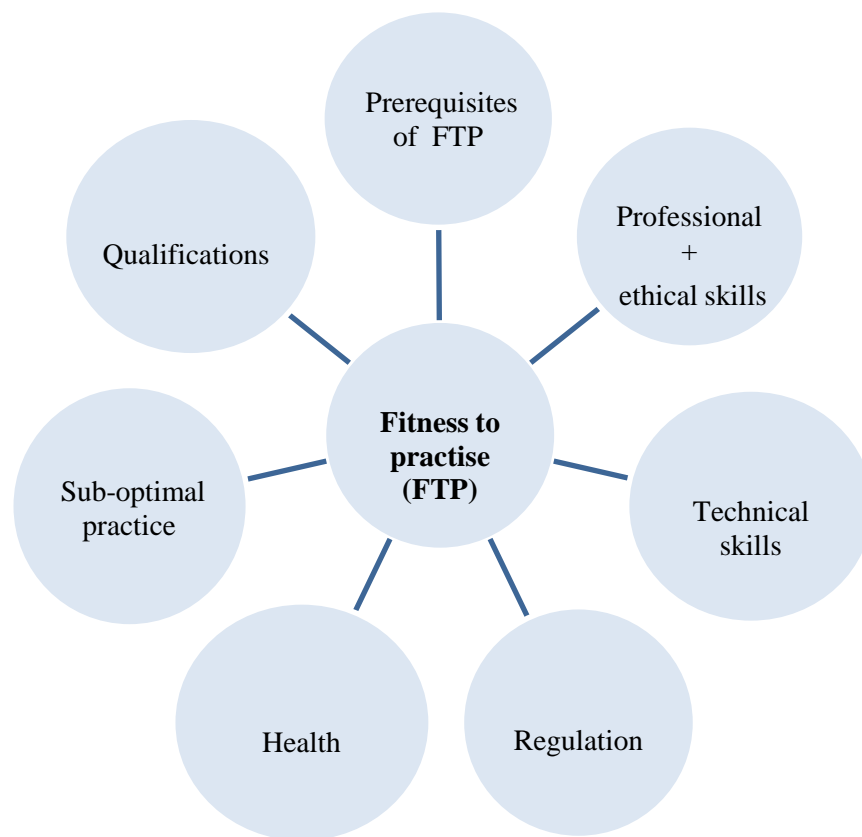
Figure 3.7 Categories which were developed during initial coding of data from a focus group study into fitness to practise in radiation therapy
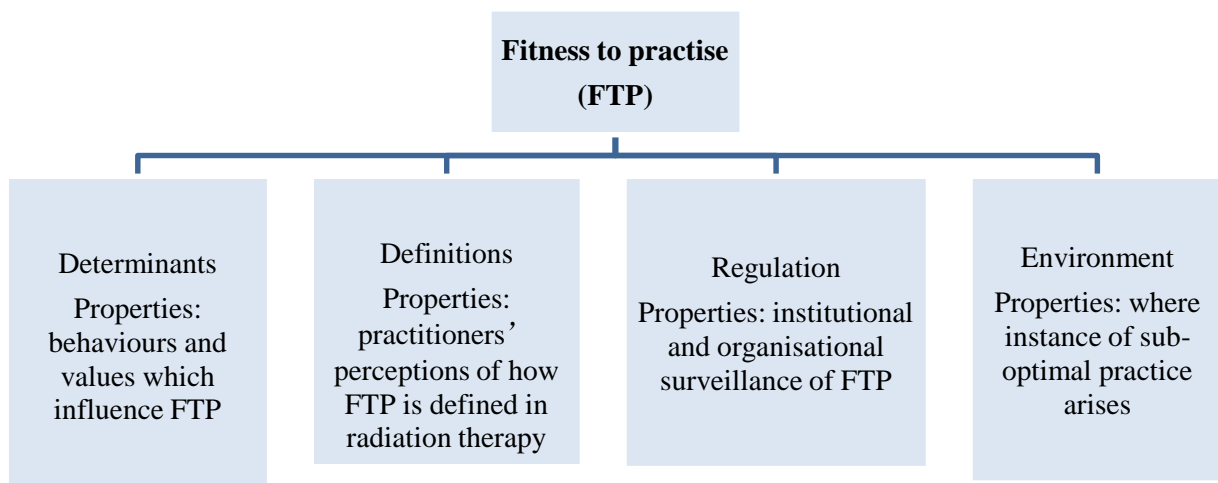
Figure 3.8 Final key themes developed after further analysis of codes from a focus group study into fitness to practise in radiation therapy

During the next phase of data analysis, each category is then further refined via a process

termed splitting, which results in a series of sub-categories of the initial codes.[212] We

achieved this in our study by concentrating on each code individually and analysing its

data. This allowed us to create sub-categories (Figure 3.9) for the code entitled

'Determinants of FTP'.
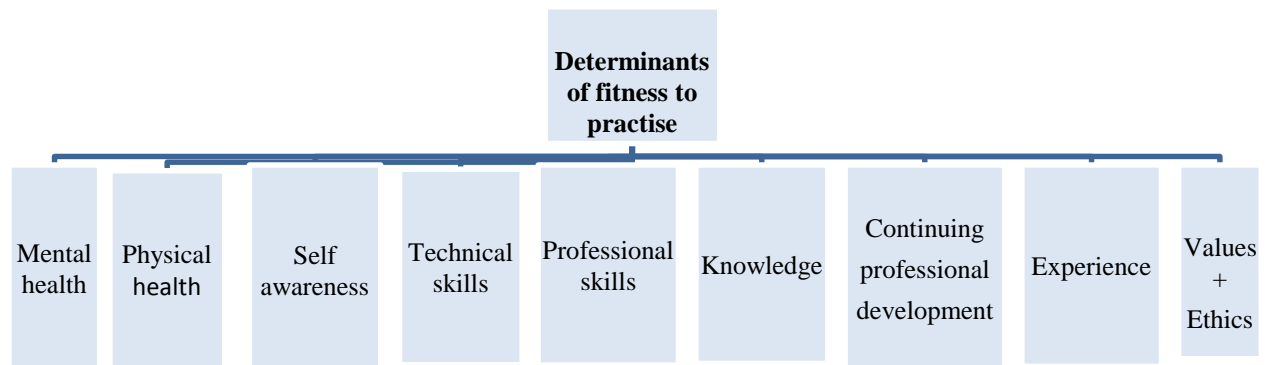
Figure 3.9 Initial splitting of a category (determinants of fitness to practise) into sub-categories

With this particular category there were a plethora of sub-categories, some of which

contained only a small number of data units (e.g. the categories of mental health, physical

health, and self-awareness). At this stage these were considered significant enough to

have their own unique codes. However, after further analysis these were spliced together

(combined and re-identified by a different code) to form one single code 'Impairment'.

This linking process involves re-reading the transcripts analysing the units of data with an

emphasis on making substantive connections between them, which should be

conceptually and empirically based.[212] Figures 3.10a, 5b and Figure 3.11. demonstrate the

outcome of the splicing process for the category 'Determinants of FTP'
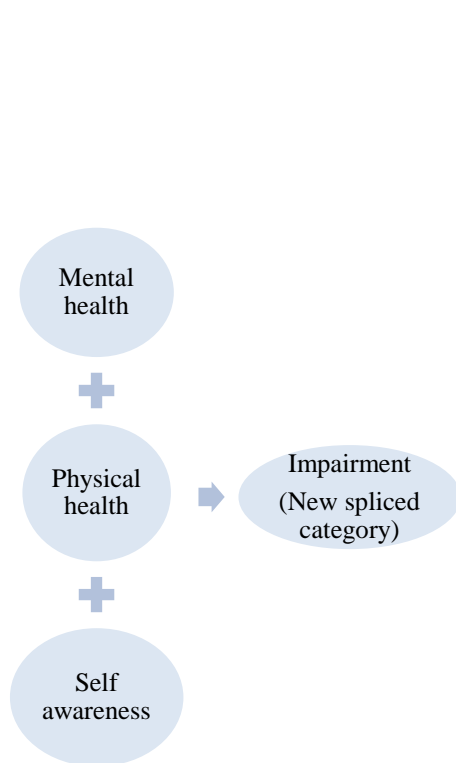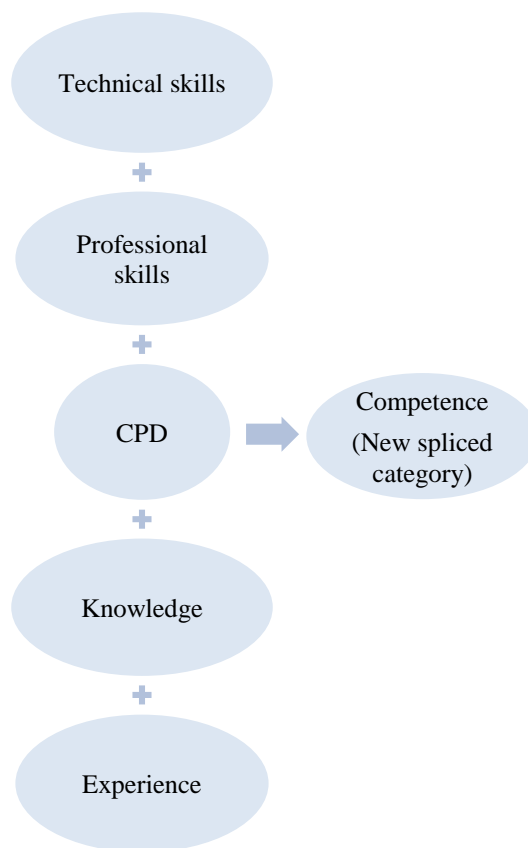
Figure 3.10a.   **Figure 3.10b.**

Figure 3.10 Examples of splicing categories from the determinants of fitness to practise in radiation therapy, creating more inclusive themes
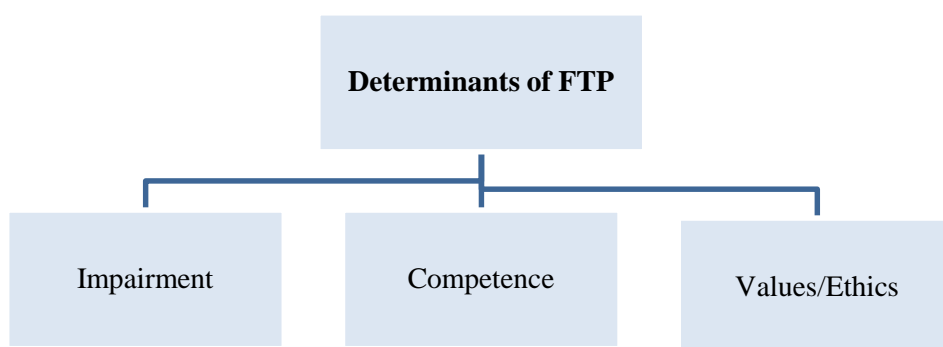
Figure 3.11 Spliced categories forming consolidated themes for determinants of fitness to practise

Content analysis can also be undertaken during data analysis, where frequencies of word occurrence and unitising to codes were recorded.[191] A verification of coding should be undertaken by a second independent researcher who confirms the themes and the codes which they have been assigned in order to ensure consistency.

If investigators recruit enough participants, then data analysis can be undertaken in conjunction with data collection. In this case, the researchers continue to run their study until saturation of the data occurs. If using FGs, this would be the point where similar themes keep arising from each discussion and no new ones emerge. At this stage the researcher can be confident that they have captured enough information to assist them in answering their research question. In the case of our research, the number of participants we recruited did not enable us to continue until we could be confident of data saturation, and as such, although data was analysed after each FG, it was not possible to continue conducting them until no new themes emerged.

3.6.8 Conclusion

This paper has provided an overview of some of the ethical and practical aspects associated with FGs for us in RT. Although this tool is becoming more popular in health care research, including clinical oncology, it has had limited application to date in RT research. Focus groups are particularly useful for gaining the views of a number of patients or practitioners at one time in an interactive environment. Within the focus group environment the participants have the opportunity to share and elaborate on ideas without needing to reach a consensus. Data acquired from FGs is multi-facetted with verbal and non-verbal cues being recorded for analysis. There are, however, a number of issues

associated with their use, such as the appropriateness of the topic for group discussion, potential power differentials within the group, the effect of group homogeneity/heterogeneity and maintenance of anonymity. Ultimately, it is vital that the researcher ensures that FGs are the appropriate choice for the research question. We found FGs to be a valuable tool in triangulation of our research into FTP in RT. The use of FGs facilitated the collection of preliminary data, which was then used to develop questions for subsequent research.

Acknowledgements

3.7 Additional considerations in the preparation and conduct of focus groups

3.7.1 Limitations of using focus groups

The review outlined in the journal article above has highlighted potential areas for consideration when conducting FGs in RT. The focus group setting has been suggested to be 'un-natural' when compared to the setting in which participant observation research is undertaken.[184] It is proposed that the FG should not be used as a substitute for investigating 'lived experiences'.[195] This is because at the time of data collection, participants are not fully immersed in the 'real time' authentic experience of their everyday work-life. The data generated from the discussion is a 'second order recollection' of participants' understanding of a concept and what it means to them outside of the workplace. It may be questioned whether the data gathered would be different if the discussion were to take place in the workplace community during working hours. That said, it is contended that there is no evidence of Moderator influence over the group being any greater in the FG than that of the researcher undertaking individual interviews or participant observation studies.[184]

Questions have been posed however as to whether the researcher should trust that the participants' responses are truthful and are a true reflection of their opinions because of the influence of others in the group.[187] Essentially this is a moot point. What is important is that the researcher identifies what the contributions reveal about feelings and perceptions and what inferences can be made from them about the experiences of the

participants rather than 'truth telling'.[216] To ensure the FGs maximised the potential for participants to convey their views, it was necessary to consider additional factors other than those discussed in the previous paper. These factors are described in Table 3.1.

Table 3.1 Overview of considerations for the preparation of FGs

Element of focus group preparation	Recommendation in literature	Application/how this was addressed in current study
Environment and location	An accessible, familiar, central retreat away from participant and researchers' environment.[184,217-219] Comfortable room size, no distractions, no interruptions.[220]	FGs conducted at professional body Secretariat board room, comfortable chairs, do not disturb signage on doors. Seating plans pre-determined for participants. (Appendix B)
Scheduling of each focus group	Allow time for preliminary data analysis.[20]	5.30pm on a week day, each focus group one week apart to allow for preliminary data analysis in between.
Duration	90 mins to 2 hours.[132]	90 minutes, determined by number of respondents, composition of the groups and the topic breadth.
Question formulation	Open ended and funnelling design with a broad to narrow question focus.[192] Combination of both structured with probes and unstructured.[184] Allocate pre-determined level of importance in case time runs out.[190]	Brainstorming activity and initial literature review informed question and prompt development. Semi-structured questions used. Questions embedded into moderators guide. (Appendix B)
Number of FGs to conduct	Compromise between the desire for inclusiveness and the availability of resources.[221] If outcome is to develop a survey,	Needed a range of practitioners of differing experience to provide information on idiosyncrasies

	then one FG is sufficient.[222] Using at least two FGs allows the second group to confirm the responses of the first.[223]	of RT, so more than one FG required. Pilot focus group used to confirm question suitability, timings etc.
Group size	Homogenous and heterogeneous groups 4-6 participants[224] < 6 participants may result in un-stimulating dialogue and more chance of 1 member dominating.[209] FGs with 'sensitive topics' may reduce the number of participants.[225] Maximum number =12,[203,226,227] the larger the number the more challenging it may be to control the discussion.[84,111,112209]	8-10 participants, took into account attrition 1-2 participants.[191]
Required participant attributes	Knowledge, experience, ability to reflect and articulate views.[228,229]	Practising RTs of any age and experience level with knowledge of clinical and professional issues.
Sampling source	Partner organisations.[230,231]	Medical Radiation Practitioners Board of Victoria public domain list (MRPBV)
Sampling technique	Purposive is the most common used in FGs.[232]	Practitioners with current Victorian State MRPBV registration.
Recruitment	Topic sensitivity may limit recruitment.[230] Time comittment.	Provided detail in explanatory and verbal statements about the topic. Participants reassured of anonymity and no judgements from researcher. Provided accurate indication of time commitment required.

Over recruitment Under recruitment	Location of sample, close to focus group venue.[190] Theoretically sample. Send reminder emails.	Recruited practitioners located in metropolitan Melbourne only. This did not occur. Emailed clinical centres to advertise and remind RTs of the study and sent posters to advertise in clinical centres.
Barriers/Enablers	Fear of being evaluated. Express personal and genuine intersest in participant contributions.[190,233]	Focus group questions pertinent to participants.
Allocation of participants to FGs	Developing eligibility criteria faciltates allocation into homogeneous groups.[234]	Criteria: Senior radiation therapist (SRTs) Junior Radiation Therapists (JRTs) (Appendix B)

The FGs were conducted by the moderator and their assistant[19] according to the detailed schedule and guides which were developed containing the question and probe/prompt questions (Appendix B). Each FG was audio-recorded and notes on non-verbal cues of participants in relation to each response were recorded by the moderator's assistant. The non-verbal cues were used during data analysis to emphasise intensity of expression related to important issues. At the conclusion of the FG the participants were asked to complete a short survey relating to their experience in the FG and indicate their interest in participating in future aspects of the research (Appendix B).

3.7.2 Electronic data management

Manual or automated approaches are available to manage and analyse qualitative data from arising from FGs. One of the most commonly used tools is QSR NVivo. After

thorough and informed consideration of the advantages and disadvantages of other available data management formats,[127,131,132,235-237] it was decided to utilise QSR NVivo because it allows data transfer in both Microsoft Word and Excel formats. This function was important because the transcripts from the FGs were created in Microsoft Word format and the data arising from the surveys was generated in Microsoft Excel format. NVivo allows the researcher to undertake all aspects of coding and data analysis electronically and facilitates annotation and the use of memos during the data analysis.[238]

3.7.3 Trustworthiness of the data generated in the FGs

Rigour in qualitative research is best demonstrated in the attention the researcher pays to confirmation of information discovery, where the goal is the accurate representation of the participants.[239] A range of criteria can be used to evaluate the trustworthiness of data emerging from FG discussions.[240] In order for trustworthiness to be established, the researcher must clearly describe the design used in the research.[241] The criteria used in establishing whether research was trustworthy in the current study were taken primarily from Guba and Lincoln and Guba, and supplemented from other authors' propositions, such as Charmaz.[213,242,243] Each of the criteria and their application to the FGs are presented in Table 3.2.

Table 3.2 Overview of factors associated with trustworthiness of focus group data

Dimension of research quality	Application in the current study
Credibility: the congruence of findings with reality,[242,244,245] this is linked to *Dependability*: which is met through obtaining credibility. [213,242]	FGs and survey methods were congruent with a mixed methods design, within the theoretical foundations of pragmatism and post-modern approaches.

Adoption of well-established research methods such as incorporation of *'correct operational measures for the concepts being studied.'*[246]	Methods used were comparable to previous research investigating professionalism.[190] Prior to data collection appropriate documents, cases and literature were consulted.
The development of an early familiarity with the culture of participating organisations.[247]	As a practitioner with extensive experience in the profession, the cultural aspects and context was familiar. The participants were clinical practitioners with an up-to-date understanding of professional issues and were therefore familiar with the topic area. Diversity in participants was achieved in the sample in terms of current role and experience in the profession, gender and age groups.
Thick description: detailed description of all aspects of the study.[248]	An in-depth account of the processes involved in selection of the philosophical, methodological and research design approaches was developed.
Triangulation: *'combining multiple observers, theories, methods and data sources [researchers can] overcome the intrinsic bias that comes from single methods, single-observer and single-theory studies.*[249]	The study as a whole (phase one and phase two) used methodological triangulation of data collection[129] and triangulation of researchers in analysis to compensate where checking of codes was undertaken to reduce the likelihood of single researcher bias.[250] Triangulation of data sources in both studies included a range of documents combined with a small group of participants for phase one, and a range of participant views in phase two of the study, given there was a large sample of participants. [247]
Strategies to ensure honesty of informants when contributing data[247] Iterative questioning.	Provided opportunities for RTs to refuse to contribute, so that only those who were genuinely willing and prepared to offer views were involved. Independent moderator used in FGs who established a rapport and

	encouraged frankness.
Member checking: check whether data is congruent with participant experiences.[251,252]	In phase one of the study all participants were emailed transcripts to read and verify they were a true reflection of what transpired in the discussion.
Reflexivity: direct acknowledgment the researcher can influence engagement of participants and the outcomes.[253]	Prior to commencing the study McLaughlan and Reid's' framing system[255] was used to assist in identifying possible influences of the researcher on the outcomes. The researcher considered the following four 'frames' to allow for acknowledgement of potential personal and professional influences: 1. Extra-textual: Accumulated knowledge through which the world is viewed. 2. Intra-textual: Internal framing devices such as age, gender and class. 3. Inter-textual: Interpretive frames which the researcher is partial to or those which are dominated from the researchers own discipline. 4. Circum-textual: Contextual construction and interpretation of an immediate situation. The process of reflecting on each of these perspectives allowed for the elements related to theoretical sensitivity to be examined.[20]
Inclusion of personal and professional information relevant to the phenomena under investigation.[254]	Overview provided of the context of the researcher in the thesis.
Confirmability: Illustration of the evidence and thought processes which lead to the conclusions (an audit trail).[239,242] Demonstrate the findings are as a result of the experiences of the participants not the preferences of the researcher.[247]	The research process was documented in detail throughout the two studies and described in the previous sections of this chapter. Reflexivity was incorporated through the research.
Resonance: Analysis fully represents	Use of probes/prompts and verification

phenomena and makes sense to participants.[243]	techniques during the FGs to check participants perspectives, member checks of transcripts. Constant comparative method in data analysis, checking with supervisors and discussing codes and categories.
Transferability: The fit or extent to which the finding can be related to others in similar situations.[239,242] Usefulness: Findings should be applicable to inform use in practice, future research and knowledge creation. [243]	In phase one this criterion was of limited application, given the small sample size and the aim was not to generalise the findings.[247] However, with the survey there was greater potential for application of this criterion (with caution and acknowledgement of the boundaries of the study)[256] given the larger sample size and the aim of the survey.
Originality: The social or theoretical importance of the study should be acknowledged and the topic should be insightful and novel.[243]	Little was known about the phenomena of FTP, particularly the interpretation of health care professionals related to its definition and application in practice. In addition, the topic of FTP in RT had not been explored previously. Throughout the study the data remained true to the participants, in that the categories and themes were generated directly from participants' contributions to the FGs and the survey.

3.8 Phase two design decisions: survey methods

The FGs undertaken aimed at identifying the most relevant issues in FTP in RT in Australia. After identifying the key issues at stake, the next step in the research was to inform the profession about the views, responses and reporting actions of RTs when presented with FTP dilemmas. In order to do this a scenario based survey was created based on the findings of the key issues identified as a result of the FGs.

Surveys have a long pedigree in investigating the knowledge, attitudes and practice of health care professionals.[257-259] They can acquire unbiased and reliable data from a representative sample of respondents, in a cost-effective manner.[260,261] However, unlike most surveys, the one used in the current research collected and analysed primarily qualitative data to assist in the exploration of meanings and experiences of respondents in relation to FTP.[262] The qualitative nature of the survey allowed for representation of the diversity in the members of the population, as opposed to the representation of frequencies of characteristics.[263]

3.8.1 Survey design

The aim of the national survey was to elicit both descriptive and explanatory information relating to the phenomena of FTP, allowing for discrimination and identification of concepts within the data.[132] Prior to designing the survey, it was important to investigate whether there was an existing validated survey tool which had been used to collect similar data. Review of the literature revealed one study which used a closed ended questionnaire to explore the responses of medical practitioners to hypothetical professional dilemmas.[264] This study informed survey design for the pilot study, although because the questions themselves were related to professional conduct of medical practitioners not RTs, they were deemed inappropriate for use in the current survey. As a result, questions were developed for the current survey which were specific to the context of RT. The items used for generation of the survey questions were informed by the findings of the phase one FG study.

3.8.2 Item generation, identification of constructs and item reduction

The themes identified from the findings of the FGs informed the development of the survey items and constructs.[265] In particular, survey items were developed in relation to: RTs definitions of FTP, experiences of sub-optimal practice, understanding of FTP and its related concepts and the classification of the determinants of FTP.

3.8.3 Creation of the FTP dilemma scenarios

During the design process for the survey, the findings of the FGs were reflected upon together with the literature relating to FTP. As a result the main aim of the survey became to broaden and deepen the current understanding of FTP in RT and examine RT's understandings of FTP with respect to every day work. In addition, the survey investigated whether any socio-demographic characteristics of RTs influenced the reporting (or non-reporting) of sub-optimal practice.

In order to achieve these aims a series of RT FTP dilemmas were created and situated within the survey instrument. Because of the need to ensure the authenticity of the dilemmas a group of RTs were recruited to write them. These RTs had already been participants of the FGs and had indicated willingness to contribute to other aspects of the research in the future.

An email request for dilemma scenario writers was distributed to 14/21 of the previously identified RTs (Appendix C). The email provided a background to the phase two of the

research. It included a journal article for which a similar study had been undertaken and examples of scenarios.[264] A proforma (Appendix C) was developed to ensure a consistent structure to the scenarios. The proforma assisted in the subsequent formatting of the dilemma questions.

Ten responses were received from RTs indicating they were prepared to assist, however only 7 practitioners provided examples of dilemmas by the deadline date. A turn-around time of 4 weeks was provided to allow the practitioners the time to reflect and document their reflections. At least two dilemmas were written by each respondent. In total, there were 19 scenarios created (Appendix C).

3.8.4 Validation of the dilemma scenarios

In order to validate the scenarios and confirm their appropriateness for use in the survey, a panel of expert reviewers was composed to review them.[264] The expert panel was chosen purposefully because of their professional standing and experience related to FTP in the field of RT. Five individuals were approached and three responded by the four week deadline date. Each panel member had at least 15 years of experience in the profession. One of the panel members was an RT academic, one was a RT clinical educator and Registrar of a State Registration Board, one was a lay member of a State Registration Board and the other non-practising RT had just been appointed onto the newly created MRPBA.

The expert reviewers were sent an initial email request to ascertain if they would be interested in validating the dilemma scenarios. Once they had responded a follow up

email was distributed requesting them to evaluate the scenarios in terms of; the appropriateness of each scenario and closed-ended response for use in the survey, the FTP issue(s) raised in each scenario and the legal/ethical issues associated with each scenario. Each panel member was sent a Microsoft Word document to populate with feedback in relation to each question (Appendix C). Once the panel members had returned the detailed feedback, each was transposed into separate Excel spreadsheet to facilitate analysis (Appendix C). A colour code system was used to highlight the appropriateness of each scenario as perceived by each panel member; (green for acceptable, red for unacceptable and orange for unsure). The researcher indicated which dimension of FTP the expert reviewer thought each scenario related to under the dimension of FTP row. A separate column was utilised for information relating to any associated legal and/or ethical comments related to each scenario.

Where there was agreement by two or more of the expert reviewers that a scenario was unsuitable it was eliminated for use in the survey. For example, scenarios D and E were both considered by two of the expert reviewers to be unsuitable because the technical aspects of practice in these scenarios had been superseded with other technologies. In the event the panel members were unsure about the appropriateness these were discussed with the researcher and either accepted or eliminated.

In order to ensure there was representation for each of the dimensions of FTP in the survey a cross reference was made between which dimension of FTP each reviewer considered each scenario to represent and this was cross checked with a spreadsheet which the researcher had created previously. At the end of this process, the initial 19

dilemma questions were reduced to 8 for use in the pilot pre-test and pilot surveys. The question format then had to be considered.

3.8.5 Question format

Careful consideration was required in relation to the question design for the survey. The response format for each question also required thought, to ensure a specific and un-biased framework within which to answer each question.[258,265] Question content, respondent motivation, the method of survey administration, the type of respondents, availability of coders and time constraints were all factors which were taken into account when deciding on the mix of question and response format to use.[132] The factors taken into consideration in structuring the questions are summarised in Table 3.3. In order to clarify any uncertainty about the nature of the question and response format or the appropriateness of dilemma content to clinical RTs, it was decided to pre-test and pilot the survey.

3.8.6 Testing and piloting of the survey

Pre-testing of the survey was undertaken by three RT clinical colleagues (each with greater than ten years of experience in the profession) allowing for a check of consistency of question interpretation, refinement and the development of the question schedule.[266,267] After completing the pre-test survey, each RT provided free-text feedback via email on the questions, their relevance, how they had interpreted them and the overall appearance of the survey.[268] As a result of the pre-test, one of the dilemmas was re-written with different phrasing to add clarity of interpretation and the survey was then piloted.[266] The aim of the pilot study was two-fold: to clarify any design faults (e.g.

question comprehension, clarity and ambiguity) which were not detected in the pre-test and to enable a formal evaluation of the survey to be performed.[269,270]

It was important to evaluate the length of the survey and time taken for its completion because survey length has been proposed to affect the response rate and data quality (e.g. surveys should take no longer than 20-30 minutes to complete).[266] Therefore the pilot tested how quickly, easily and confidently participants were able to respond to the questions in the hope that refinement of these factors would make the survey more concise, and as a result potentially increase the response rates.[271]

Table 3.3 Overview of considerations for question design

Considerations in question structure	Rationale
Question format	
Wording: un-intrusive, relevant, non-repetitive, clearly worded, not ambiguous, no jargon, no abbreviations.	Ensure understanding and elicits as many responses as possible. [132,266]
One construct investigated per question	'Double-barrelled' questions are difficult to answer and analyse. [166,168]
Concise question stem	Easy to understand and interpret, un-biased and non-judgemental.[258,269]
Response format	
Open ended response	Capture behavioural and knowledge-based responses[272] Too many open ended questions may adversely affect response rate[132] Afford free expression of views, producing more diverse, rich data.[266]
Closed ended response	Capture personal attributes (demographic characteristics), participant beliefs and attitudes. Easier to code and less time consuming to analyse their data.[132,266]

Dichotomous	Elicit one of two pre-determined responses (e.g. gender)
List (multiple responses)	Elicit one of a number of pre-determined responses (e.g. cultural background)
Indeterminate responses	
'Other' response	Allows respondents to describe 'any other comments' which were pertinent (e.g. after each closed ended question) enhance response rates to self-administered questionnaires and alter the power balance between the researcher and respondents because they allow freedom of response.[260,273]

3.8.7 Structure of the pilot survey

The pilot survey consisted of three sections (Appendix C):

- Introduction: providing a background and one fixed response demographic question about gender.

- Main section: open and closed-ended questions to FTP dilemmas. This mix of response formats enables a comparison between the content of the responses and their potential usefulness for the national survey.

- Closing section: asked participant to comment on the ease of completion of the survey, the appropriateness of questions and dilemmas and any other comments they thought may assist the researcher to refine the survey.

There were eight scenarios selected for use in the pilot, these were chosen to represent the most prominent dimensions of FTP as identified in the FGs. They represented situations which were influenced by external factors (occurring outside of the workplace, but never the less impairing practice, such a practitioner being under the influence of alcohol) and

internal factors (those specifically occurring within the workplace, such as impaired clinical competence).

It was decided to create two pilot surveys in order to allow for a comparison to be made between the data acquired for open-ended and closed ended responses for each dilemma. This also allowed for an estimate of the time it took for respondents to complete each type of response format to be ascertained. As a result each survey contained the same question stems in sections one to three of the survey. The difference between the surveys was, in survey one the response formats for dilemmas one to four were closed-ended and for dilemmas five to eight they were open-ended, whereas in the second survey, the first four dilemmas had open-ended responses and the last four dilemmas had closed-ended responses (Appendix C).

3.8.8 Sampling frame for the pilot survey

The sampling frame for the pilot study was the profession of RT and the target population was practising RTs in the State of Victoria at the time the study was conducted in 2012. All RTs were between the ages of 21 and 65 years old. Systematic random sampling was used to select participants.[265] The publicly available list of registered practitioners was purchased from the now dis-established MRPBV. This list contained the names of RTs. Starting with the first practitioner on the list, every 13th practitioner was selected. The first 20 practitioners who replied were chosen for the pilot. A ratio of females to males which reflected that of the MRPBV was used, as such seven females and three males were recruited to both groups one and two. In the event of not getting 20 replies from on the first round of sampling, then the systematic sampling would be have been re-

conducted starting at the second person on the alphabetical list and using every thirteenth person once again. The total number of RTs on the MRPBV list and the number required for inclusion in the pilot study determined the starting point on the list and the sampling interval.[265]

3.8.9 Administering of the pilot survey

Online distribution of the survey was considered the most appropriate method of dissemination.[274-277] The advantages of using online survey distribution include: ease of implementation and the potential to conduct large-scale surveys whilst reducing costs of resources (e.g. stationery, postage and administration). In addition, they allow a shorter response time and afford acquisition of responses from practitioners located across a large geographical area.[278,279,280-282] The researcher is also able to control the order in which the respondent sees the questions. Data transfer to a number of different formats is also automatic eliminating the need for manual input and avoiding potential transfer errors.[274] There are however disadvantages with online surveys, including issues with the technology such as server failure (data loss), computer literacy of the sample, low response rates and the potential for the sample to be un-representative of the population because of response bias.[274,277,279,283,284] For the purpose of both the pilot and national survey it was deemed the advantages of online administering of the surveys outweighed the disadvantages.

The electronic survey platform used for development and distribution of the survey was Qualtrics, because it was the preferred platform of the university. Qualtrics was familiar to the researcher, it allowed anonymous responses to be acquired and the data

spreadsheets could be transferred into Excel, which was important because Excel spreadsheets were required to enable transfer of data to the qualitative data management package NVivo.

The pilot survey was disseminated by an IRA. The IRA was responsible for randomisation, contacting the individuals who had been randomised and asking them to register their interest. They also sent an email with the survey link to the RTs who volunteered to participate. The IRA was the only person with access to the contact names and email addresses from the list provided by the MRPBV. The survey respondents were given a period of three weeks in which to complete the survey and the IRA sent one reminder out in this period of time.

3.8.10 Pilot study findings

The key finding from the pilot study was that the open-ended responses to the dilemmas yielded richer, more detailed data content. One scenario was suggested to be out-dated by two of the respondents and one respondent indicated very strongly that the closed-ended response format did not afford them the flexibility to answer the dilemmas in the way they wanted.

The pilot survey took on average 37 minutes to complete, whereas the recommended duration for survey completion should be 20-30 minutes.[266] It was however important the content of and number of dilemmas in the survey was not compromised. Therefore it was decided the national survey would be divided into two separate surveys, each taken by a different sample of participants from the same population. This meant the duration for

completion would be halved, but responses to the eight dilemmas would be acquired. Given the questions in the pilot were modified before the national survey, the pilot study results were not included into the final data analysis.

3.8.11 Structure of the national survey

The national survey was composed of two sections (Appendix C). Socio-demographic data was elicited by utilising both binary and multiple response closed-ended questions. The question stems in the second section of the survey were the same as the pilot study (with some minor changes to content). All FTP dilemma questions had open-ended response formats.

3.8.12 Sampling frame for the national survey

The sampling frame for the national survey was the population of practising RTs in Australia. Including the whole population in the sample ensured all forms of diversity in relation to the phenomena of FTP and the presented dilemmas depicting sup-optimal practice were covered.[263] A non-probability sampling technique, namely purposive sampling was chosen for the national survey. It was not possible to acquire a list of all registered practitioners from the MRPBA, therefore other strategies were required for recruiting the sample.

3.8.13 Administering of the national survey

There were three modes of dissemination of the national survey: email distribution by the AIR to its RT members, email dissemination by Chief RTs/RT managers and hard copy

flier distribution (with permission of the AIR) at a national conference. All three methods ensured anonymity of respondents was maintained. The survey link remained open for completion for a period of three months and reminders were sent to members of the profession and to Chief RTs/RT managers to distribute on two occasions.[285]

Respondents were allocated into one of two survey groups each posing four different dilemmas (Appendix C). Practitioners with surnames starting with the letter A-M were asked to follow a link to survey one and those with surnames starting with the letters N-Z were directed to a link to survey two. Participant study information was provided for all respondents on the first page of the survey and consent was implied upon completion of the survey (Appendix C).

3.8.14 Qualitative data analysis

The techniques employed for data analysis for phase two of the research were consistent with those used in phase one of the study.[178,286,287] Coding and theming of the data was once again guided by the principles of grounded theory.

Data analysis commenced during the data collection period using constant comparative methods.[20,143] However, in contrast to pure grounded theory approaches, the findings of the iterative analysis did not result in any modifications to the data collection tool and sampling ceased upon closure of the survey, rather than at the point of saturation of the data.[20,138,140,142] Once no new themes emerged, the data was assumed to be saturated.[20,212]

Once the themes for the reporting responses had been created, they were translated into numeric values and transferred back into Excel and then to SPSS for statistical analysis. At this stage, data was checked for anomalies and cases with missing data were removed prior to analysis. A code of -99 was allocated to non-responses in the spreadsheet.

3.8.15 Quantitative data analysis

Categorical socio-demographic response data were compared using Chi-square analysis (Fisher exact test was used when N<5). Frequency analyses were carried out and responses to the surveys were analysed according to the demographic characteristics.

Binary logistic regression was used to determine the association of a number of the demographic factors on the likelihood that respondents would report Vs not report, and informally report Vs formally report.[288] The formal reporting responses used for analysis consisted of both internal and external formal reporting (EFR) because the number of EFR responses was too low to use as a variable in its own right. Gender, location of clinical centre, sector of service provision and number of years' experience in the profession were the characteristics chosen for analysis because their frequencies were >10% of the total responses in their respective categories. Analysis was undertaken as follows:

    i.   No reporting versus reporting

        a.   Combined total for all scenarios

        b.   According to each theme (Impairment, Competence and Values/Ethics)

        c.   According to each of the eight scenarios

    ii.   Formal versus informal reporting

        a.   Combined total for all scenarios

> b. According to each theme (Impairment, Competence and
> Values/Ethics)
>
> c. According to each of the eight scenarios

For all analyses, significance was afforded when p<0.1 and p<0.05 because of the small sample size which may affect the chance that a large difference might go un-detected. It should also be acknowledged, one of the assumptions of binary logistic regression is that all data should be independent.[289] However, it was decided due to the small number of responses for each dilemma, all participant responses should be included in analysis (dilemmas one to four or five to eight for all participants). All statistical analyses were carried out using SPSS (Version 21, Chicago, USA) and missing data was omitted from the analysis.

3.8.16 Research quality in quantitative studies

Similarly to the FGs, the majority of the data collected and analysed for phase two of the research was qualitative in nature. The same factors associated with trustworthiness and research quality for the FGs were relevant for the survey. However, there were quantitative elements to analysis in the survey including demographic data and data which had been translated from qualitative themes into numerical values. Therefore, the factors associated with quality in quantitative studies required consideration. These concepts are outlined below and their application in the survey are described.

Table 3.4 Overview of the dimensions of quality for quantitative research

Dimension of research quality	Application in the current study
Reliability[265] (*test-retest, inter-rater and internal consistency*)	These principles were not used because it was not the purpose of the survey to achieve consistency in the responses to the questions. The aim of the survey was to explore the variety of responses and interpretations of RTs to the dilemmas.
Validity[265] *Content validity:* Experts (in content or instrument development) evaluate whether questionnaire content accurately assesses all fundamental aspects of the topic.[265] *Face validity*: Experts and sample participants evaluate whether the questionnaire measures what it intends to measure.[290] *Construct validity:* It should be evaluated if specific criteria cannot be identified which adequately define the construct being measured. Expert determination of content validity or factor analysis can substantiate that key constructs underpinning the content are included.[265] **Criterion validity:** Comparison of responses in survey to a 'gold standard'.[265]	Review and selection of scenarios by expert panel[264,285] Pre-test and pilot of survey Review and selection of scenarios by expert panel[264,285] There were no 'gold standard' responses because the open ended responses allowed for diversity and subjectivity in responses.

3.8.17 Conclusion

The theoretical and methodological approaches to the research were presented at the beginning of the chapter. Analysis of mixed methods research typologies and study design was then presented together with the rationale for selection the exploratory-embedded sequential method of data collection. Subsequent to this, the decisions required in relation to the structure of both phase one and phase two of the research were provided and the use of grounded theory in data collection and analysis was considered. To conclude the chapter, exploration surrounding imperatives for assuring qualitative and quantitative data quality was presented.

Chapter 4

Defining fitness to practise in the radiation therapy profession

This chapter presents the qualitative thematic findings relating to the FGs used to investigate FTP in RT. The purpose of the FG study was to achieve aims one to three of the research:

1. Determine a consensus definition of FTP in RT

2. Determine the understanding that RTs have with respect to FTP in RT

3. Determine any gaps in the knowledge of RTs in relation to FTP

The findings suggested there was no consensus definition of FTP amongst RTs, however four themes emerged relating to how RTs defined FTP. The four themes included FTP as: 'a state of mind', 'behaviour and conduct', a 'continuum' and as 'being qualified'. The findings related to the different perspectives RTs took in defining FTP, their understanding of FTP as a concept and the gaps in their understanding of FTP (published as outlined below). The findings were also integrated together with those of the national survey to develop the substantive theory which is presented in the discussion (Chapter nine). The article is an exact copy of the one published in the journal Radiography.

Monash University

Declaration for Thesis Chapter 4

Declaration by candidate

In the case of Chapter 4 the nature and extent of my contribution to the work was the

following:

Nature of contribution	Extent of contribution (%)
Study design, data collection and analysis, writing of manuscript	85%

The following co-authors contributed to the work. If co-authors are students at Monash

University, the extent of their contribution in percentage terms must be stated:

Name	Nature of contribution	Extent of contribution (%) for student co-authors only
Marilyn Baird	Intellectual input on study design, data analysis and manuscript editing	N/A
Michal Schneider	Intellectual input on study design, data analysis and manuscript editing	N/A
Brian Jolly	Intellectual input on study design, data analysis and manuscript editing	N/A

The undersigned hereby certify that the above declaration correctly reflects the nature and
extent of the candidate's and co-authors' contributions to this work*.

Candidate's Signature	████████████████████	**Date 17/08/15**

Main Supervisor's Signature	████████████████████	**Date 17/08/15**

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4.1 Introduction

It used to be taken for granted that health practitioners would exhibit appropriate levels of professionalism and competence throughout their working lives. Society trusted its traditional regulatory frameworks to provide it with protection from unscrupulous practitioners. Recent high profile cases including the Shipman case in the United Kingdom[4] and the Bundaberg Hospital case in Australia[3] have seriously questioned the integrity of the existing regulatory processes and organisational reporting mechanisms.[7] These cases have challenged the widely held view that all health professionals subscribe to the collective values of their profession and exhibit the same level of professionalism and competence in their dealings with patients and members of the health care team.

Within medicine, nursing and the allied health professions, the concepts of professionalism and competence have been used to determine whether students and practitioners are delivering appropriate standards of care.[14,67,68] Within the health professions in the U.K. and medicine in Australia, these concepts are now being replaced with a far broader framework called fitness to practise (FTP).[291-293] This is however, not the case for the profession of radiation therapy in Australia, where judgements about

acceptable practice have been traditionally made by reference to competency based standards and guides for professional conduct, promulgated by the professional body. Where Registration Boards exist, their impact upon behaviour modification has been limited.[294-296]

This paper will review the literature on FTP and the related concepts of professionalism and competence as applicable to radiation therapy and provide the results of a focus group study undertaken to evaluate how FTP is defined among radiation therapists in the State of Victoria, Australia.

4.2 Literature review

Currently in the health care literature there is an emphasis upon the concepts of professionalism and competence as being the indicators of a professionals' ability to practice. However, these concepts are quite often misconstrued and used interchangeably within the literature.[14]

Professionalism

Professionalism in health care has been defined in many ways by many authors, professional organisations and institutions. It is believed that professionalism incorporates a number of normative behaviours, values and attitudes, particularly humanistic qualities such as altruism, compassion and ethical practice.[5,83,297] Patients, nurses and medical practitioners all agree that practising in an ethical manner is a very important sign of professionalism.[91] However, in radiography, it has been suggested that little attention is paid to ethics by practitioners because medical dominance has resulted in the profession being technically focussed.[50] Similarly, it has also been postulated that professionals

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working in the medical radiation sciences in Australia (including radiation therapists) do not display altruism.[49] This technical focus is particularly apparent in radiation therapy, where it has been proposed that the radiation therapist is 'the person who turns on the machine', whilst the radiation oncologist is 'the person with the body of knowledge'.[41]

As well as facing challenges in defining professionalism, in radiation therapy and the wider health care community, measurement of the more intangible elements of professionalism remains problematic.[46,68]

There are two opposing beliefs about the nature of professionalism. The first considers it from a behavioural perspective, comprising dimensions such as effective communication, treating patients equally and working in a team.[64] In contrast, professionalism is considered by some researchers to be a 'trait not state' which must be acquired. From this perspective, the dimensions comprising professionalism are conceptual components, such as trustworthiness and honesty, rather than behavioural manifestations such as lateness and lack of skill. The 'trait' may prove more challenging to evaluate.[64,68,298,299] Besides adhering to traditional values such as honesty and respect, professionals are now expected to display sensitivity in relation to age, gender, religion, culture, sexual orientation and socio-economic status.[88]

Competence: task centred versus patient centred

As with professionalism, there are a plethora of definitions of competence. It has been proposed that competence in radiography is the ability to link technical knowledge with appropriate values in judgement making.[98] A competent health care practitioner is one who can demonstrate the knowledge and skills defined in a professions' occupational

standards.[300] The competence based standards for the radiation therapy profession[295] provide a mechanistic framework within which practice can be evaluated. This task oriented perspective of competence excludes reference to other more humanistic dimensions such as the quality of interpersonal interactions and the provision of holistic patient care. Anecdotal evidence as a result of practitioner feedback on student performance suggests that practitioners view competence primarily as the ability to perform technical tasks (e.g. utilising planning equipment to optimise treatment plans or employing immobilisation devices to ensure accuracy of treatment delivery). This is supported with evidence from the literature on competence in radiography which highlights it as being technically based.[98] This is in contrast to the current literature in health care, which supports the more humanistic dimensions of the professional role and competence such as communication and cultural competence.[102,301] These are exhibited in the more patient centred tasks such as the ability to communicate effectively, and displaying empathy and honesty in practice.

Fitness to practise

Whilst it is postulated the term 'fitness' varies between contexts and users, there is agreement that the concept differs from professionalism and competence in that it encompasses not only professional behaviour, attitudes and observable skills, but also freedom from impairment, together with a legislative component.[14] This is illustrated in Walton's proposal that FTP comprises knowledge, understanding and skills relating to professional regulation, reporting mechanisms, self-awareness and safe practice (Table 2.1).[15] Walton also describes another list of dimensions which are related to professionalism and ethics, which includes responsibility and accountability, but also encompasses some of the aspects described under the theme of FTP.

The key dimensions of FTP from the literature[14,15,291,292,302] have been amalgamated by the researchers to form a conceptual model, the 'Star of practice' (Figure 2.1). This model was used in the development of the research question and as a framework for the subsequent data analysis for this study.

Table 2.1 Waltons' elements of fitness to practise (already cited in Chapter 2)

Understanding and application

Licensing/registration authority expectations
Professional body standards
Reporting requirements/process for unsafe/incompetent/unethical workers
Impact of stress and fatigue on performance
Updating skills and knowledge

Demonstration

Skills/knowledge for good and safe practice
Recognition of limits of competence
Consultation skills
Keeping up to date with laws and codes
Reporting poor peer performance
Recognition of stress and fatigue

The notion of FTP has been debated over the past ten years in the United Kingdom with health regulatory bodies such as the General Medical Council (GMC), United Kingdom Central Council for Nursing, Midwifery and Health Visitors and the Health Professions Council (HPC) developing FTP documents together with reporting mechanisms.[110,292,303] These provide guidance on what constitutes impairment of FTP and detail the consequences of allegations of impairment. Under its FTP framework, the HPC performs a similar legislative and regulatory role to the State registration boards in Australia.[302-305] The HPC and State registration boards investigate cases where the health, character, skills or knowledge of practitioners is alleged to have impaired their FTP.
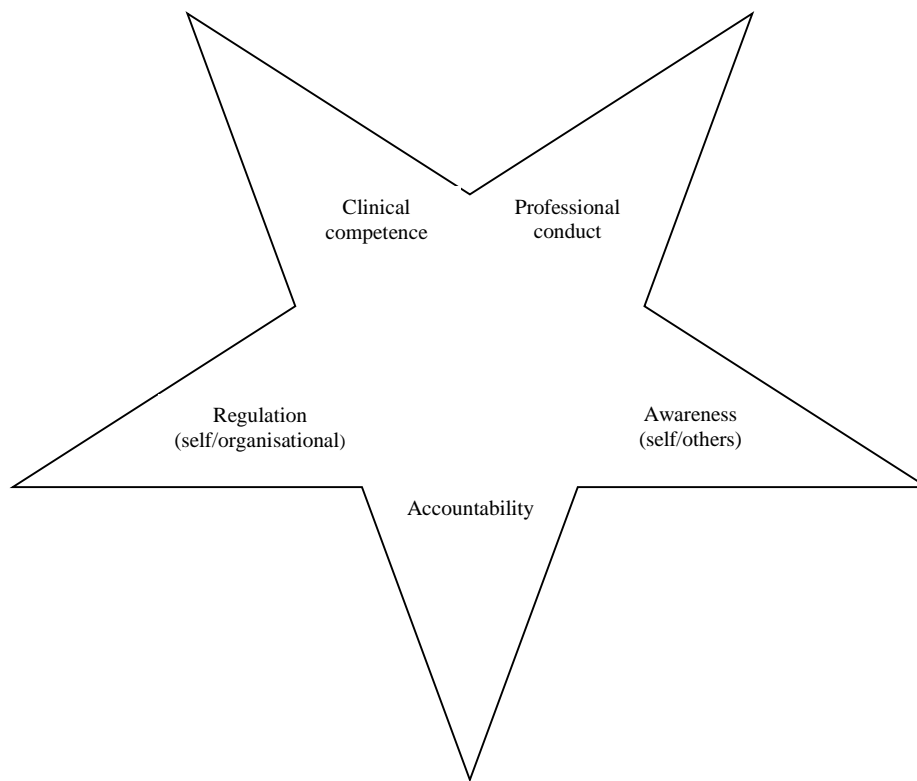
Figure 2.1 The star of fitness to practice [15] (previously cited in Chapter 2)

Fitness to practise hearings (in the U.K. and Australia) can be divided into two categories with respect to the environment in which the alleged incidents occur. The first category relates to illegal incidents which occur outside of the workplace, but which nevertheless are seen to be a potential threat to a professionals' conduct in the workplace.

Exemplars of these include the hearing of RM[303] who faked her own kidnapping. This practitioner was subsequently struck off the HPC register. Another example of this type of case is that of a practitioner in Victoria, Australia who was charged with obtaining property by deception and theft. This practitioner was allowed by the Medical Radiation Practitioners Board of Victoria (MRPBV) to continue to practise.[291] There were, however, a series of conditions which the practitioner needed to meet for the subsequent two years. One case which crosses the boundaries of the two categories is that of RO.[303] He was

caught in the possession of ecstasy and ketamine at a music festival, where he had been on duty as a radiographer the previous day. It was decided that this could 'seriously undermine the public confidence in the profession' and therefore, the practitioner was given a caution to be held on record for one year. The second category refers to cases where alleged impairment on the part of the practitioner occurs whilst they are on duty. Of interest to this research is the fact that there are no recent instances of this type reported by the MRPBV.

There are, however, numerous hearings reported by the HPC. One of the hearings reported a practitioner acting in a rude and aggressive manner on numerous occasions to peers whilst also practising without registration. A caution was given to this practitioner for a four year period with a number of conditions.[303] The final hearing which illustrates misconduct and incompetence during the course of duty is that of a radiation therapist in the U.K. Impairment in this case was related to a number of issues. These included dose over-rides without authority, not adhering to departmental policy related to error reporting/documenting and prioritising a coffee break over treating a patient who was in pain.[303] This practitioner received a caution for a period of four years.

4.3 Aim

The aims of the study were to investigate whether there was a consensus definition of FTP in radiation therapy and to identify the key elements of FTP as perceived by radiation therapists. This paper focuses on the results of data analysed in relation to defining FTP. A second paper will discuss the key elements of FTP.

4.4 Methods

The research was based on a post-modern theoretical perspective. Its focus was socially and culturally oriented, providing subjectivity through the process of ongoing reflection.[306] A qualitative research design was used to facilitate insight into the world of radiation therapists.[270] In keeping with qualitative inquiry, McLachlan and Reid's (1994) framing system was used to eliminate researcher bias.[255] The methodological approach used in this study was an adaptation of grounded theory.[20,138] However, due to the fact that there were a limited number of participants, cumulative sampling was not possible and as such, true theoretical saturation of the data could not be achieved.[132] Also, contrary to the views of some advocates of grounded theory, the researchers undertook a preliminary literature review prior to data collection (this assisted in formulation of the prompts for the focus group discussions).[139]

Focus groups were considered an appropriate method for data collection because they allow for authenticity and variety in participant responses, stimulate discussion between participants, enable verbal and non-verbal information to be collected and are cost effective.[132,270,307,308] Prior to commencement of the investigation approval was sought and gained from our institutional human research ethics committee.

Participant selection

Purposive sampling was used to identify participants who were likely to be useful informants.[200,228] Radiation therapists (N=331) from the State of Victoria, Australia were contacted by mail in September 2007 from a public domain list of registered practitioners, maintained by the MRPBV. The use of such a source of potential participants is a recommended approach to enhance the recruitment of participants.[230,231] Practitioners

(N=130) were excluded prior to the mail-out if they lived overseas, interstate or in a non-metropolitan area (making it difficult to attend the FGs out of working hours) and if they did not have a contact address or were not currently practising. Those who responded by the deadline date were sent participant information and a list of focus group dates. Once recruited, participants signed a consent form and completed a short demographics questionnaire. This was used to allocate the participants into homogeneous groups according to their promotional level (seniority), in an attempt to eliminate potential barriers such as superiority and authority which may have affected the quality of their responses. [205,206,208]

Three 90 minute FGs were conducted with between five and eight radiation therapists some of whom were clinical educators.[132,218,226] Prior to the FGs, the discussion questions and prompts were tested on a group of four medical radiation science academics from the institution. This provided an opportunity to test the allocated timings and content of discussion points and allowed the focus group moderator and assistant to familiarise themselves with the recording equipment.

Focus group discussion

The focus group discussions took place in a non-threatening environment outside of work hours.[217-219] The importance of maintaining confidentiality of what transpired in the discussions was emphasised to all participants in the hope that they would feel comfortable speaking freely about their views. The proceedings were audio-taped and notes were made by the moderator's assistant on the main themes which arose as a result of the discussion, interactions and dynamics of the group.[309] During the discussions, notes were also taken by the moderator's assistant and mind maps produced to facilitate the

analysis of the data.[199,212,138,309] These related to participant interaction, and non-verbal cues. At regular intervals during the discussion, member checks were undertaken to ensure everyone had the opportunity to contribute and to confirm authenticity.[209]

A short anonymous evaluation questionnaire was distributed to all participants at the conclusion of each discussion to acquire feedback about their experiences of being a member of the focus group. The purpose of this was to ascertain the views of the participants with respect to the physical environment and proceedings of the discussion. All participants agreed that the venue and moderators were very good. There was however one participant who suggested that they did not get the opportunity to contribute as much as they would have liked because of domination in their group by one group member. Whilst we endeavoured to ensure that groups were homogeneous and therefore conducive to participation by all FG members, the moderator may have needed to regulate more closely the contributions of participants in this focus group.

Data analysis

After each of the FGs had been conducted the researcher, moderator and moderator's assistant discussed and reflected on what transpired in order to generate an overall picture with initial key ideas.[138,309] The audio-tapes were then transcribed by an independent investigator. The researcher read the transcripts and listened to the tape recordings a number of times in order to consolidate the key ideas relating to each discussion. After the transcripts had been checked by the researcher, they were sent by email to participants for verification to minimise misinterpretation.[213] The transcripts together with the notes and mind maps were then imported into QSR NVivo8. The transcripts were coded initially for content and subsequently for the nature of individual responses and

participant interactions.[214] A separate summary document was also created containing general ideas and comments relating to words used, their context, internal consistency, frequency and extensiveness, intensity and specificity.[202]

Prior to analysis, a conceptual framework (Figure 2.1) was developed from which preliminary categories were discerned.[212,232] The data in the transcripts were then carved into small units and assigned to the relevant category. Codes were then further refined by splitting categories into sub-categories.[212] Splicing of the categories then occurred where data bits with similar elements were combined and re-named, with attempts being made at this stage to link the data.[212] Content analysis was undertaken with frequencies of word occurrence being recorded.[191] A second coding check was undertaken on 30% of randomly selected codes in order to assess the internal consistency by another researcher to ensure accuracy.

4.5 Findings

Participant demographics

A total of twenty one participants were recruited for the FGs (five males and sixteen females). The composition of the groups can be seen in Table 4.1. Four of the participants were clinical educators (responsible for learners in their workplace) with the remainder having clinical roles in treatment and planning. Eight radiation therapists were working in senior positions and these participants were in the first focus group to be undertaken. Senior radiation therapists (SRT) were team leaders, usually line managers in charge of a treatment unit or practitioners who supervise an area of radiation therapy planning. Two of the participants were males in this focus group and two were clinical educators. Thirteen practitioners were in junior positions within their institutions. The second focus

group (JRT1) consisted of five junior practitioners, one of whom was male and one was a clinical educator. Whilst the junior practitioners did not have managerial roles, some did have a number of years of clinical experience. The third focus group consisted of another group of junior practitioners (JRT2), two of whom were male and one a clinical educator.

Table 4.1 Participant demographics

	(Total N=21)		
Demographic	Focus group 1 N=8	Focus group 2 N=5	Focus group 3 N=8
Male	2	1	2
Female	6	4	6
Clinician	6	4	7
Clinical Educator	2	1	1
Senior grade	8	0	0
Junior grade	0	5	8

Focus group themes

Four main themes emerged out of the data analysis in relation to defining FTP; a) fitness as a continuum, b) fitness as behaviour and conduct, c) fitness as a state of mind and d) fitness as being qualified. The interconnection of these elements is illustrated in the model in Figure 4.1.

a) Fitness as a continuum

There were a variety of ways in which FTP was defined by the participants, with little consensus between any of them. There was agreement between two participants pre-empting differences in the definitions of FTP.

> *'You'd probably find different interpretations (of FTP) throughout the group'*
> DFTPSRT-4

> *'If there was a group of newly qualified radiation therapists here six months into the profession, definitions surrounding fitness to practise would be potentially markedly different to our level…'* *'It's defined by a unique group or set of people'*
> DFTPSRT-9
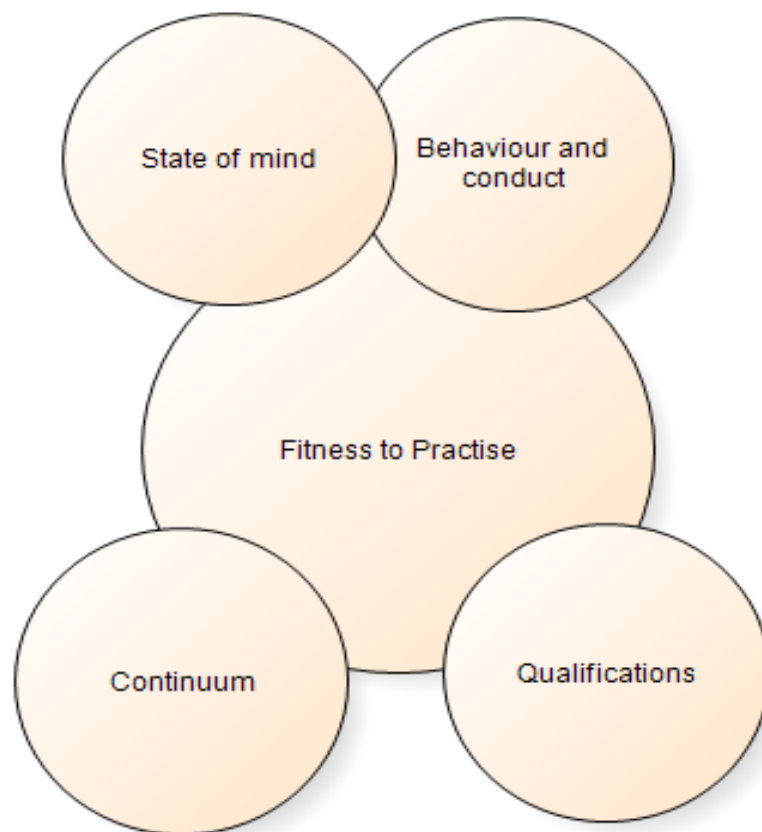
Figure 4.1 Model of themes associated with defining fitness to practise

This notion of the definition of FTP being dependent on longevity in the profession may be attributed to generational differences. Studies investigating the perceptions of professionalism amongst medical students found differences in perceptions depending on the generation of individuals involved.[310,311] There is also evidence which suggests that often, what one practitioner classes as professional behaviour another may class as unprofessional.[312] Similar issues may arise in defining FTP. We were unable to establish from the current study whether there were generational differences because the groups were allocated according to seniority rather than age or longevity in the profession or age. It was also suggested that FTP is an entity which constantly evolves over one's professional career.

> *'It (FTP) is a dynamic, constantly changing thing'* DFTPFCSRT-3

A number of participants alluded to the notion that this continuum is determined by changes in technology.

> *'I think it (FTP) continues to happen, it changes with changes in technology and practice…'* DFTPFCSRT-2
>
> *'...you need to be willing to change and to upgrade with the new technology'* DFTPFCJRT2-2

However, this may be where the confusion begins between the definitions of competence with FTP. On a number of occasions participants gave examples of their perception of how FTP would change if they moved to a different clinical centre.

> *'I might be right to practice right now where I am, but I might go to Perth and they've got a totally different system…'. '...and it's completely different everywhere you go'* DFTPFCJRT1-7

The researchers argue that what the participants are actually describing is a continuum of competence or expertise rather than FTP. The technologically oriented perspective of FTP being related to a practitioners' ability to use equipment over a period of time is not surprising given the rapidly changing environment in which radiation therapists work.

They are expected to keep abreast of changes in technology and up-skill themselves accordingly.[35]

b) Fitness as behaviour and conduct

Participants defined FTP in terms of behaviours relating to professionalism, competence and conduct.

> *'I think it (FTP) means that you are competent in your job'* DFTPFBJRT1-1
> *'I think it (FTP) means being a professional in your job'* DFTPFBJRT1-2

These statements are very broad if consideration is given to the literature reviewed in relation to professionalism and competence and their varying definitions. At times, both the excerpts from the transcripts and tone of voice on the audiotape suggested that there was confusion with regards to interlinking FTP with one or both these elements;

> *'From my perspective, professionalism may be a component of fitness to practise, or is it the other way around?'* DFTFBPSRT-1

This participant seems to be questioning their own interpretation of what FTP meant with confusion apparent when relating professionalism to FTP.

It has been suggested earlier in this paper that professional conduct and behaviour are both elements of FTP.[14] This is supported by the guidelines of the New South Wales (NSW) Medical Board which suggest professional conduct and expertise as components of FTP.[293] Evidence from hearings of the HPC also support this, in that misconduct, incompetence and unprofessional behaviour comprise many of the hearings.

c) Fitness as a state of mind

Fitness to practise was defined by some participants in terms of attitudes or predispositions and the intangible elements of professionalism, which it has already been

suggested are difficult to assess.[64] These include; sense of morality, honesty, integrity, reflectivity, self-awareness, confidence and cultural sensitivity. Many of these are not always exhibited as observable behaviours. Some of these elements are exemplified in the following statement;

> '… its also your attitude towards your job'…', how you regulate the way you work, like when you realise you're not doing something to the best of your ability…'. DFTPSOMJRT2-3

In its definition of FTP, the NSW Medical Board highlights attitude as an important element as well as behaviour.[293] It is these attitudinal elements which are suggested to have been ignored in the past in terms of their measurement in relation to professionalism, but it is these which represent the 'deep' values of the practitioner which are linked to identity.[68] The attitudes discussed in the FGs related to technical issues such as in-attention to detail and inaccurate treatment, together with attitudes affecting inter-staff relationships.

> 'I'm thinking of the people who just forget to put a piece of shielding in and, oh yep, she's right, doesn't really matter…' '…it's only palliative', which just makes my blood boil and they figure that because something's been overlooked that's fine.' DFTPSOMLSRT-2

This excerpt demonstrates a somewhat dysfunctional approach to the technical side of practice. It is almost as though patient care is compromised for the sake of 'getting the work done' (the conveyor belt approach). There were also comments made which were more closely related to interpersonal interactions (the more humanistic side of practice). On occasions participants alluded to fellow members of staff berating them;

> '…there is a certain vintage of radiation therapist, one in my experience that doesn't tend to show their ability by working very hard, one shows their ability and their value and worth by putting each other down' DFTPSOMATJRT2-8

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The types of attitudes which were suggested by radiation therapists are rather different to the ones alluded to in the literature on FTP. These specifically focus on morally inappropriate attitudes (emotions and desires). It is proposed that these attitudes threaten to have an effect on the behaviour of the health care practitioner to the detriment of their patients.[313] However, in radiation therapy it seems from the results of the current study that dysfunctional attitudes related to technical elements of practise are also evident.

d) Fitness as being qualified

A number of participants defined FTP in terms of having the appropriate qualifications.

> *'...it's a broader saying, or broader phrase taking into account the regulatory aspect of having met academic requirements, and you know passing all your tests and everything that's quantifiable'* DFTPQSRT-1

Qualifications are highlighted as the first element of FTP for the NSW Medical Board which considers them 'the most basic indicator of FTP'.[293] Having the appropriate qualifications does not however feature on the criteria for the HPC or General Medical Council FTP frameworks.[291,292] The issue related to defining fitness in terms of qualifications is that they are a 'one off' event and as such one would hope that practitioners are not of the opinion that having the qualification means that they are fit to practise for the rest of their career. As one participant suggested;

> *'...you do need that piece of paper, that qualification in order to get accredited, but it doesn't stop people who have that piece of paper practising unprofessionally'* DFTPQSRT-8

It is therefore important in defining FTP within radiation therapy, that practitioners understand the crucial importance of engaging in continuing professional development.

Additional elements in defining FTP

There were elements of FTP present in the literature which were not raised by participants. This may be due to inability to reach true saturation of the data because of the limited sample size and time frame within which the research was undertaken. Nevertheless it is important to highlight these;

1.   Illegal behaviours; either committed within or external to the workplace. Cases from the HPC[291] and MRPBV[314] provide exemplars of these including; fraudulent activities, a staged kidnapping, sexual assault and possession of illegal drugs. Penalties were awarded to practitioners depending on the severity of the case, ranging from suspension to striking off the register.

2.   Impairment; there was no mention of this in any of the definitions of FTP from the FGs, nor was there any mention of how impairment affects fitness behaviours. This is one of the key dimensions of FTP outlined by Walton who suggests that understanding and recognition of the impact of factors such as stress and fatigue on performance are paramount (Table 4.1).[15] One of the participants did mention physical and mental health in their definition of FTP, but did not elaborate on these.

> *'It (FTP) means that you have to be mentally and physically able to do the job'* DFTPFBJRT2-1

> *'...you have to be able, like physically to do it, so obviously if you've got a broken arm or something, that's not good'* DFTPFBJRT2-2

In the State of Victoria, it is a requirement that at the time of annual registration, practitioners declare any potential impairment as a result of alcohol/drug use of physical or mental health issues.[314] It is therefore surprising that none of the practitioners discussed these elements.

3.   Dose errors; there was no association made between dose errors and FTP in the focus group discussions. In 2003 a radiation oncology team identified approximately 90 medico-legal proceedings related to radiation therapy in the preceding 25 year period in Australia.[123] At least four of these were isolated radiation therapy planning overdose errors and two were serious brachytherapy errors.[123] There were however no indications as to whether these incidents were solely related to radiation error or were related to 'non-technical' professional misconduct. In addition, reports on error analysis in radiation oncology highlight the importance of elements such as accountability and responsibility, which are both professional virtues, but they do not cover the broader notion of FTP.[315]

4.6 Limitations of the study

The main limitation of the study is that the results may not be generalisable to the radiation therapy profession as a whole because of the limited number of practitioners agreeing to participate. Thus it was not possible to reach the point of true data saturation. Also, there may have been an element of selection bias, in that only practitioners with an interest in the topic may have shown interest in participating as they had to attend the FGs in their own time. We cannot be sure that participants were revealing their true views or had enough opportunity to share their thoughts.

4.7 Recommendations

The themes described in the paper require further exploration, ideally in the field using participant observation, reaffirming the central premise of the interpretive paradigm. However, given the ethical implications of going into the field and undertaking

participant observation, further investigation will take place initially in the form of a national survey incorporating real life scenarios, replicating the approach taken by Barry et al (2000) who investigated professional issues in medical professionalism.[264]

4.8 Conclusion

The notion of FTP appears to be understood by radiation therapists from within a narrow frame of reference, where the emphasis is upon professionalism and competence. The study revealed no consensus definition of FTP in radiation therapy. The concepts of professionalism and competence were used interchangeably and referred to often during the focus group discussions. There was an emphasis on the technical aspects of practice in many of the comments made. As medical radiations professions in Australia move towards national registration,[316] it is important that standards are developed for FTP. Without an unambiguous definition and robust criteria, making the 'judgement call' as to whether a practitioners' FTP is impaired will continue to be a challenge for educators, departmental managers and registration boards.

Chapter 5

Classification of the determinants of fitness to practise in radiation therapy

The published paper included in Chapter four discussed how RTs defined and understood the concept of FTP and its relationship to daily work in the profession of RT. However it was also important to establish what RTs perceived to be the key determinants of FTP and what forms of sub-optimal practice gave rise to concerns about the FTP of RTs. The following publication therefore presents the findings related to aims four and five of the research:

4. Identify the key determinants of FTP as perceived by RTs

5. Determine RTs perceptions on the reporting of sub-optimal practice

Three key themes, the determinant classifications of FTP in RT are presented in the findings of the manuscript, namely: Impairment (mental and physical), Competence (communication, cultural, technical) and Values/Ethics (attitudes and beliefs of practitioners). The three determinant classifications and their constituent sub-themes were then used together with the findings of the previous paper (defining FTP) to inform the creation of the survey instrument (published as outlined below). The findings were also integrated together with those of the national survey to develop the substantive theory which is presented in the discussion (Chapter nine). The article is an exact copy of the one published in the journal Radiography.

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Monash University

Declaration for Thesis Chapter 5

Declaration by candidate

In the case of Chapter 5 the nature and extent of my contribution to the work was the

following:

Nature of contribution	Extent of contribution (%)
Study design, data collection and analysis, writing of manuscript	85%

The following co-authors contributed to the work. If co-authors are students at Monash

University, the extent of their contribution in percentage terms must be stated:

Name	Nature of contribution	Extent of contribution (%) for student co-authors only
Marilyn Baird	Intellectual input on study design, data analysis and manuscript editing	N/A
Michal Schneider	Intellectual input on study design, data analysis and manuscript editing	N/A
Brian Jolly	Intellectual input on study design, data analysis and manuscript editing	N/A

The undersigned hereby certify that the above declaration correctly reflects the nature and
extent of the candidate's and co-authors' contributions to this work*.

Candidate's Signature	█████████████████	**Date 17/08/15**

Main Supervisor's Signature	█████████████████	**Date 17/08/15**

[1]Wright CA, [1]Schneider ME, [2]Jolly B and [1]Baird MA. Australian radiation therapists' perceptions of the determinants of fitness to practise; a mixed methods focus group study. Radiography. 2014. 20 (3) 264-270

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5.1 Introduction

Over time different definitions of fitness to practise (FTP) have emerged. Each health profession takes a slightly different approach to articulating its meaning within that disciplines' unique context. This makes it challenging to establish a consensus on what FTP actually is and what elements of performance it encompasses.

To date, there is nothing in the literature which addresses the determinants of FTP in the medical radiation science (MRS) professions (radiation therapy (RT), radiography and nuclear medicine), with the exception of our previous paper.[178] In this paper, the key dimensions of FTP were summarised from the literature under the themes of; clinical competence, professional conduct, awareness, accountability and regulation.[15,317] However, the challenge with using broad categories and ill-defined terms to illustrate a nebulous concept such as FTP is that there is the potential for difficulties to arise for practitioners in determining their own or a fellow practitioners' capacity to practice safely. At present, clear guidance on the specific elements of performance and what practically constitutes FTP is limited.

5.2 Literature review

In Australia, newly established policies and standards for the registration of practitioners through the Medical Radiation Practice Board of Australia (MRPBA)[17] frame FTP as a capability under the domain of professional and ethical conduct. This interpretation mirrors how FTP is categorised by the General Medical Council (GMC) of the United Kingdom in its description of FTP in its Good Medical Practice Document.[109] In the MRPBA's 'Professional Capabilities for Medical Radiation Practice' standards[17] FTP is described in a statement relating to mental and physical health. It is proposed that registered practitioners must be able to; *'manage their own mental and physical health to ensure fitness to practise'.* It is suggested that the key elements of FTP include; *'competence, professionalism, including a sense of responsibility and accountability, self-awareness and professional values, sound mental health and the capacity to maintain health and wellbeing for practice.'* This document also makes explicit the obligation of reporting impairment and poor performance by practitioners to the MRPBA. The MRPBA cites four categories of Notifiable Conduct, namely practice whilst intoxicated, sexual misconduct, impairment, and practise that is significantly departed from accepted standards.[11]

In addition to these clearly articulated dimensions of FTP, a list of 20 categories of common practitioner notifications are identified by the Australian Health Practitioner Registration Agency (AHPRA), the organisation responsible for the implementation of the National Registration and Accreditation Scheme across Australia. These include specific determinants such as behaviour, communication, health impairment, infection/hygiene, national law breaches and a number of other themes. This list is representative across all of the health professions regulated by AHPRA including RT.[318]

AHPRA documents outside those generated by MRPBA were reviewed in an attempt to ascertain what the key determinants of FTP were for other health professions. Evidence sourced from nursing explicitly attributed a set of practitioner characteristics to FTP. The Nursing and Midwifery Board of Australia 'Assessment of Overseas Qualified Nurses for Registration in Australia'[110] focuses FTP on professional impediments, which include physical and mental impairment (as is the case with the MRPBA). However, it also includes 'probity' (disciplinary hearings and criminal history) as indicators. One of the key differences in this description is the lack of reference to competence and knowledge as constituents of FTP as identified by the MRPBA, the GMC and other authors.[14,15,109] According to Spencer,[319] the determinants of FTP can be categorised into personal and organisational factors (Table 5.1). In this model, personal factors which are unique to each practitioner (e.g. personality and attitude) can influence organisational factors (e.g. ability to work in a team). At the same time, organisational factors such as workload can influence personal factors, like a practitioner's physical health.

Table 5.1 Summary of personal and organisational factors associated with FTP

Personal factors	Organisational factors
Personality	Climate
Attitudes	Culture
Physical health	Team-working
Psychological health	Leadership
Lifestyle issues	Workload
Currency of practice	

As well as the inconsistencies in the published literature in identifying the determinants of FTP, evidence suggests that employers hold yet different views with respect to what constitutes FTP. Employers favour the term *'fitness for purpose',* which relates to the *'immediate requirement of the workplace'*, whereas regulatory bodies prefer *'fitness for practise'*, which they suggest represents a *'longer term endorsement of a professionals'*

capabilities' because it relates to registration.[320] Thus the importance of having clearly defined criteria, which outline the specific determinants of FTP cannot be highlighted enough. Particularly if the workplace's perception of FTP relates to the work produced by practitioners and the regulatory body's perception of FTP focusses on individuals possessing the knowledge, skills, attributes and values required to be a safe practitioner.

5.3 Aim

The aim of this research was to identify what radiation therapists (RTs) perceived to be the key determinants of FTP and the importance they place on each determinant in relation to their practice.

5.4 Methods

Quantitative and qualitative research methods were utilised to provide a comprehensive investigation of the topic. This design allowed for the participants to convey and explain their views and in addition, for an assessment of the frequency of each concept raised.[129] Focus groups were the choice of data collection method, because of their capacity to explore beliefs and perceptions. The detailed rationale for their use is given in the previous papers. [19,178]

Approval was sought and granted from the Monash University Human Research Ethics Committee. Participants were recruited via a hard copy mail out. Permission was granted from the Medical Radiation Practitioners Board of Victoria (which has now been replaced by the MRPBA) to use their public domain list to access the contact details of all registered RTs in metropolitan Melbourne. Practitioners from metropolitan Melbourne

only were recruited in order to facilitate access to the focus group venue. Participants were allocated into one of three FGs according to their promotional level: junior RT/senior RT with the intention being to reduce power differentials and create as homogeneous a group as possible to allow participants to speak freely. Three FGs were conducted with between five and eight participants.[218,226]

The same independent Moderator facilitated each discussion and a Moderators' Assistant took notes on non-verbal and verbal cues that the audio recording could not fully capture. These individuals were not known to the participants and were not associated with the research, thus reducing potential power differentials. There were two junior and one senior group because a greater number of junior RTs expressed interest in participating in the study. In order to ensure that an appropriate focus was maintained during the discussions, a series of prompts and associated probes/triggers, together with a brainstorming activity were devised to allow for useful information to be elicited. Qualitative data analysis was facilitated using QSR NVivo9. Analysis of the data was informed by grounded theory[20] together with the use of a conceptual framework to assist coding.[212] Saturation of data[20] did not occur because the number of participants recruited did not allow for sampling until themes recurred. Open coding was undertaken initially to analyse data, conceptualise it and form broad categories.[20] These themes were then axially coded where sub-categories were developed. Upon further analysis, some of the categories were spliced together.[212] Data was validated by means of member checking at the conclusion of each focus group and by sending a copy of the transcript to all participants for review.[321] A second researcher undertook independent coding of the data and inter-coder agreement was achieved.[199] Quantitative analysis was undertaken using Microsoft Excel 2010 and consisted of frequency analysis of the most popular

determinants of FTP. These are presented in this paper as concept maps and descriptive statistics.

5.5 Findings and discussion

Determinants of FTP identified in the Brainstorming activity

Twenty one unique determinants of FTP were identified (Figures 5.1, 5.2 and 5.3). Six were identified by all three FGs (professional development, communication, competence, qualifications, ethics and professionalism). When these determinants were compared to the list of 20 common types of notification presented by AHPRA,[318] communication, patient/clinical care and health were the common categories. These six determinants were consistent with two of the key themes which were presented from a review of the literature on FTP in our previous paper, namely professional conduct and clinical competence.[178,15,317]
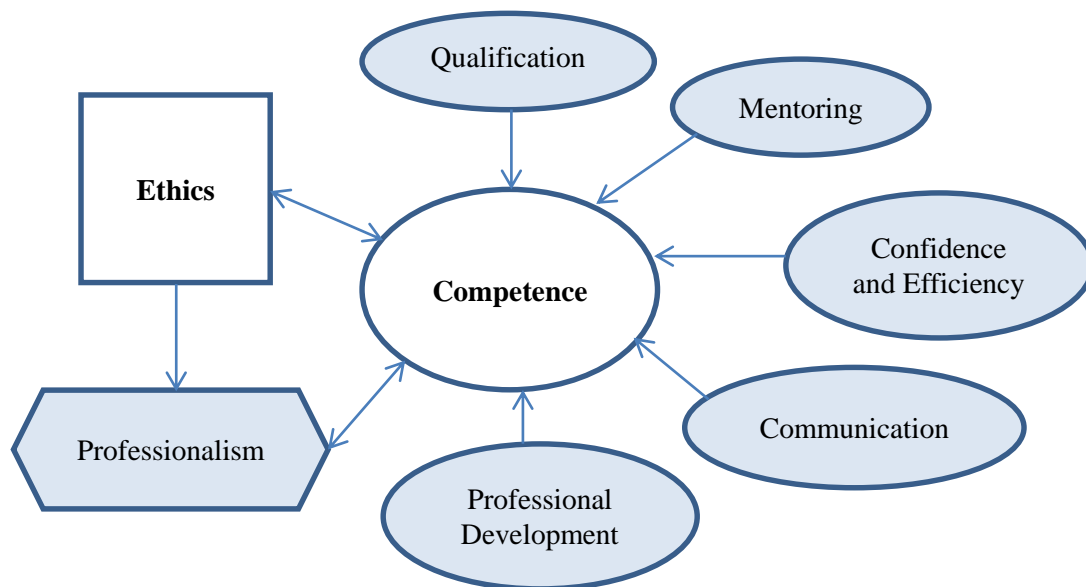
Figure 5.1 Junior RTS focus group 1: Determinants of FTP concept map
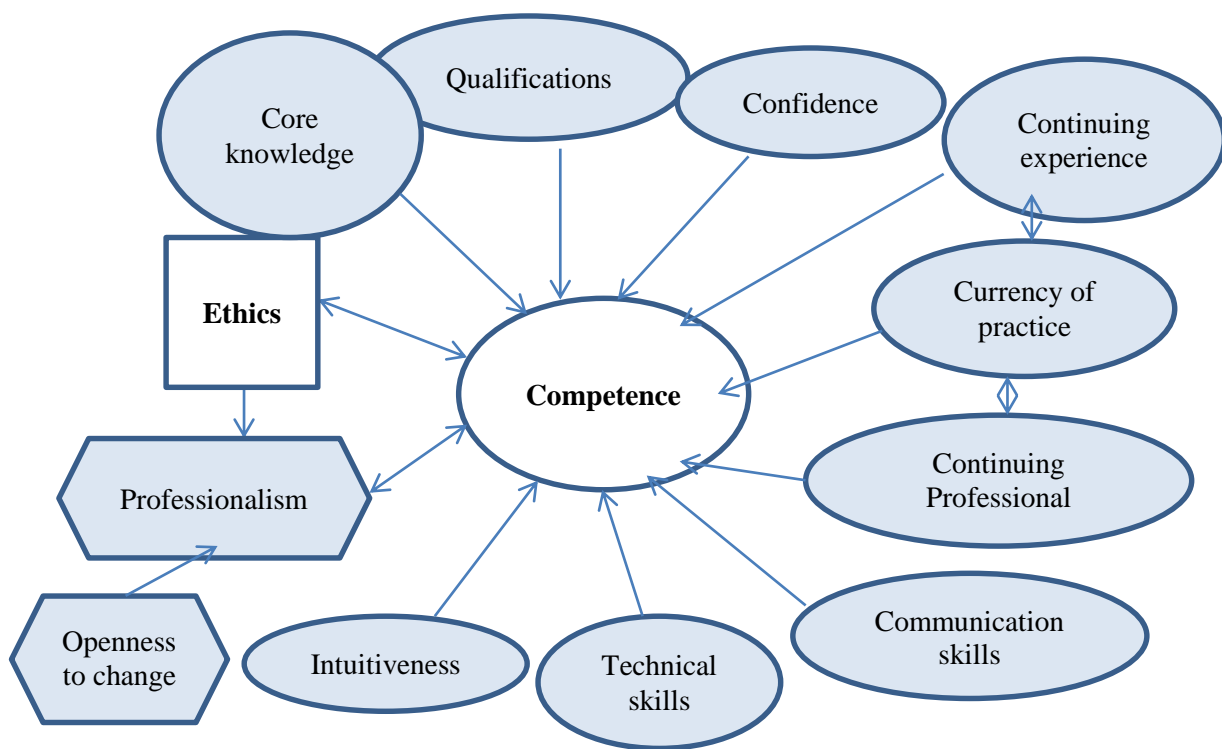
Figure 5.2 Junior RTS focus group 2: Determinants of FTP concept map
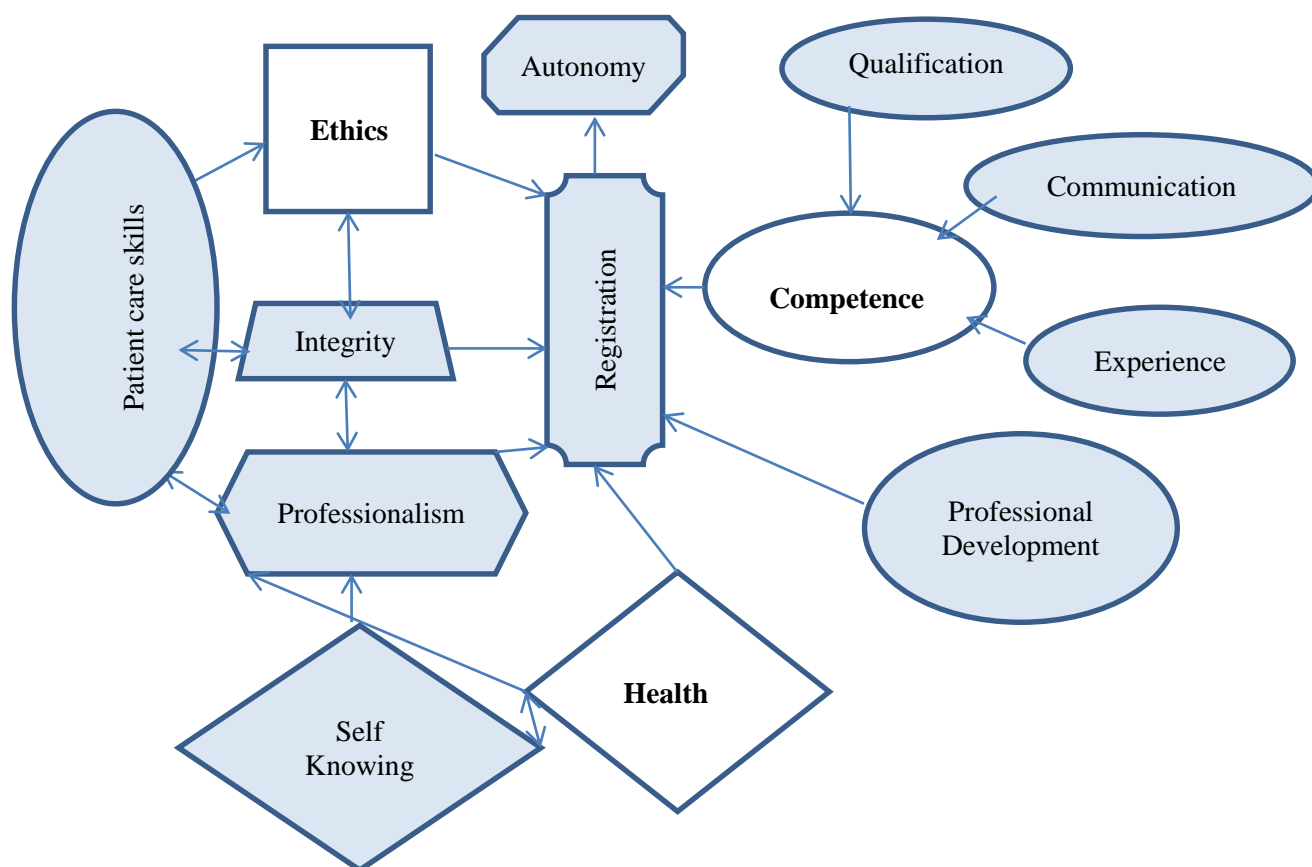
Figure 5.3 Senior RTS focus group: Determinants of FTP concept map

Breaches of and offences against national law have serious implications for practitioners and require mandatory notification, but these were not mentioned in any of the FGs as determinants of FTP. The participants of the FGs confined their discussions to determinants which were directly related to performance in the workplace, rather than factors occurring outside of the workplace. Nor was there any discussion relating to intoxication (leading to impairment). However, intoxication is identified as one of the four reasons for mandatory notification by the MRPBA, and is highlighted in the literature as a key determinant of FTP.[11,319]

The senior RTS focus group (SRTFG) (Figure 5.3), together with the 2nd junior RTs group (JRT2FG) (Figure 5.2) identified thirteen separate determinants of FTP while the junior RTS group 1 (JRT1FG) identified only eight determinants (Figure 5.1).

The dimensions of Health and Self-knowing were identified as key determinants of FTP by only the senior practitioners. This is concerning given the focus on both physical health and psychological well-being as an influencing factor to practitioner FTP in the literature and regulatory documentation.[11,317,319] The findings suggest that a greater emphasis was placed on the technical skills of the profession as determinants of FTP.

In all three brainstorming discussions, competence was cited most frequently, which aligns with the MRPBA representation of this dimension as a determinant of FTP. Interestingly, none of the groups identified probity or trust (integral aspects to FTP and cited in MRPBA code of conduct)[322] apart from integrity which was suggested as a key determinant of FTP by the SRT group.

Within the junior FGs (JRT1FG and JRT2FG) the emphasis on competence was very evident. Common determinants identified under the theme of competence in these groups were qualifications, professional development, confidence and communication. Other concepts discussed included; ethics, professionalism, empathy and openness to change.

Interestingly, the SRT group was the only group that commented on the role of registration in regulating performance and FTP. In addition, this group identified a greater number of factors associated with professionalism, such as self-knowing and integrity. The SRTFG group was also the only group that mentioned patient care. This shift from technically competent JRT with the knowledge to perform to the appropriate standard, to a more holistic view of performance on the part of the SRTs, where there is a greater emphasis on self-awareness and patient care was observed between Faculty and Residents in a study on the medical profession and their definitions on professionalism.[323]

Themes derived from the data and their importance to practitioners

Nine determinants of FTP were identified during the first iteration of coding (Figure 3.9). Eight of these were then spliced[212] to form two of three primary categories; Impairment and Competence (Figure 5.4a and 5.4b) with the Values/Ethics initial category remaining unchanged.[19] These three primary categories are explored below.[324]
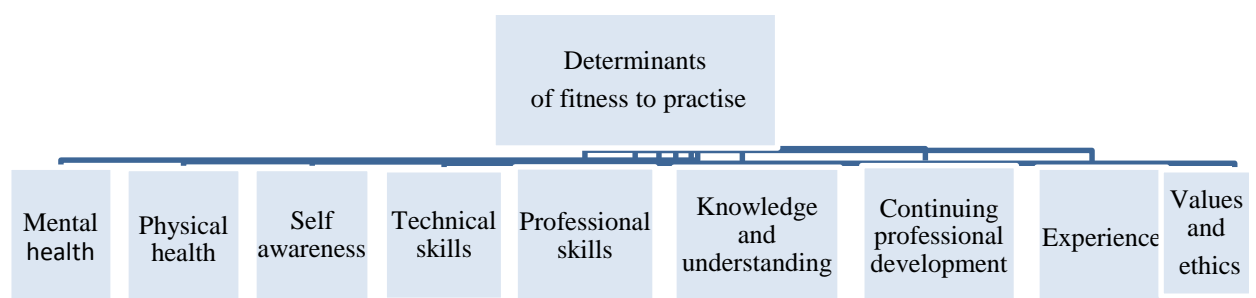
Figure 3.9 (previously cited in Chapter 3)

Impairment

This category was formed by combining the physical and mental health themes. The properties used to define this category included 'intrinsic' (physical health or mental illness) and 'extrinsic' determinants (e.g. substance mis-use). These determinants reflect the elements included under impairment in the national law, where it is described as:

> *'A physical or mental impairment, disability, condition or disorder (including substance abuse or dependence) that detrimentally affects or is likely to detrimentally affect a registered health practitioner's capacity to safely practise the profession...'*[324]

One SRT participant suggested these were challenging to manage in day to day working life.

> *'Questioning peoples' mental and physical fitness for work is a really difficult managerial issue' DtFTPISRT-3*

.
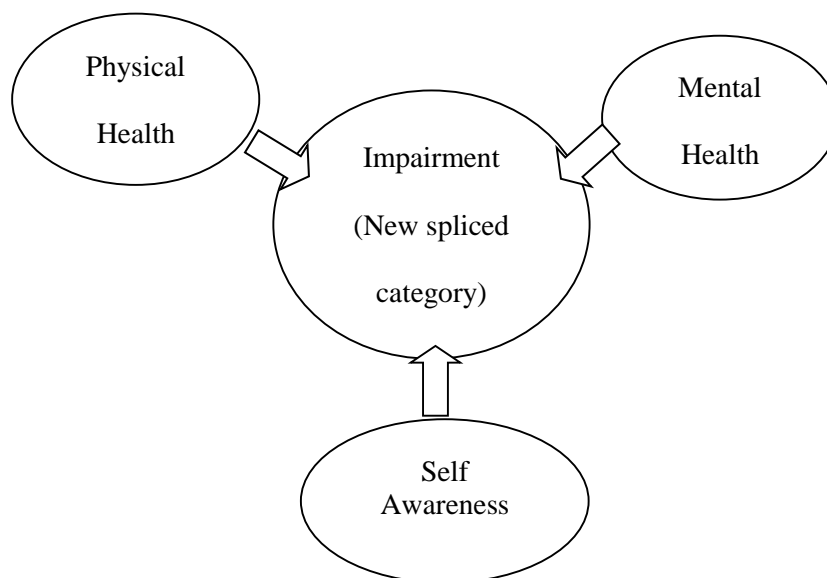
Figure 5.4a Splicing 3 categories from the determinants of fitness to practise

Figure 5.4b Splicing 3 categories from the determinants of fitness to practise

Figure 5.4 Examples of splicing categories from fitness to practise determinants

Four of the 21 participants (19%) identified mental and/or physical health as their three most important determinants of FTP (Table 5.2). The results of a study investigating the characteristics of disciplined physicians in the USA identified medical and/or physical impairment as being the reason for disciplinary action in 4% of cases, with impairment as a result of substance abuse contributing to 21% of actions.[325] In the same study, health related factors were associated with 73% of severe disciplinary actions. In a similar study undertaken among the Australian medical profession, only disciplinary action as a result of mis-conduct and not impairment was reported.[326]

The challenge associated with reporting and managing instances of practitioner impairment was exemplified by one of the participants who had observed a colleague

practising for a number of years with what they considered were mental health issues, but whose colleagues had 'covered' for them during this time.

> *'You look after other people, and at my workplace, we had an example of someone who obviously had a mental health issue working in the field for probably the 25 to 30 years they'd been working in the department. It was just something that people knew and you managed by having adequately qualified people work with them to overcome the burden that they placed on the team' DtFTPIJRT2-2*

Given that impairment is such an important aspect to FTP, it is imperative that practitioners are self-aware and able to acknowledge if they are experiencing any issues which may affect their performance. Only 14% of practitioners identified self- awareness in their top three determinants of FTP (Table 5.2). Self-awareness has long been associated with Emotional Intelligence in medicine.[327,328] More recently it has been discussed in the MRS professions, where it has been suggested to differ between cultures, managerial level, age and gender, as having a potential impact on practitioner decision making and performance.[329,330]

Competence

This category incorporated a number of dimensions (technical skills, professional skills including communication skills, continuing professional development, knowledge and experience). These are mandated in the MRPBA code of conduct as necessary for safe and effective practice.[322] Table 5.2 demonstrates that knowledge, professional skills and technical skills were most frequently ranked in the three most important determinants of FTP among both the JRT and SRT FG participants.

Table 5.2 Most important three determinants of FTP according to participants

Component of FTP	Number of participants ranking item in top 3 most important (N=21)
Knowledge	16/21 (76%)
Technical skills	13/21 (62%)
Professional skills	13/21 (62%)
Continuing Professional Development (CPD)	8/21 (38%)
Mental and Physical Health	4/21 (19%)
Experience	4/21 (19%)
Self-awareness	3/21 (14%)
Values and ethics	2/21 (9.5%)

Knowledge was the most frequently ranked determinant of FTP with 76% of participants ranking it in their top three. During the focus group discussion, participants elaborated on why they placed knowledge in their top three.

> *'...it's important because you have to understand what you're doing, what you're aiming to do...' DtFTPKJRT2-1*

> *'Qualifications are the most important element of FTP as you have to meet the initial professional standard and having the qualification means you have the knowledge' DtFTPQJRT1-2*

Interestingly, as suggested in our previous paper, possession of a qualification was identified to be one of the main ways in which RTS defined FTP.[178] However, possession of knowledge and being qualified does not automatically mean that a professional's performance will be acceptable. There are numerous other elements that might come into play and affect performance. This was highlighted by one participant.

> *'You do need that qualification in order to get accredited, but it doesn't stop people who have that piece of paper and knowledge practising unprofessionally' DtFTPQSRT-8*

The assessment of practitioner attitudes is an important part of establishing whether they are indeed fit to practise. If the practitioner's attitude is inappropriate, harm may ensue because either; the attitude results in behaviours which cause harm to patients (e.g.

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deficient/improper care) or harm can be caused because of the offensive nature of a particular attitude.[313] This theme is explored in more detail later in the paper.

Technical skills were ranked in the top 3 by 62% of participants. One participant indicated that the reason why they had prioritised these was because:

> '...without the technical skills you can't plan or treat, which means that you are not fit to do your job' DtFTPTSJRT1-3

One of the participants raised concerns regarding the perceived emphasis in the profession on the technical aspects as opposed to other skills.

> 'There's more concentration on the technology than perhaps the social skills that are necessary' DtFTPCTDJRT1-4

This emphasis on technical skills by the participants may be partly attributed to the requirement for RTs to be continually updating their skills in order to keep pace of changes in technology.[331] It is also a consequence of the so called "machinery of dominance"[332] within RT. The profession would not exist but for the need for skilled practitioners to create and implement complex treatment regimens wholly delivered by computerised and highly sophisticated electronic equipment.

In the RT setting, communication skills are as important for a practitioner as technical skills, particularly in reducing distress to patients and for the effective workings of the radiation oncology multidisciplinary team.[333] This is echoed by one of the participants.

> 'To be FTP you need good communication skills within the team as well as to your patients and their carers' DtFTPPCSRT-9

However, studies investigating whether specific training programs in communication skills have any effect on patient distress and satisfaction remain inconclusive.[334]

Communication competence was discussed at length in all of the FGs and it consisted of many dimensions. Participants suggested verbal and non-verbal communication skills as being important.

> *'There's no point being technically good if you can't communicate appropriately to a patient, e.g. if you can't pick up that they're absolutely terrified and they're not really listening to what you're saying'* DtFTPPCJRT2-4

This statement suggests that in today's health care environment it is not good enough for practitioners to be technically or academically exceptional. They must be able to communicate appropriately with patients and identify patient issues as a result of that interaction. This is highlighted by one of the participants.

> *'We had somebody who was academically fantastic, but their ability to converse with a patient, their ability to interact in a team was, really was quite poor and although they technically got top academic marks clearly they were not a person that was suited to be a RTS and they were able to identify that after completing their intern year'* DtFTPPCSRT-1

The effect of sub-optimal communication skills is highlighted in the literature which indicates that the quality of communication affects patient care and clinical outcomes.[335] In addition, poor doctor patient communication has been associated with increased numbers of mal-practice claims.[336]

Values/Ethics

Values and ethics were the least frequent aspects of FTP when the three most important determinants were reviewed, with only two out of the 21 participants ranking this determinant category in their top three (Table 5.2). The dimensions associated with this included virtues, values and attitudes such as being moral, trustworthy, respectful, ethical, self-aware and reflective. A number of these were highlighted as key capabilities (Domain 1 and 3) in the MRPBA documentation.[17] Moral values were identified as the

primary attributes of medical professionals in a study investigating professional attributes of acute and longitudinal care specialties.[337] The challenge, however lies in the assessment of these dimensions, because practitioners know how they ought to perform, but one cannot guarantee that this is translated to their practice.[338]

Attitudes to work, willingness to engage and the imparting of knowledge were discussed in the FGs. One participant encapsulated many of these dimensions in their thoughts;

> *'Your attitude towards your job is, how you interact with other people and how professional you are when you're dealing with the public, how you dress, how you regulate the way you work, like, when you realise you're not doing something to the best of your ability and you're not concentrating on it, you change your actions'* DtFTPVEAJRT2-1

Another participant alluded to the notion of the 'clock in and clock out' practitioner, whose characteristics were;

> *'...non-reflective, non-analytical, lacking altruism and no more than a button pusher'* DtFTPVEAJRT2-7

This description resembles that identified in a paper from more than a decade ago, that commented on professional identity in radiation oncology. In this paper the RTS was referred to as *'the person that turns on the machine.*[41] It is concerning that a practitioner in more recent times has suggested that there are still staff conforming to this description in the workplace. Interestingly, the results of a study investigating the ethical commitment of radiographers suggest that there was a mostly negative attitude towards ethics and that this was partially attributed to the effect on the profession from medical dominance and issues with the professional identity of radiographers.[50]

Inappropriate use of the internet and social media was also coded to the values and ethics theme. One participant elaborated on how a colleague was surfing the web whilst they should have been observing a patient receiving their treatment.

> *'...it took someone to actually spin around on their chair and surf the net for anyone to actually be a bit outraged and then they just went, yeah they shouldn't be doing that, I was like well, I can say you're meant to be watching the patient but I feel that higher up members of staff should actually make a point, make it known that that's not acceptable'* DtFTPVEAIJRT2-12

In the above example, it is not only the practitioner who is behaving inappropriately but there are issues with how this situation was managed. Another participant suggested that they had heard of other RTs discussing patients over social media sites. It is possible that with the increased accessibility of the internet and social media, this form of FTP issue may continue to be problematic in the future.[339,340] Professional regulation agencies, such as AHPRA are now embracing social media issues and incorporating them into policy.

5.6 Limitations of the study

As indicated in our previous paper,[1] saturation of data was not achieved because of the limited number of participants. One of the participants provided feedback to suggest that another member of their group dominated the discussion, thus they felt unable to contribute fully. It was not the aim of the study to compare responses of junior and senior staff, however such comparisons might offer further insight and guidance to curriculum developers.

5.7 Recommendations

The determinants of FTP described in this paper require further investigation with respect to how practitioners respond to examples of sub-optimal practice. Also, particular interest should be paid in future research to ethics and values, given that they are key capabilities but were seldom mentioned. The socio-cultural context of FTP also warrants further study. Our follow up national survey research will be addressing whether there are differences in perceptions of FTP between professional levels and across other demographic indicators.

5.8 Conclusion

There was a consensus on determinants that affect practitioner FTP. The majority of determinants discussed and the most important ones to RTs were associated with technical and clinical competence. The least important to practitioners were related to values and ethics. Probity, trust and criminal activity were seldom discussed.

Chapter 6

A national survey investigating

Australian radiation therapists'

responses to FTP dilemmas

This chapter and the subsequent two chapters (Chapters seven and eight) present the findings of the national survey which was undertaken to achieve the following aims of the research:

2. Determine the understanding that RTs have with respect to FTP in RT

3. Determine any gaps in the knowledge of RTs in relation to FTP

6. Determine RTs responses to hypothetical FTP dilemmas

7. Determine whether there are any socio-demographic predictors related to the type of reporting an RT chooses

8. Advance the theoretical understanding of FTP in RT and the broader health field

The findings from this chapter will be integrated into future publications.

6.1 Introduction

The chapter presents the survey response rates and demographic data in the form of frequency tables. It also provides the results of the Chi square analysis comparing the demographic characteristics of respondents of the two surveys.

6. 2 Survey participant response rates

The surveys were distributed by email to 1054 RT members of the AIR, with a response rate of 17.6% (N=185) when compared to the number of RT AIR members. At the time of the survey, there were 2143 RTs registered with the MRPBA. As such the response rate with respect to the total number of practising RTs in Australia was 8.4%.[341] There were 111 participants in survey group one and 74 in survey group two. However, not all participants answered all questions. In survey group one, there were three respondents who only completed the demographic information and as such, these cases were excluded from the analysis. As a result there were 108 useable responses for survey one. Similarly in group two, there were two responses that only contained answers to demographic questions and therefore only the remaining 72 were used in the data analysis. In the next section, responses will be presented according to demographic characteristics.

6.2.1 Gender

There were different proportions of females to males in the two survey groups, with the number of females in survey group one being 91/108 (84%) and in survey group two 49/72 (68%) with p=0.007 (Table 6.1).

6.2.2 Age

The age ranges in both survey groups were evenly distributed, for example 60/214 (55.5%) of respondents in group one were between 21 and 39 years old and 43/144 (59.7%) in group two were in the same age category (Table 6.1). There was no significant difference in the age group category between survey groups one and two.

Table 6.1 Demographic characteristics of survey respondents

Demographic characteristic	(N=180) Survey group1 n/N(%)	Survey group 2 n/N(%)	p- value*
Gender			
Male	17/108 (16)	23/72 (32)	0.007
Female	91/108 (84)	49/72 (68)	
Age (Years)			
21-29	32/107 (29.6)	19/72 (26.4)	
30-39	28/107 (25.9)	24/72 (33.3)	0.638
40-49	25/107 (23.1)	12/72 (16.7)	
50+	22/107 (20.4)	17/72 (23.6)	
Years' of experience in profession			
1-5	15/107 (13.9)	12/72 (16.7)	
6-10	29/107 (26.9)	15/72 (20.8)	0.633
11-20	29/107 (25.9)	22/72 (30.6)	
21+	35/107 (31.5)	23/72 (31.9)	
Entry level qualification			
Diploma	35/108 (32.4)	21/72 (29.2)	
Bachelor degree	63/108 (58.3)	46/72 (63.9)	0.635
Masters degree	10/108 (9.3)	5/72 (6.9)	
Year of graduation in the profession			
Before 1980	14/108 (13)	10/72 (13.9)	
1981-1989	20/108 (18.5)	9/72 (12.5)	0.643
1990-2000	26/108 (24.1)	21/72 (29.2)	
2001-2012	48/108 (44.4)	32/72 (44.4)	

Location where entry level qualification acquired			
South Australia	10/108 (9.3)	5/72 (6.9)	
New South Wales	36/108 (33.3)	23/72 (31.9)	
Queensland	20/108 (18.5)	11/72 (15.3)	0.713
Victoria	28/108 (25.9)	26/72 (36.1)	
Other location	14/108 (13)	7/72 (9.7)	

Sector of employment			
Public	68/108 (63)	50/72 (69.4)	0.425
Private	40/108 (37)	22/72 (30.6)	

Location			
Metropolitan	74/108 (68.5)	45/72 (62.5)	0.518
Regional	34/108 (31.5)	27/72 (37.5)	

Cultural background			
Australian/New Zealand	85/108 (78.7)	60/72 (83.4)	
British/Irish	11/108 (10.2)	3/72 (4.2)	0.263
Other	12/108 (11.1)	9/72 (12.4)	

* Chi square analysis

6.2.3 Number of years' experience as a radiation therapist

Groups one and two were comparable because they both had 35/107 (31.5%) and 23/72 (31.9%) practitioners in the profession for more than 21 years (Table 6.1). The smallest number of respondents for both survey groups had less than six years' experience as a RT. There was no significant difference in the years of experience in the profession category between survey groups one and two.

6.2.4 Entry level qualification

A Bachelor degree was the predominant entry level qualification for both survey groups one and two with 63/108 (58.3%) of participants in survey group one having this form of qualification and 46/72 (63.9%) in group two (Table 6.1). There was no significant difference in the entry level qualification category between survey groups one and two.

6.2.5 Year of graduation in to the profession

As indicated in Table 6.1, nearly half the number of respondents (48/108 44.4% in survey group one and 32/72 (44.4%) in survey group two) graduated into the profession after 2001. In group one the lowest frequency was seen in the respondent group who had graduated before 1980 with (14/108, 13%), and in survey group two, RTs who had graduated between 1981 and 1989 were the smallest group (10/72, 12.5%). There was no significant difference in the year of graduation category between survey groups one and two.

6.2.6 Location where entry level qualification was acquired

The greatest frequency of RTs in group one received their entry level qualification from an institution in New South Wales, (36/108 (33.3%), Table 6.1). Victoria was the state in which most RTs gained their entry level qualification for group 2 (26/72 (36.1%)). A range of 'other' local and international locations where RTs gained their qualification was also observed. There was no significant difference in the location of qualification category between survey groups one and two.

6.2.7 Sector and region of employment

A total of 68/108 (63%) of respondents from group one and 50/72 (69.4%) from group two worked in the public sector of RT service delivery (Table 6.1), with 74/108 (68.5%) and 45/72 (62.5%) from groups one and two respectively working in metropolitan and rural/regional areas (Table 6.1). There was no significant difference in the sector of employment or location of employment categories between survey groups one and two.

6.2.8 Cultural background

A comparable number of participants in group one and two identified as having an Australian/New Zealand cultural background with 85/108 (78.7%) and 60/72 (83.4%) respectively (Table 6.1). The second most prevalent cultural backgrounds were British/Irish 11/108 (10.2%) and 3/72 (4.2%) for groups one and two respectively. Given that there were very low numbers of respondents in any group other than Australian/New Zealand, it was decided cultural background would not be included into the statistical analysis. There was no significant difference in the cultural backgrounds between respondents in survey groups one and two.

6.3 Discussion

Although strategies were taken to reach as many RTs as possible (through professional body mail out, distribution to Chief RTs/RT managers and flyers at a national conference), the response rate for the survey was low at 17.6% if compared to the number of RT members of the AIR. In addition, when compared to the total number of registered RTs in the country at the time of the survey the response rate was only 8.4%.[341]

6.3.1 Response rates

It is not unusual for unsolicited surveys in the medical and allied health professions to have low response rates. The response rate in nursing surveys is often lower than 60%.[342-344] A poor response rate may reflect 'non-response bias, or the likelihood of systematic differences between those who returned a survey and those who did not', which might impact on the generalisability of results.[345,346] However, because the primary focus of the survey was to investigate the diversity of RTs responses to hypothetical FTP dilemmas, generalisability was not a key outcome.

It is suggested in the literature that lack of time is the primary reason for low survey response rates.[347-350] In addition, if the value of the study is not clearly articulated or the study is perceived to be a low value, then participation may be deterred.[261,345] This may be the case with RTs who have a busy patient load during the working day and may not view completing surveys as a priority either within or outside of working hours.[347,351] One reason for low response rates may be because the survey was conducted at a time when there had been a number of other surveys distributed around the profession and RTs may therefore have experienced survey fatigue/overload.[352,353]

Previous research suggests both non-monetary (e.g. continuing professional education credits) and monetary incentives (particularly if they are pre-paid) improve response rates.[354-358] However, in the current study, there were no financial resources available for providing incentives to participate. Research investigating survey design has been inconclusive in terms of whether response rates are improved with strategies such as individualised invitations and regular reminders to complete the survey.[359] Although a

reminder email was sent to Chief RT/RT managers to distribute to their staff about the survey it was not possible to ascertain whether it got disseminated to all staff.

6.3.2 Sample demographics

The gender mix in survey group one was comparable to that of registered MRP professionals (4390/13769 (32%) males and 9154/13769 (66.5%) females).[341] However, there was a much larger proportion of females in group one (91/108(84%)). The MRPBA data however included all MRP professionals (radiography, RT and nuclear medicine technology). There was no data in the MRPBA report on the gender mix of registered RTs alone, as such caution should be taken in making a direct comparison between the MRPBA figures and those of the present study.

As the respondents were randomly sampled and as many participants as possible were required in the given timeframe, gaining equal numbers of males and females in both groups was not achieved. The limitation of having a smaller group of males compared to females in the analysis according to reporting preferences was that on some occasions there were not enough numbers of males in the respondent categories to afford analysis. The age ranges of respondents were comparable to those in the population of registered RTs at the time of the survey. In the present study 55.5% of RTs in group one and 59.7% in group two were between the ages of 21 and 39. Data from the MRPBA indicating for the combined MRPS in March 2013, 8272/13769 (58%) of practitioners were between 21 and 40 years old.[341] Interestingly, although there has been a large increase in the number of recently graduated RTs in the past decade, there were only 30% of respondents in each survey group who were under the age of 29 years. It is unclear why this may have

occurred, however anecdotal evidence suggests there are not as many recently graduating RTs joining the AIR, and as such it is possible they did not get the study invitation via this method of distribution. The mix between the number of respondents from the public and private sector and metropolitan and regional sectors was expected, as was the numbers of respondents with entry level qualifications by State.

It was unexpected so many of the respondents identified as having an Australian cultural backgrounds, given the diversity of the RT workforce. The low numbers of responses from other cultural backgrounds meant regression analysis on that variable could not be undertaken. This is unfortunate as it would have proved interesting to have compared reporting preference by culture as to date it is unclear from the literature as to whether cultural background influences reporting preferences.[288] Future research investigating the influence of cultural background needs to be undertaken to more fully understand FTP and reporting preferences across all practitioners.

6.4 Conclusion

This chapter has provided frequency analyses with respect to participant responses in relation to the socio-demographic characteristics of respondents in the survey and highlighted the demographic characteristics of both survey groups were similar and hence comparable for subsequent analyses. The following chapters present the analyses of the qualitative themes, as well as statistical analyses relating to the quantitative outcomes of both survey groups.

Chapter 7

Radiation therapists' immediate responses to hypothetical FTP dilemmas

The findings of the papers reporting the definitions and determinants of FTP were used to create a national online survey which was distributed to RTs in Australia.[178,287] The survey consisted of eight hypothetical FTP dilemmas, two relating to impairment, four concerning competence and two involving values and ethics related issues. The survey sought to achieve the following research aims:

2. Determine the understanding that RTs have with respect to FTP in RT

3. Determine any gaps in the knowledge of RTs in relation to FTP

5. Determine RTs perceptions on the reporting of sub-optimal practice

6. Determine RTs responses to hypothetical FTP dilemmas

8. Advance the theoretical understanding of FTP in RT and the broader health field

The first section of this chapter comprises a publication relating to the immediate responses of RTs to the dilemmas depicting scenarios of impairment (mental and physical). The second section presents the findings and discussion relating to the immediate responses of RTs to the competence dilemmas and the third section the values and ethics dilemmas. The latter two sections are currently being prepared for publication. The results of the immediate responses to the impairment dilemmas were published in

The Journal of Medical Imaging and Radiation Sciences and an exact copy of the paper is presented in the following section.

Monash University

Declaration for Thesis Chapter 7

Declaration by candidate

In the case of Chapter 7 the nature and extent of my contribution to the work was the following:

Nature of contribution	Extent of contribution (%)
Study design, data collection and analysis, writing of manuscript	85%

The following co-authors contributed to the work. If co-authors are students at Monash University, the extent of their contribution in percentage terms must be stated:

Name	Nature of contribution	Extent of contribution (%) for student co-authors only
Marilyn Baird	Intellectual input on study design, data analysis and manuscript editing	N/A
Michal Schneider	Intellectual input on study design, data analysis and manuscript editing	N/A
Brian Jolly	Intellectual input on study design, data analysis and manuscript editing	N/A

The undersigned hereby certify that the above declaration correctly reflects the nature and extent of the candidate's and co-authors' contributions to this work*.

Candidate's Signature		**Date 17/08/15**

Main Supervisor's Signature		**Date 17/08/15**

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7.1 Introduction

Fitness to practise (FTP) is a concept that has been embraced by regulatory bodies in Australia, the United Kingdom, Canada and a number of other countries. It is one of the mechanisms used to ensure that professionals are performing to the level expected in all dimensions of practice including: competence, their professional values, attitudes and ethics and freedom from impairment.[14,178,287,317] In order to conform to the principles of FTP, professionals need to be able to recognise what constitutes a departure from accepted professional standards, with respect to impairment or sub-optimal performance in their own capacity or that of a colleague. A practitioner's ability to identify lapses in professionalism has been highlighted as important to the validity of professional standards.[360] However, the identification of such lapses may prove challenging because most professional issues are multi-faceted and incorporate moral, legal, regulatory and philosophical principles.[264]

7.2 Literature review

Within the radiation therapy (RT) profession a number of determinants of FTP have been identified.[287] These are incorporated into the professional capabilities developed by the Medical Radiations Practice Board of Australia (MRPBA).[17] Although FTP for radiation therapists (RTs) is articulated at a regulatory level through these capabilities, there remains confusion about how RTs define FTP and as to what they perceive the elements of FTP include.[178] Of equal concern is the lack of clarity amongst RTs about how FTP and issues surrounding impairment relate to everyday clinical practice.[178,287]

It has been postulated that practitioner impairment arises when a physical, mental or substance-related condition impedes a practitioners' ability to perform professional activities competently and safely.[361,362] Physical and mental impairment were identified as key themes in the classification of the determinants of FTP in a previous study undertaken by the authors, however practitioners very seldom considered these to be part of FTP.[178,287]

Issues associated with impairment such as anxiety, mental illness and depression occur commonly among health practitioners.[361,363] The results of a study undertaken in the USA in 2003 investigating disciplinary action for Physicians identified that 65/308 (21%) reported cases were associated with some form of alcohol/drug related impairment, however, other physical health related impairment issues were not cited.[325] In addition, research investigating physician responses to professional dilemmas in 2000, indicated that 780/961 (81%) of participants gave acceptable responses for dealing with physician impairment dilemmas. One of the dilemmas in this study posed a situation where two students and a resident smelled alcohol on the breath of an attending physician.

Participants were then asked what they would do if they were in the position of the chief of service at the hospital (only one response could be selected): approach the physician and question them, talk to friends and family members of the physician and see if they suspect a drinking problem, review the physicians file and monitor them or report them physician to the Board of Medical Examiners. Thus 19% of the response choices were considered inappropriate, which is of concern if these results are to be generalised to the wider population of physicians.[264] Although both studies were undertaken more than a decade ago, similar issues remain in todays' health care environment.

Impairment issues have also been reported in the medical radiations practice (MRP) profession. In 2014 there were two UK hearings for Radiographers who were alleged to have been intoxicated with alcohol whilst at work.[119,364] One practitioner was suspended after a colleague noticed that she was not performing basic tasks despite prompting and appeared 'vacant' throughout the day. It was subsequently discovered that she had been consuming alcohol whilst on duty.[119] The details regarding FTP hearings for Australian health practitioners (including radiation therapists) remain un-published, unlike those from hearings of the Health and Care Professions Council (HCPC) in the UK, that are published on the HCPC website.[119] However, the annual Australian Health Practitioner Regulation Agency (AHPRA) report for 2013/14 indicated that 232/890 (26%) of notifications for all practitioners registered with APHPRA were based on concerns about practitioner impairment. In addition, 51/890 (6%) of the notifications made were related to alcohol or drug related impairment, with four notifications made for medical radiations practitioners' (MRP) health impairment.[8]

Under Australian National Law, (Health Practitioner Regulation, National Law Act) practitioners are required to declare any impairment they have at the time of application for registration and are also are obligated to report colleagues if they suspect their FTP is impaired.[362] The implications of allowing an impaired colleague to work include: compromised patient and staff safety. There could also be ramifications from the regulatory body for those professionals who allowed an impaired practitioner to continue working. Enactment of the notification processes ultimately relies on practitioners having an understanding of what constitutes impairment and being equipped with the knowledge of how to exercise mandatory and voluntary reporting mechanisms. In addition, practitioners also need the confidence and courage to be able to respond in an appropriate way, irrespective of the environment in which they work.

7.3 Aim

This paper reports on the findings from two open-ended impairment dilemma questions presented to RTs. The primary aim of the study was to further understanding of practitioner interpretations related to professional responsibility, by identifying the range of responses to two hypothetical professional impairment dilemmas. The secondary aim of the study was to inform an educational strategy for improving reporting occurrences.

7.4 Methods

The methods and results presented in this paper constitute part of a larger sequential, exploratory, mixed-methods study, based on a nation-wide survey. The first phase of the study investigated how RTs defined FTP and what they perceived to be its determinants.[162] The findings of the first phase were utilised to develop the second phase

of the study, part of which is reported in this paper. Ethics approval was granted for a pilot study initially and subsequently for the study proper by the Monash University Human Research Ethics Committee (30/5/2012 Project number 2012000825).

7.4.1 Survey instrument development

The initial design (not content) of the survey tool (the use of FTP dilemmas) was based on previous studies investigating medical professionalism.[264,365] The survey was constructed in two parts. The first section contained closed-ended socio-demographic and employment related questions (gender, age, cultural background, number of years working in the profession). The second part of the survey contained an open-ended question related to each FTP dilemma, asking what the respondent would do in that situation. The use of free text answers in section two of the survey allowed for authenticity and uniqueness in the responses.[366,367]

7.4.2 Scenario development and pilot study

An anonymous online, scenario-based survey was used for data collection. FTP dilemmas were written by practising RTs. Validation of the dilemmas was undertaken by three RTs, all of whom had more than fifteen years' experience in the profession (one academic, and two clinical practitioners both of whom had been representatives on State registration boards). The survey containing FTP dilemmas, some with closed-ended multiple choice response options and others with open-ended (free text) response options was piloted on a random sample of 20 RTs with varying levels of experience, from the State of Victoria.[368] The pilot results indicated that the richest data was yielded from free text as opposed to multiple-choice responses. The survey was too long in its pilot form (with eight different

scenarios, taking on average 37 minutes for completion) and one scenario was out-dated. Thus the survey was divided into two because the previous research identified a range of determinants of FTP of equal importance and we wanted to ensure that each was represented in the survey. In order for the workload per respondent to be manageable we decided to split the scenarios into two groups, each taken by a different sample of participants from the same population. The aim of the study was primarily to investigate individual's interpretations in a qualitative way. As such, the increase in variables that may have occurred by virtue of having two groups of participants completing two different surveys was not important, we were not trying to control variables in this study. Each survey included one dilemma related to impaired FTP, as depicted in Figure 7.1. It is the results of the Impairment dilemmas that are reported in this paper).

Survey 1 (Scenario 1)

You and your colleague are rostered for an early shift on a treatment unit and you have a fully booked schedule for the first hour. Your colleague arrives 15 minutes after the scheduled start of the shift and you are now running late. You notice that your colleague is having difficulty in focusing on the tasks at hand and you smell alcohol.

Survey 2 (Scenario 6)

You are working with a colleague who has been practising safely for many years but today you see him/her exhibiting problems with fine motor skills. You notice that his/her hands shake and they are finding it difficult to use the hand pendant and position the patient.

Figure 7.1 Impairment dilemmas

7.4.3 Recruitment, sampling and survey strategy

A convenience sample of Australian RTs was recruited via an email with an electronic link to the survey. The survey was circulated by the professional body (Australian Institute of Radiography) to its radiation therapy membership. In addition, all Chief RTs/RT managers were emailed with study information to disseminate via email to clinical staff. Also, hard copy flyers were distributed at a national conference. A link to the survey was posted on the institutions' website and instructions as to which survey participants should access were posted on the website survey link. Participants were allocated into one of two survey groups each posing different dilemmas. Those with surnames starting with the letter A-M were asked to follow a link to survey 1 and those with surnames starting with the letters N-Z were directed to a link to survey 2. Participant study information was provided for all respondents on the first page of the survey and consent was implied upon completion of the survey.

7.4.4 Data analysis

Qualitative data analysis of the free text responses was guided by grounded theory.[20] However, because the survey had specified release and close dates, during which as many responses as possible were captured, theoretical sampling and iterative data collection and analysis were not undertaken.[20,199] Initial open coding was undertaken using NVivo10 to analyse the data 'line by line' for each of the two cases (dilemmas). Open coding was followed by axial coding where properties were assigned to subsequently formed categories and sub-categories. Memos, (consisting of comments and reflections on themes and concepts) were used to constantly compare the data codes and relationships within the data and between the different dilemmas (constant comparative analysis).[20,369] A

second independent coder checked the coding and categories, so that inter-coder agreement was achieved.[199]

7.5 Results

Emergent themes

Analysis of the data revealed a varied range of perspectives to the two impairment dilemmas that are reported on in this paper. The key theme reported in this paper: 'Dealing with the situation' (Figure 7.2) was characterised by respondents suggesting that they would act immediately following the event, either by confronting the situation or avoiding it. The responses were predominantly immediate verbal interactions with the hypothetical practitioner (HP), sometimes of a very challenging nature, other times with a more sensitive approach. There were also participants who indicated a more 'physical/behavioural' immediate response following the verbal reaction.

Figure 7.2 Key theme and sub-themes emerging from the impairment data

Participants frequently described their initial response as attempting to confront the situation and or the HP immediately. Often, this confrontation was initially approached by verbally raising concerns with the practitioner with a question relating to their suspicions about impairment or a statement as to what they had observed;

> *'I would speak to the person to ascertain if there was a reason for the change of behaviour.'* DSIVQS6:2

The verbal interaction was often followed by a suggested physical act. These were represented by two sub-themes: 'Remove the HP from the situation' and 'Stop working'.

7.5.1 Removal from the situation

Ninety-two of 180 participants indicated that they would remove the HP from the situation (62/108 participants who responded to the alcohol intoxication dilemma and 30/72 who responded to the physical impairment dilemma). A number of examples as to how the HP could be removed from the situation were stated: through a request for the colleague to sit in the staff room, take a break, go home or be transferred to another area of work. One participant stated:

> *'At the first available opportunity, not in the presence of patients, I would ask the colleague if they are feeling ok. If they say they are fine I would bring my observations in a non-accusational way and say that maybe they should take a break or go home.'* DSRCES1:15

Transferring the HP to another area of practice was considered a possible option for both impairment scenarios, allowing them to recover away from patient contact, whilst continuing to go about other work activities:

> *'Ask if they are ok and if they would like to be re-assigned to some less clinical tasks such as administration work.'* DSNPCTS6:10

Another example of removal from the situation was the request that the practitioner

should sit in the staff room away from the clinical environment to re-gain their composure. Nineteen out of the ninety-two (20.6%) participants who suggested 'remove from the situation' opted to recommend that the HP should be sent home or leave the clinical centre for the day:

> *'Tell them that you've noticed they are off their game and suggest that it might be a good idea if they go home...obviously you don't want them driving though if they are intoxicated, so see if someone else can take them home.'* DSSPHS1:3

Eight of the 19 participants suggested that they would report their colleague 'sick or ill' at the time of sending them home:

> *'I would ask my colleague to report that they were leaving work on sick leave.'* DSSPHSS1:9

7.5.2 Stop working

A decision to 'Stop working' was suggested by a number of participants who responded to the alcohol intoxication dilemma. The responses were very assertive and concise, where some participants stated that they would immediately refuse to work with their colleague:

> *'If I am not comfortable working with the colleague, I would not continue to treat patients.'* DSSWS1:13

> *'...stop treatment, tell patients the machine is "broken down", wait for chief/charge to come in and take colleague off treatment.'* DSSWS1:33

One strategy of dealing with the situation was for respondents to attempt to circumvent the immediate issue or avoid making a decision as to whether the HP was impaired. The essence of this approach is captured in three sub-themes: carry on working, avoiding responsibility and giving the practitioner the benefit of the doubt.

7.5.3 Carry on working

Participants suggested that they would carry on working by seeking assistance from other staff, irrespective of the situation at hand. Staff did not indicate that they would address the problem itself 'head on' and their focus was to continue with the work-load and treating patients:

> *'I notice you are having trouble focusing on the task and I can smell alcohol on your breath, I would like to get someone else to work with while you take a break.'* DSCOWS1:5

> *'Ask another RT to take over from the RT exhibiting difficulties.'* DSCOWS6:9

In addition, a minority of participants said that they would discretely get a third person to work with them rather than verbally acknowledging the issue:

> *'...I would not say anything and just go to get someone to be a third person working with me.'* DSCOWTPS1:40

7.5.4 Avoiding responsibility

Responses that were coded to this sub-theme cited referring to colleagues to provide reassurance and confirmation that there had been a departure from accepted standards of practice. The responses indicated a shift in responsibility from being 'shouldered' by one individual to being shared:

> *'...talk to my team members or senior and see if they noticed anything abnormal about my colleague, then I would take it from there with them.'* DSPBPDS1:3

In the case of the physical impairment dilemma this theme included referral to a medical practitioner:

> *'...ask the person if they are ok and probably get them to see either the nurses or a Doctor.'* DSARS6:15

7.5.5 Benefit of the doubt

Giving the practitioner the benefit of the doubt was raised by a number of participants. Two of the responses suggested that if the incident had never occurred previously, they would not take any action and carry on working, however if it was a second instance then they would take action:

> *'I believe if it is a first instance that it has happened you should try and work with your colleague before robbing straight to management as alcohol abuse is a terminate able offense.'* DSBODS1:2

Other participants indicated that they would question the practitioner about being on any medication or try to ascertain whether they were experiencing ill-health, but carry on working with them:

> *'Some conditions can come across as drunk, so I would ensure someone ascertains the person is not sick.'* DSBODS1:7

7.6 Discussion

To our knowledge, this is the first time that the responses of RTs to hypothetical practitioner impairment dilemmas have been investigated. Participants suggested a range of immediate verbal responses that they would use for both impairment dilemmas, such as questioning the HP's capacity to practise safely. Similarly, verbal challenges were the courses of action for medical students when asked how they would manage professional dilemmas, although these related more to sub-optimal professional attitude and competence rather than impairment.[370] In addition to verbal responses, bodily acts of resistance such as remaining at the scene or leaving the scene of a professional issue were suggested to have been proposed by respondents in the same study.[370] This reaction may be comparable to removing the practitioner from the situation and stopping work. It must

be noted however that none of the dilemmas in the medical student study were related to impairment and the respondents were medical students, not RTs who work in different physical spaces and cultural environments.

There were conflicting outcomes relating to the emphasis that participants placed on getting on with the daily workload and treating patients. Respondents who were inclined to 'confront the situation' would do so by actions that meant the HP ceased work that involved patient contact, thus impacting on the timeliness of patient treatments and workload. The decision of a practitioner to suggest a response such as 'Avoiding responsibility', 'Carrying on with work' and 'Giving the benefit of the doubt', may not impact significantly on the daily workload. It was unclear if the participants' desire to continue with the workload related to intrinsic or extrinsic influences such as a misguided sense of altruism or organisational pressures to keep the day running on time. Research into the impact of the workplace organizational structure upon practitioner decision-making may provide much needed insights into this situation. It is quite possible that different organisations might deal with the same problem in radically different ways.

Recommending the HP moving to an area of practice where they were not in contact with patients may help to normalise the day and keep the work-flow maintained, however, even if the HP were transitioned from treatment to planning duties their impairment may compromise their competence to undertake tasks. Avoiding responsibility or referral to another member of staff may be due to a lack of confidence of the part of the radiation therapist in dealing with the dilemmas. This was certainly the case in a study of Physicians' reporting of substance misuse, where 50% of survey respondents indicated they were not confident in dealing with this type of issue.[371]

Chief RTs/RT managers should therefore support staff to develop skills in managing this type of situation.

Respondents indicated that they would 'cover/protect' their colleague, such as those who identified that they would suggest that their colleague go home sick. This also extended to the responses that indicated they would give their colleague the benefit of the doubt. There is, however, a risk that recurrent instances of sub-optimal practise for the same practitioner could go un-noticed, thus putting patients and members of the team at risk.

Practitioner situational awareness may impact on the response to impairment dilemmas as is seen in other decision making situations. The concept of situational awareness arose out of the aviation field and was used in anaesthesia and surgery to investigate errors before being used in other areas of medicine and nursing.[372,373] Its relevance to the results of the current study are that cognitive factors, such as ability, preconceptions, memory and information processing, together with system factors, such as system capability, complexity, automated machinery, stress and workload affect decision making capability. Even though the literature in this area relates to often technically derived error situations[374], the same factors may be attributed to the 'in-action' decisions made about practitioner performance. This is one of the reasons why reflective practice has been incorporated into entry-level curricula and also the MRPBA professional capabilities. More in depth investigation is required into the relationship between situation awareness and decision making about the professional capability of practitioners, as it has been highlighted in previous publications as a key aspect to 'safety culture' in radiation therapy.[375,376]

7.7 Limitations

It is unclear if participants' suggested responses would actually be the same if the dilemma occurred in reality and there may be a positive bias towards practitioners reporting socially desirable behaviour.[377] Non-response bias may also have occurred, where only practitioners who were interested in the topic may have responded.[261] There are no guarantees that participants followed the correct survey link according to their surnames. In addition, because the survey was anonymous there was no way of being able to check that participant self-allocation to survey group was correct.

7.8 Conclusion and recommendations

Practitioners' interpretations of the impairment dilemmas varied, which in turn influenced their suggestions of how they would deal with these instances of sub-optimal practice. This finding supports the basic sociological premise that people act towards socially constructed phenomena on the basis of the meaning they have for them. Whilst practitioners are obliged to abide by the regulatory organizations' Code of Conduct, in their day to day work many other factors shape the ultimate response they each make to a given situation. As a result, impaired practitioners may be allowed to continue to practice for some time.

Concepts related to situation awareness, confidence and ethical responsibility may be useful in attempting to explain why these different response options were chosen by the participants. At the same time regulators might consider utilising a scenario based approach within an overt educational strategy to raise awareness of FTP issues such as impairment. There are also implications for educational institutions that deliver entry

level health professions programs. Accreditation guidelines for programs seeking approval by Registration Boards, should oblige FTP concepts to be embedded into courses. In addition, accreditation guidelines should recommend that Faculties have policies and mechanisms to ensure the FTP of their students because unless students are socialised into FTP before they enter the profession, they may be less likely to conform once they graduate.

7.9 Radiation therapists' responses to hypothetical dilemmas concerning competence - Introduction

This section presents the findings of the investigation into RTs immediate responses to FTP dilemmas related to competence. The survey presented four dilemmas depicting a range of different competence issues that RTs may encounter in their day to day practice (Figure 7.3). The key theme reported in this section, as outlined in the previous publication[286] was 'dealing with the situation'. A range of themes for the competence dilemmas emerged (Figure 7.2) some of which were the same as those from the impairment data, such as 'carry on working' and 'stop working' (Figure 7.4). However, these themes had different relevance for each of the competence dilemmas. There were also new themes which emerged from the data and these were different to those from the impairment dilemma data, such as 'remediation' (Figure 7.4).

7.10 Findings

Similarly to the immediate responses of RTs to the impairment dilemmas, more often than not the first reaction the RT would suggest in response to the competence dilemmas was an immediate verbal interjection. This allowed the RT to 'raise their concerns' about the nature of the competence issue with the hypothetical practitioner. There were a variety of different ways in which the RTs portrayed this initial verbal interaction with the hypothetical practitioner. In most cases the immediate verbal responses were presented in a less confrontational manner than for the impairment dilemma related to alcohol intoxication. The verbal responses often involved the RT enquiring about the hypothetical practitioner's perspectives on the issue which had been posed as a FTP dilemma.

This was then followed up with the offer of support (personal or referral to another practitioner) in an attempt to rectify the issue.

Survey 1 (Scenario 2: Repeated mistakes)

A Radiation Therapist has recently joined your team in planning. He/she had been working on the treatment units for about a year prior to coming to planning. You begin to notice over several weeks that he/she continues to make the same mistakes on the same techniques. He/she does not seem to understand the basic principles of planning and shows minimal evidence of progression and learning. You are forming doubts about his/her ability and competence.

Survey 1 (Scenario 3: Inaccurate set-up)

You are working with a senior practitioner setting up a patient who is to receive palliative treatment to the thorax for late stage lung cancer. You notice that your colleague does not position the isocentre of the field accurately and it is 'off centre' by more than 2cm and they exit the room ready to 'beam-on'.

Survey 2 (Scenario 5: Recency of practice)

You are working on a busy linac and your colleague has called in sick for the early shift of the day. The radiation therapist (RT) who has agreed to cover your colleague has worked solely in Brachytherapy (Brachy) for the past 5 years. You need to make a good start to the day so that patients are not waiting too long for their treatment and the list of patients to treat are mainly complex Head and Neck IMRT techniques.

Survey 2 (Scenario 8: Potential dose error)

You are performing a first day machine check for a new case conformal technique to the brain and notice that one beam exits through the eyes. You query this with the planner who states the senior RT in planning actually took over the plan and came up with the final beam arrangement. When you point out that the eyes are in full beam the planner states they brought that fact to the Senior RT's attention; the Senior RT stated that given the diagnosis and prognosis the patient will in all likelihood be deceased before late sequelae manifest.

Figure 7.3 Competence dilemmas

Remediation

Responsible
referral

Benefit of
the doubt

Raise
concerns

**Dealing
with the
situation**

Stop
working

Avoiding
responsibility

Carry on
with work

Creating a
supportive
environment
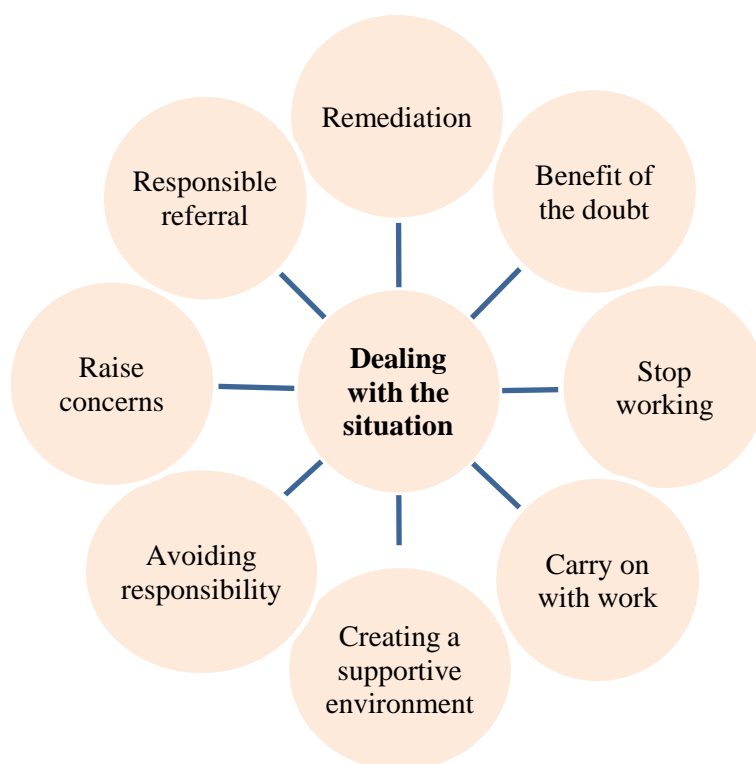
Figure 7.4 Themes related to 'dealing with the situation for competence dilemmas

7.10.1 Theme 1: Raise concerns

The theme 'raise concerns' related to the respondent suggesting that after identifying the
FTP issue, they would immediately raise it with the hypothetical practitioner. The data
was sub-themed for the competence scenarios into the different approaches taken to raise
the concerns, such as 'discreetly', 'diplomatically' and 'assertively'.

Use of a 'discreet approach' to raise the concerns with the hypothetical practitioner was
intimated by respondents on a number of occasions. The properties of the discreet
approach included: speaking to the RT in private and cautiously. This approach was used

particularly in the repeated mistakes and inaccurate set-up dilemmas. For example, a respondent from the repeated mistakes dilemma suggested:

'Take her [RT] aside discreetly and speak with her about what has been noticed. Ask her if there is underlying issues as to why she is not performing.' DSIVSRCDS2:42

An example of taking a 'discreet approach' to raising concerns about the inaccurate set-up dilemma with the hypothetical practitioner was suggested by one RT who stated:

'Ask them to come back, and quietly, so that the patient is not aware, mention to them where the isocentre is meant to be.' DSIVSRCDS3:23

A 'diplomatic' approach to raising concerns about the issue was taken by some respondents in all four competence scenarios, particularly the inaccurate set-up (40/108 responses) and recency of practice scenarios (46/72 responses). The properties of this approach were identified as: demonstrating tact and sensitivity in the response, for example:

'Have a chat about their progression (or lack of) and show evidence of their plans and what is wrong.' DSIVSRCDPS2:15

'Call the other RT back into the room saying that I was not sure the isocentre had been positioned correctly and I would like to double check it.' DSIVSRCDPS3:31

'Firstly, I would ask if the person is confident and happy to be treating complex cases. As they are qualified I would trust their judgement as to whether they were up to the task. Otherwise I would swap a person from a less complex machine where the brachy RT would be more comfortable.' DSIVSRCDPS5:10

'I would ensure the prescribing radiation oncologist was aware of the exit dose to the eye. I would point out to the radiation oncologist that other beam

arrangements may be possible which may offer a better outcome to the patient.' DSIVSRCDPS8:56

An 'assertive' approach was observed in the responses to the dose error dilemma (52/72 (72.2%) of responses) and the inaccurate set-up dilemma (31/108 (28.7%) of responses). The property of this theme included: the RT portraying confidence and insistence in their response (but not aggressiveness), such that the RT felt strongly that they wanted to ensure the issue was dealt with in the appropriate way:

> *'Refer the matter to the Radiation Oncologist who has signed the plan off as well as the senior RT. State your objections to the situation.'* DSIVSRCAS8:6
> *'Tell the staff member you think an error has been made and ask them to re-enter the room with you to check patient positioning.'* DSIVSRCAS3:33

7.10.2 Theme 2: Remediation

One theme which emerged from the repeated mistakes dilemma was expressed as 'the provision of remediation'. This was cited as an attempt to bridge the skill or knowledge deficit and improve competence. The properties of this theme included the suggestion of additional training, either informally (one on one trouble-shooting during the working day) or formally (specially arranged tutorials or courses with an educator or local expert in the area).

There were 75/108 (69.4%) of respondent suggestions relating to the provision of remediation for the repeated mistakes dilemma. Over half (43/75 (57.3%)) of the RT responses in this theme suggested they would enquire as to whether the hypothetical RT knew they had been making mistakes and they also suggested they would try to ascertain

through informal discussion, where the gaps in understanding were, prior to providing an intervention:

> *'…ask them to explain to me the process they go through in planning the technique, questioning their understanding as we move through the process.'* DSIVQDUS2:11

> *'I would gently probe the RT in question to try to ascertain if they were struggling with understanding concepts.'* DSIVQDUS2:47

> *'Discuss with RT how they think they are going, what they think they could use some help with.'* DSIVQDUS2:5

There were two sub-themes which were created relating to remediation for the repeated mistakes dilemma: 'personal support' (provision of support from the practitioner themselves) and 'referral for support' by another member of staff. One practitioner gave an example of what they had done in a similar situation regarding the provision of remediation for an RT who was not competent:

> *'I usually approach the person in private and communicate my concerns in a quiet, professional manner and offer to tutor them and work one-to-one with them until their knowledge is improved.'* DSIVRASPS2:61

Another practitioner suggested the following strategy for providing personal support:

> *'…ask if they would like someone to sit with them whilst planning to help… devise a mini re-training program for the person.'* DSIVRASPS2:80

There were numerous examples of the RT referring the hypothetical RT for support from other members of the team, ('referral for support') particularly clinical educators and line managers as the following examples demonstrate:

> *'Talk to the RT first to see what the issues seem to be, contact the area supervisor and educator to work out a program to help the RT.'* DSIVRASRS2:81
> *'It would need to be brought to the attention of the head of the planning department immediately, to ensure a rigorous mentorship program was initiated.'* DSIVRASRS2:73

7.10.3 Theme 3: Creating a supportive environment

One of the sub-themes which emerged from the responses to the recency of practice scenario was 'creating a supportive environment'. The difference in the properties between this and the provision of supportive intervention was that this was not a strategy to provide training in an area where competence was deficient. It was, however, concerned with creating an environment where the hypothetical RT and the respondent felt comfortable at the time of the event in actioning their decisions. Thus actively seeking to provide a supportive atmosphere to work in at the time:

> *'I would still work with them however I would communicate everything I was doing out loud, and maintain vigilance that they were doing everything correctly...I would also encourage the colleague to verbalise anything they were unsure of.'* DSCSAS6:15

> *'Take 10 minutes to talk with RT and ensure all key principles are clear and we both understand days needs and address any questions they may have.'* DSCSAS6:41

> *'...ensure the brachy (sic) RT is comfortable with decisions taken prior to treating patients.'* DSCSES6:6

> *'...explain the processes to the other staff member during the procedures. Try to avoid allowing the patient to recognise the relative inexperience of any other staff members.'* DSCSAS6:41

7.10.4 Theme 4: Carry on with work

This is a theme which emerged from the impairment dilemmas and was also relevant for the recency of practice, inaccurate set-up and dose error dilemmas. Similarly to the

impairment dilemmas, this theme related to participants suggesting they would carry on working. For the recency of practice dilemma (40/72 responses (55.5%)) this was either with or without the assistance from other staff members. The main impetus was to continue with the work-load and treating the daily load of patients. Participants suggested they would take the lead role in treating with the hypothetical practitioner and continue to work with them until the rest of the team arrived:

> '*Act as the lead RT, until the other RT can be replaced by someone who has worked on a linac more recently.*' DSCOWS5:3

> '*I feel confident enough in my own abilities to lead the setup whilst guiding the 2nd RT. If very concerned I'd ask them to swap with a planner or other machine RT temporarily until late shift staff arrived.*' DSCOWS5:24

> '*Since I have 9 years' experience, I would feel confident to work with this RT. We would just need to take our time so that they feel comfortable treating the patients. OK to run late as long as everyone is confident with what we are doing.*' DSCOWS5:40

> '*Take the lead role and check what the other RT is doing. Get on with the day.*'DSCOWS5:60

Other practitioners did not see a problem with continuing to work with the practitioner irrespective of whether their competence level was acceptable or not.

> '*Keep working as normal, what's the problem? You are there to do a job, no matter how long it takes.*' DSCOWS5:19

Carry on working was also exemplified by practitioners for this scenario by swapping the hypothetical RT for another member of staff, to enable the working day to continue:

> '*Organise with management for a more suitable, recently practised RT in H&N IMRT techniques and protocols.*' DSCOWS5:21

'Ask if someone from another machine can switch – perhaps the brachy RT can treat on another machine (e.g. one with breasts) that has not changed much in the last 5 years.' DSCOWS5:67

Arrange for an alternate colleague who has had recent linac experience to cover.' DSCOWS5:71

An interesting response was provided by a respondent who had first-hand experience of a recency of practice issue similar to the one depicted in the dilemma:

'There is potential for risk in this scenario. However from first-hand experience I suggest risk mitigation is dependent upon the RT's confidence in the technical competence of the relieving Brachy RT. I work concurrently in brachy and management and ensure I keep abreast of rapidly evolving RT practices. However if technical confidence did not exist I would have no hesitation in declining the offer of help from the brachy RT in lieu of another colleague. When time allowed I'd debrief the brachy RT regarding my decision. I have actually been in the position where a staff member didn't feel comfortable treating with me as I'd yet to work on the 'new' machine. I had no problem with his openness and honesty.' DSCOWS5:9

There were only 2/72 (2.8%) responses for the dose error scenario indicating they would carry on working:

'I would bring the issue to the attention of the treating oncologist, I would treat a single fraction if it did not exceed the standard accepted tolerance for that organ and resolve the issue with the help of the Radiation oncologist after treatment in necessary.' DSCOWS8:31

'I would do nothing, the planner and checkers and the RO are responsible.' DSCOWS8:65

Carry on working for the inaccurate set-up scenario was exemplified by respondents suggesting they would continue with work, but correct the situation. This was always accompanied by a statement that they would make the hypothetical RT aware the change had been made:

> *'I would move it to where I was happy on the Isocentre, then walk out and tell the other person what I had done and that I was now happy to proceed.'*
> DSCOWS3:22

> *'Set the centre myself, call the colleague back into the room to confirm the centre.'*
> DSCOWS3:55

> *'Draw to colleagues attention and suggest pre-treatment imaging without alarming patient.'* DSCOWS3:59

7.10.5 Theme 5: Stop working

The intent of the responding RT to stop work immediately featured in three of the competence scenarios. There were no responses related to this theme for the repeated mistakes dilemma and only 4/72 (5.6%) for the recency of practice scenario, where temporarily stopping work to find another team member to then continue treating was the context of the theme for this scenario as depicted in the following examples:

> *'Not acceptable, await suitable replacement or postpone appointments.'*
> DSSWS6: 33

> *'Wait to treat with someone who has recent experience/is familiar with the machine, has read the safety notes etc., even if patients are delayed.'*
> DSSWS6: 34

This response did not suggest any strategies of what the hypothetical practitioner might do after it was decided their services would not be required.

Quality of patient care needs to be maintained so if I had any doubts about the ability of the staff member available to support me in this I would wait until a more suitable person was available.' DSSWS6:63

Ten out of 108 (9.3%) respondents suggested 'stop working' for scenario three, the inaccurate set-up, dilemma. Stop working (temporarily) was accompanied by the quest to find another member of staff to provide another opinion in some cases and in other cases until the problem had been solved by the two attending RTs:

'In no way would I beam on without being satisfied that the treatment will be correct. If necessary, I would get a third opinion from another RT, or refuse to treat the patient until one was available.' DSSWS3:47

'You immediately stop the staff member from beaming on and ask for them to review the setup and placement of isocentre. I would not treat anyone when the isocentre was incorrectly located and would have dealt with the situation prior to leaving the treatment room. If they insist on going ahead I would refuse to treat the patient and ask for a second opinion.' DSSWS3:86

Temporary cessation of work was also a response for RTs who answered the dose error dilemma, although only 5/72 (6.9%) explicitly suggested this and it was accompanied by the suggestion of referral to a senior or RO.

7.10.6 Theme 6: Responsible referral

Referral to another member of staff at the time of the occurrence was exemplified in the dose error scenario. In the case of this dilemma, many of the responses suggested they would refer to the prescribing RO and/or senior practitioner prior to irradiating the patient:

'Do not proceed escalate to senior level or radiation oncologist.' DSRRS8:13

'Refer the matter to the Radiation Oncologist who has signed the plan off as well as the senior RT. State your objections to the situation.' DSRRS8:6

'Call the RO and ensure that they are aware of the situation. Occasionally the oncologists overlook details on busy dvh's (Sic).' DSRRS8:12

'...immediately discuss with Oncologist to make sure they are aware of this in plan. I would not commence any treatment until I was satisfied.' DSRRS8:32

'Address it with the senior RT and if unsatisfied with their response discuss your concerns with the prescribing radiation oncologist.' DSRRS8:38

Referring to another member of staff to seek reassurance in the event of a potential dose error was considered distinct from 'passing the buck', where the RT might suggest referring to another practitioner in order to devoid themselves from taking on the responsibility for making a decision about a practitioner's FTP.

7.10.7 Theme 7: Avoiding responsibility

Interestingly, some RTs who provided responses to the inaccurate set-up dilemma preferred to 'pretend' the patient had moved so they avoided the situation. In doing so they avoided having to take the responsibility of letting the hypothetical RT know the real reason why they wanted to re-set the patient's treatment:

When exiting the room, tell them that the patient had moved & needed to be re-set. DSARS3:92

I wouldn't leave the room until I was happy. I would say something like 'I think we've (sic) rolled, can we check the setup'. DSARS3:97

There were two responses indicative of avoiding responsibility for the dose error dilemma where the respondent suggested they would:

> *'Do nothing; the planner and checkers and the RO are responsible'* DSARS8:65

> *'If the Dr has signed off on it then they have accepted the dose to the contralateral eye.'* DSARS8:14

7.10.8 Theme 8: Benefit of the doubt

Giving the hypothetical practitioner the benefit of the doubt emerged as a theme for two of the dilemmas. Responses (8/108 (7.4%)) from the repeated mistakes dilemma indicated reasons such as: participants not having trained locally, and lack of familiarity with software may have been attributed to the low competence levels of the hypothetical RT:

> *'Talk to them to see how they think they are going. Maybe they are not familiar with the software.'* DSBODS2:25

> *'Depends where they trained. Some countries (UK, Canada) do not give dosimetry training to radiation therapists. Therefore, maybe they do not know the fundamentals of planning.'* DSBODS2:38

The responses to the recency of practice dilemma (35/108), exemplified the benefit of the doubt in respondents suggesting that if the hypothetical practitioner said they were confident in the techniques being treated, then they would continue:

> *'If the Brachy (Sic) RT is confident in their Linac ability, then I will allow it.'* DSBODS6:8

> *'Firstly, I would ask if the person is confident and happy to be treating complex cases. As they are qualified I would trust their judgement as to whether they were up to the task.'* DSBODS6:10

7.11 Discussion

There were four dilemmas presented as part of the competence group, all of which were related to different aspects of competence. Each dilemma was interpreted in a multitude of ways by RTs. As such, practitioner suggested responses represented a complex mix of actions influenced by both their situational and environmental context and also by their personal values and attributes. Consequently the original five themes identified from analysis of the impairment dilemmas (carry on working; stop work; avoid responsibility; and benefit of the doubt) were expanded upon. Where these particular themes have been discussed earlier in the chapter they will not be re-visited as part of the current discussion.

The dilemmas presented in this group, were arguably not serious enough to warrant mandatory notification to the MRPBA, however they may fit the criteria for voluntary notification:

> *'the practitioner's professional conduct is, or may be, of a lesser standard than that expected by the public or the practitioner's professional peers… and the knowledge, skill or judgement possessed, or care exercised by the practitioner is, or may be, below the standard reasonably expected.'*[378]

The four competence dilemmas were situations the RTs may have been more likely experienced in daily practice compared with the impairment dilemmas. It is unclear in the information provided by the MRPBA on their website as to whether practitioners do indeed report these types of competence issues. However, it is clear from the cases presented by the HCPC in the U.K. that these forms of sub-optimal practice would be reported there.[116]

In the U.K. a RT whose competence was deemed lacking was struck off the register. This is a good example of what might be perceived small professional issues to an Australian RT being considered serious enough in the U.K. for the practitioner, firstly to be reported to the HCPC and secondly to be struck off the register.[116] The areas of incompetence in this case included failure to:

1. Carry out linear accelerator procedures in a safe, competent and knowledgeable manner

2. Demonstrate sound patient set-up skills

3. Demonstrate adequate positioning and technique ability

4. Demonstrate the ability to practice autonomously and required supervision and prompting from other staff.

The ways in which the RTs raised the concerns to the hypothetical practitioner may have reflected the cultural norms of their own particular environment. It was evident for the majority of instances, a discreet and diplomatic approach would be used to address the situation. However for the dose error scenario, a more assertive approach was taken by a greater number of respondents. Similarly, in a study undertaken by Espin et al, confrontational approaches were suggested in the reporting of hypothetical errors of nurses. [379] A more assertive approach may have been taken by RTs in response to the dose error scenario because in the field of RT it is more commonly the cases of dose error (albeit more serious than that depicted in the dose error dilemma in this study) which are publicised in the media, and these have a direct impact on patient health and safety. As such a 'harder line' may be taken by RTs to ensure issues are addressed with this form of sub-optimal practice. In addition, dealing with dose calculations and checking dose related data in planning and treatment are routine aspects of the daily work of a RT. Thus,

their confidence in making a judgement call with an error which is quantifiably incorrect may be less confronting for the RT than having to make a decision on a different aspect of professional practice that is not quantifiable, such as an impairment or ethical issue.

In contrast to taking an assertive response to a FTP dilemma related to competence, taking a diplomatic or discreet approach was suggested to encourage cooperation and harmony with the team. These forms of indirect response are typical of those used by collectivist cultures.[380-382] Commonly in practice the work of the RT is very team oriented, with practitioners working in both planning and treatment, forming part of a team who communicate and work very closely with one-another for much of the working day. This team environment, or rather the collectivist culture which may exist by virtue of this team environment, may have influenced RTs suggested responses to the competence dilemmas and how they were communicated to the hypothetical practitioner. While the responses were not indicative of 'covering up' for the colleague (unlike those in the intoxication scenario), RT responses suggesting discreet approaches to respond to the dilemmas, may have been perceived as a way of assisting in 'saving face' for their colleague. Interestingly, members of collectivist groups are suggested to be more prepared to cover up the flaws of others to protect group harmony and the reputation of the group to outsiders.[383]

The themes related to the provision of support for the hypothetical practitioner which emerged ('remediation' and the creation of a 'supportive environment') suggested rather than 'cover up' for the deficit, RTs would check with their colleagues as to what the issue might be and then either offer to assist personally or make a referral for someone else to assist in remediation. The concept of situation awareness highlighted in the discussion

related to responses to the impairment dilemmas, may also play a part in the responses of RTs to competence issues.

Removal of the hypothetical RT from the situation was a common response to the impairment dilemmas. In contrast, suggested responses for the competence dilemmas, were directed more towards providing a supportive environment and strategies to upskill staff. Nevertheless, providing remediation was less common in the responses to the recency of practice scenario where there was the expectation the RT would 'be ok' to treat if they were working with another experienced member of staff. This would place additional responsibility on both members of staff.

Making the decision to continue working with an inexperienced staff member may not be a decision RTs would normally make, but they may have felt compelled to do because of organisational constraints. The RT may not feel morally comfortable making a decision which contravenes their personal ethical stance. The concept of moral distress may be used to explain why RTs may go against their moral preferences. Moral distress occurs when a practitioner knows a certain course of action is the correct one, but they do not pursue it because of institutional constraints.[384]

In the case of the recency of practice dilemma, the RT may be very aware of the safety risks of working with someone who is not at the required level of competence, but may feel compelled to carry on working because of workload pressures. Thus he/she may make the decision to work with the hypothetical RT, even though he/she does not believe it is the correct decision. In order to avoid this scenario, a supportive environment needs to be created in the workplace. Radiation therapists would then feel empowered in

making decisions to temporarily cease the workflow until a suitably experienced staff member can work with them, without fear of repercussions by colleagues and management. It is proposed that individual perceptions of reality influence the moral distress experienced by practitioners.[385,386]

In addition, the perception and context of the constraints, individual values, role perception, culture and the context of each unique situation are proposed to affect moral distress.[387] The responses characterised by the themes of 'avoiding responsibility' and 'responsible referral' might have incorporated mechanisms which allowed RTs to reduce their degree of moral distress. In both these themes the RT suggested handing over the responsibility of decision making to either another RT or, as was the case for the responsible referral theme, to an RO. The concept of moral distress in RTs has not been investigated in the MRP professions. As such, the association between moral distress and the responses to FTP dilemmas warrants further investigation.

7.12 Conclusion

Similarly to the impairment dilemma responses, there were a plethora of interpretations of the dilemmas and this was expressed in RT responses to each. There were however, four competence dilemmas, each depicting a different issue relating to clinical competence and some of which may have been perceived as more serious than others. Concepts related to collectivist culture in RT, situation awareness and moral distress may be useful in attempting to explain why these different response options were chosen by the participants and these should be explored in future research.

7.13 Radiation therapists' responses to hypothetical dilemmas concerning values and ethics - Introduction

This section presents the findings of the investigation into RTs immediate responses to FTP dilemmas related to values and ethics. The survey presented two dilemmas both related to the use of social media, the identity disclosure and bullying threats dilemmas (Figure 7.5). The key theme reported in this section, similarly to the previous publication was 'dealing with the situation'. A number of core themes which were observed in the impairment and competence findings were observed for the values and ethics dilemmas such as avoid responsibility and remove from the situation (Figure 7.6). However, by virtue of the nature of the dilemmas, some of these core themes had different contexts. There was only one new theme which emerged for this determinant classification, 'remind about professional responsibilities'.

Survey 1 (Scenario 4)

You are 'friends' with a colleague on Facebook. Your department is currently treating a well-known actress. You notice that your colleague is discussing this actress over Facebook with other users, bragging that they treated her that day and commenting about her physical features. Your colleague is not using the actress's real name, but it is quite obvious who they are talking about due to the media coverage of her illness.

Survey 2 (Scenario 7)
One of your colleagues informs you that another RT has made threats against another member of staff on a social network. You log into this network to see the comment. Whilst your organisation is not identified, the staff member is named and a physical threat is described.

Figure 7.5 Values/Ethics dilemmas

Figure 7.6 Themes related to 'dealing with the situation for values/ethics dilemmas

7.14 Findings

Similarly to the immediate responses of RTs to the impairment and competence dilemmas, an immediate response was often suggested as the first reaction. However, because the scenarios related to the online environment, there were a combination of both verbal and electronic responses, such as sending a message to the hypothetical RT via text, social media or email. This performed the same function as a verbal response, allowing the RT to 'raise their concerns' about the nature of the issue with the hypothetical practitioner. There were a variety of different ways in which the RTs portrayed this initial verbal interaction with the hypothetical practitioner. In most cases the immediate responses were more assertive than for the competence issues. There were two values and ethics scenarios in the survey (dilemma 4 and 6, Figure 7.5) and one was

presented in each of the survey groups. Both dilemmas related to ethically challenging issues which RTs may experience as a result of engaging with social media.

7.14.1 Theme 1: Raise concerns

The RTs responding to the survey dilemma relating to disclosure of patient information online (dilemma four) did so either verbally or electronically. Similarly to the competence dilemma responses, there were three sub-themes which emerged with 3/108 (2.8%) responses being coded to the 'discreet approach' for dilemma four and 1/72 (1.4%) for dilemma seven. For example, respondents from the two dilemmas respectively suggested:

> *'Inform them in a private way that they must remove the post...* 'DSRCDS4:12
> *'Anonymously make management aware.'* DSRCDS7:30

There were 37/108 (34.2%) responses for the 'assertive approach,' for dilemma four and 53/72 (73.6%) for dilemma seven with respondents stating:

> *'I would speak directly with the individual and tell them that it is inappropriate and STRONGLY suggest that they delete all of their posts regarding the patient.'* DSRCAR4:71

> *'Screen dump of the page, de-identify anything that's not relevant to the issue, escalate to senior management, develop an action plan, advise staff member of the written threat, log incident with the police, interview RT who documented the threat.'* DSRCAR7:79

A mixed verbal and electronic communication with an 'assertive approach' was taken by one respondent:

> *'Firstly private message to tell them to remove posts and stop breaching patients' confidentiality. Then confront them at work directly'* DSRCAS4:8

There were 36/108 (33.3%) respondents stating a response in a 'diplomatic manner' and two responses which suggested explicitly that the RT would purposely not discuss the issue over social media. They would verbalise their thoughts:

> *'Let them know that this is inappropriate, but not via social media-face to their face at work the next day.'* DSRCSS4:22

> *'I would find their phone number, call them and get them to remove all the comments off of Facebook.'* DSRCSS4:68

7.14.2 Theme 2: Remove from situation

The context of this theme for the disclosure dilemma related to the respondent suggesting the hypothetical RT remove the message from the social media platform (33/108 (30.6%) responses).

> *'I would tell my colleague that it would be in their best interest to remove the discussion content from their Facebook page.'* DSRSS4:1

> *'Tell the colleague to immediately remove all postings before they get into trouble.'* DSRSS4:67

7.14.3 Theme 3: Benefit of the doubt

Only one respondent from the identity disclosure scenario stated they would give the benefit of the doubt to the hypothetical practitioner depicted:

> *I would privately message them to warn them that they are breaking confidentiality laws, and ask them to remove the post. They may not be aware of what they had done. If they did not, I would remove them from my friends list.* DSBODS4:46

7.14.4 Theme 4: Avoid responsibility

In the case of the two values/ethics dilemmas, the way in which RT avoided responsibility was by 'turning a blind eye' to the issue which had occurred. There were 4/108 (0.98%) respondents who suggested responses which were coded to this theme for disclosure dilemma and 5/72 (6.9%) for the bullying dilemma:

> *'I know the correct answer here that you're after, but honestly I would encourage the RT who the treats (sic) were made against to report the incident as bullying & harassment with their manager, but I would stay out of it. Having experienced bullying in the workplace I no longer choose to participate in workplace gossip, social activities or anything other than professional interactions. This incident has nothing to do with me. I hope that the bullied RT reports the incident but I can't afford to become involved and potentially a target (again).'* DSARS7:12

> '*Very unsure about this one! I think this is best handled by higher management. I would seek guidance from someone more senior*. 'DSARS4:84

> *"I would do nothing, I don't get involved.'* DSARS4:50

7.14.5 Theme 5: Reminder about professional responsibilities

One of the most prevalent suggestions of dealing with the disclosure dilemma was to remind the hypothetical practitioner about their professional responsibilities. There were 40/108 (37%) responses coded to this theme for this dilemma, however there were only 5/72 (6.9%) responses coded to this theme for the bullying dilemma.

Many of the respondents stated they would tell the hypothetical practitioner that they were being unprofessional and were not adhering to ethical or professional standards as exemplified in the following responses:

'Staff need to be advised that such behaviour in and outside the workplace is unprofessional and not tolerated and they will be subject to disciplinary action.' DSRAPRS8:1

'Counsel the colleague that this is not professional and that they may get in to serious trouble should they be the source of delicate patient information making it into the public arena.' DSRAPRS4:24

'Approach the colleague and suggest he/she is being unethical and unprofessional by speaking of a patient outside work and to stop information sharing.' DSRAPRS4:32

7.15 Discussion

There were four core themes observed with the values and ethics determinant classification groups. One additional theme which was exclusive to this group, 'remind about professional responsibilities'. Both dilemmas were presented as social media issues and as such their context for themes such as 'remove from the situation' were different to the impairment and competence dilemmas. Whereas in the competence and impairment groups of dilemmas, 'removal' related to physical removal of the practitioner from the environment, in the case of the values and ethics dilemmas 'removal' related to removal of the material which was suggested to be a FTP issue from the social media platform. Interestingly, the identity disclosure dilemma had many RTs suggesting they would contact the HP and advise them to remove the material, compared to the bullying threats dilemma, for example one respondent stated:

'I would send them a private message asking them to remove it, explaining the consequences'. DSEMRFS4:14

The legal implications of identity disclose of a celebrity may be considered more serious by RTs because of the potential for greater detrimental effect on the HP and their clinical

organisatation. As such RTs may have been more inclined to suggest removal of the information for this scenario compared to the bullying threats one. In the discussion about the responses to the competence dilemmas the concept of RT as a collectivist culture was explored. In contrast to 'covering up' for colleagues as a proposed action of the members of a collectivist culture, many of the respondents to the values and ethics dilemmas suggested they would raise their concerns with their colleague. In addition to raising concerns, practitioners also felt the need to remind the hypothetical practitioner about their professional responsibilities. This indicates that for some RTs, there was an awareness of the boundary between optimal and sub-optimal practice and they asserted this clearly.

7.16 Conclusion

A range of different interpretations of RTs to the values/ethics scenarios were observed in the data. Radiation therapists may not always conform to the tenets of a collectivist culture as they suggested they would raise their concerns and remind practitioners about their professional responsibilities. However, raising concerns and reminding their colleague about the issue, may not suffice in the workplace, where some sort of formal reporting of the issue may be warranted. This will be explored in the following chapter which examines the reporting preferences of RTs in response to the FTP dilemmas.

Chapter 8

Radiation therapist reporting preferences in response to hypothetical FTP dilemmas

The previous chapter presented the findings of RTs immediate responses to the FTP dilemmas, under the key theme of 'dealing with the situation'. These were varied and depended on the situational context and personal factors. This chapter presents the findings related to the key theme: the practitioners' obligation to report (observed instances of sub-optimal practice). The results in this chapter address the following research aims which were to:

5. Determine RTs perceptions on the reporting of sub-optimal practice

6. Determine RTs responses to hypothetical FTP dilemmas

7. Determine whether there are any socio-demographic predictors related to the type of reporting an RT chooses

The results demonstrate differing interpretations of the same dilemma according to individual RTs. There were four reporting actions which emerged as themes: 'no reporting', 'informal reporting to a senior practitioner ', 'internal formal reporting' and 'external formal reporting'. The findings also indicated that in general, the most prevalent demographic predictor influencing reporting amongst respondents was the number of

years' experience in the RT profession. The results of the quantitative and qualitative analyses are integrated into this chapter and are currently being prepared for manuscript submission.

Monash University

Declaration for Thesis Chapter 8

Declaration by candidate

In the case of Chapter 8 the nature and extent of my contribution to the work was the following:

Nature of contribution	Extent of contribution (%)
Study design, data collection and analysis, writing of manuscript	80%

The following co-authors contributed to the work. If co-authors are students at Monash University, the extent of their contribution in percentage terms must be stated:

Name	Nature of contribution	Extent of contribution (%) for student co-authors only
Brian Jolly	Intellectual input on study design, data analysis and manuscript editing	N/A
Michal Schneider	Intellectual input on study design, data analysis and manuscript editing	N/A
Marilyn Baird	Intellectual input on study design, data analysis and manuscript editing	N/A

The undersigned hereby certify that the above declaration correctly reflects the nature and extent of the candidate's and co-authors' contributions to this work*.

Candidate's Signature	████████████████████	**Date 17/08/15**

Main Supervisor's Signature	████████████████████	**Date 17/08/15**

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8.1 Introduction

Recognising sub-optimal practice is challenging, as is its subsequent reporting. Factors associated with practitioner and student reporting and whistle blowing are well documented in the medical and nursing literature.[7,388-392] However, there is no research investigating the reporting of sub-optimal practice in the medical radiation practice (MRP) professions, including radiation therapy (RT), despite instances where those who have 'blown the whistle' being vilified, for example the whistleblower who reported the Royal Adelaide Hospital radiation dose incident.[128]

The reporting of technical errors in RT has had increased discussion in the literature in the past decade.[315,393-397] Mechanisms are now in place in RT centres to encourage staff to report the outcomes of technical, dose related, and near miss errors in a 'no-blame culture'. This emphasis on the reporting of technical and competence based errors may

indeed detract from the importance of recognising and reporting instances of sub-optimal professional performance.

8.2 Literature review

The reporting of sub-optimal practice presents a range of conflicting issues for practitioners with personal, physical, emotional and professional consequences.[398] Staff may be concerned about the impact on the alleged practitioner and may not want to compromise their colleagues' privacy and collegiality, but they may also worry about the impact on patient safety.[399] Additional reasons for avoiding reporting include not wanting to be labelled a trouble maker, organisational cultures of silence, concerns about job security, professional standing and fear of reprisals.[392,398,400-403]

In Australia, since 2012, radiation therapists (RTs) have been legally required to make notifications about practitioners whose performance raise concerns to the Medical Radiation Practice Board of Australia (MRPBA).[58] Prior to the creation of the MRPBA, different jurisdictions had their own regulatory processes. In some states such as Victoria, MRP professionals were registered but not legally obliged to report concerns about their colleagues. In others such as New South Wales, there was no formal registration process for MRPs. However, the formation of the National Registration and Accreditation Scheme assumes the professionals who practise under it comprehend the implications of reporting and notification of sub-optimal practice and are able and willing to follow due process.

In order for the general public to continue investing their trust in RTs, it is imperative the professionals are aware of reporting mechanisms.[404] In order to enhance practitioner

awareness of the National Registration and Accreditation Scheme, the MRPBA delivered information sessions across Australia during 2013/14 and indicated a positive response to these from the professional community.[10] However, notification rates in the medical radiations professions in Australia remain relatively low with only 15 notifications made to the MRPBA in 2013/14.[8]

8.3 Aim

The aim of the study was to investigate RTs reporting preferences in response to FTP hypothetical fitness to practise (FTP) dilemmas. The secondary aim was to investigate whether socio-demographic characteristics influenced the choice of reporting action.

8.4 Methods

The methods and results reported in this paper form one strand of a large, sequential, exploratory, mixed-methods study.[19,178,287] Ethics approval was granted for all phases of the study by Monash University Human Research Ethics Committee (30/5/2012 Project number 2012000825).

Study design

A group of RTs who had previously participated in an initial focus group study exploring FTP in RT volunteered to document authentic clinical FTP dilemmas they had experienced.[178,287] These were checked for relevance and currency by three experienced RTs and a survey containing eight dilemmas, together with socio-demographic questions was piloted for content validity, appropriateness of question format and time taken for completion of the survey. As a result of the pilot, free text, rather than the closed ended

response format, was used for the dilemma questions to allow for more detailed data to be acquired. The survey was also split into two, each with four scenarios, because the average time it took for completion of the pilot with all eight dilemmas was 37 minutes. The dilemmas were related to determinants of FTP as identified in our previous research: professional impairment, competence and values/ and ethics.[287] Dilemmas one to four were presented in survey one for respondents with surnames which began with the letters A-M and dilemmas five to eight were presented in survey two for practitioners whose surnames began with the letters N-Z.

Recruitment, sampling and survey strategy

Australian RTs were recruited via an email with an electronic link to the survey, sent by the AIR to its RT membership. In addition, Chief RTs/RT managers were emailed with a request to distribute study information to their staff and hard copy flyers were distributed at a national conference.

Survey instrument development

The survey was developed in Qualtrics, an online survey development and distribution platform. It contained a range of question types, closed ended for socio-demographic data, and open ended questions for collecting response data related to the FTP dilemmas. Prior to completion of the survey, respondents were required to read a participant information statement and consent was implied at completion. Due to the anonymous nature of the survey, participants were unable to withdraw from the study after commencement. In the participant information, a reminder was provided to the participants not to mention any names of colleagues, clinical organisations or their own name in the responses as this would pose ethical and privacy issues.

Qualitative analysis

The data was initially transferred in spreadsheet format from Qualtrics to NVivo10 for the purposes of coding and theming. Initial open coding was undertaken, followed by axial coding where properties were assigned to subsequently formed categories and sub-categories. Memos were used to continuously compare the data codes and relationships between the data and between the different dilemmas.[20,369] An independent checking process was used to ensure inter-coder consensus was achieved.[199] Coding and theming was initially discussed between two of the researchers in the study team and agreement on the theme titles and properties was achieved. Subsequent to this, an independent coding check was undertaken by a radiation therapist with 20 years of clinical experience, who was also experienced in coding and theming qualitative data using NVivo. In order for the coding check to be conducted, the data coded to two out of the three reporting preference themes (external reporting and informal mention to a senior practitioner) was forwarded to the independent coder.[199] This represented approximately 65% of the total data coded for the reporting preferences study. In keeping with the interpretive nature of the research, the code checking techniques of dialogical inter-subjectivity, coder adjudication and group consensus were used in preference to the quantitative method (e.g. Kappa Coefficient) for achieving inter-coder agreement.[405-407] Agreement was confirmed and communicated via email by the independent code checker with the following statement of confirmation:

> *'All text fits for the categories you have created, lots of overlap between some of them too - can see the trap here though, could code and code forever more'* KLM 8/6/15

Quantitative analysis

Subsequent to theming, the data was transferred from NVivo into an Excel spreadsheet and the data coded to the key themes were allocated numeric labels. Frequency analyses were carried out for all data and responses to the surveys were evaluated according to the demographic characteristics. Categorical socio-demographic response data were compared using Chi-square analysis (Fisher's exact test was used when N<5). Binary logistic regression was used to determine the association of a number of the demographic factors according to the likelihood that respondents would either report vs not report, and informally report vs formally report.[288]

The formal reporting responses used for analysis combined both internal and external formal reporting responses (IFR and EFR) because the number of EFR responses alone was too low to use as a variable in its own right. Gender, location of clinical centre, sector of service provision and number of years' experience in the profession were the characteristics chosen for analysis because their frequencies were >10% of the total responses in their respective categories. It was also decided that even though participant responses should be independent of one-another for binary logistic regression[289], due to the limited number of responses in the sample, all four dilemma responses for each participant would be included in the analysis. This meant all participants' responses to each of the four dilemmas were used, rather than only one. All statistical analyses were carried out using SPSS (Version 21, Chicago, USA) and missing data was omitted from the analysis. The regression data provided in the results include:

- The regression coefficient (β), which is the value which would be used in calculating the probability of cases falling into a specific category.[289]

- The odds ratio Exp(B) which represents 'the change in odds of being in one of the categories of outcome when the value of the predictor increases by one unit'.[408]

- The standard error (SE) (95% confidence interval), indicating the variability across samples from the same population.[289] The confidence interval is a range of values which are believed to contain 95% the true value of the statistic.[409]

In addition, summary tables present the results of each model as a whole with the following data:

- Significance (Chi square) of the model (χ^2).

- Cox and Snell R square and Nagelkerke R square values, which provide an indication of the amount of variation in the dependent variable, indicating its usefulness.[289]

- The number of cases correctly classified by the model, presented as an overall percentage.

For all analyses, significance was afforded when $p < 0.1$ and $p < 0.05$. More than one level of significance was used, similarly to other studies which have employed regression analyses to investigate whistleblowing and ethical dilemmas.[288,410] In particular, $p < 0.1$ was used as well as $p < 0.05$[411] because, when restricted to a $p < 0.05$ level rule, a moderate but important effect within the study might go undetected because of the small sample size.[412]

Analysis was undertaken as follows:

    i. No reporting versus Reporting

        a. Combined total for all scenarios

        b. According to each theme (Impairment, Competence and Values/Ethics)

        c. According to each of the eight scenarios

ii. Formal versus informal reporting

      a. Combined total for all scenarios

      b. According to each theme (Impairment, Competence and Values/Ethics)

      c. According to each of the eight scenarios

8.5 Results

8.5.1 Emergent themes

Qualitative data analysis revealed four key sub-themes related to the key theme of the practitioner's obligation to report': 'no reporting' (NR), 'informal mention to a senior practitioner' (IMS), IFR and EFR.

Responses were coded as 'no reporting' if there was no indication of a suggested reporting response in the respondent's 'free text' answers to the dilemma. The properties of the sub-theme IMS included: verbal communication with a RT of a higher promotional level/supervisor/line manager to inform them the issue had occurred, for example one practitioner suggested:

'I would inform my line manager informally' POIIMSS1:50

Internal formal reporting was characterised by the RT suggesting they would 'report' or 'notify' the Chief RTs/RT manager, Human Resources Department or Head of the Organisation about the issue:

'Alert the chief radiotherapist (sic) what is happening.' POIIFRS4:13

'I go directly to my CEO [Chief Executive Officer].' POIIFRS4:5

Properties of the EFR theme' were defined as: reporting or notifying to an organisation outside of the employer such as the professional body, registration board or the police. It

was evident in the data that on the few occasions an EFR response was suggested, it was always accompanied by IFR, as depicted in the following statements:

> *'Contact management and report to AHPRA.'* POIEFRS4:6

> *'...log incident with the police.'* S7:9 POIEFRS7:9

For the purpose of the quantitative analysis, only one reporting preference was required per response. Therefore in the event of a combination of more than one reporting preference in a participants' response, (e.g. in the statement above) the most stringent course of action (EFR) was used in preference to IFR.

8.5.2 The incidence of reporting preferences

The previous section indicated that there were four themes relating to reporting of sub-optimal practice. The frequency of occurrence of each of the reporting types for survey groups one and two combined are presented in Figure 8.1. There were 720 responses to the eight scenarios when the data for surveys one and two were combined. Sixty percent (433/720) of the responses involved no reporting action (no reporting) in relation to the instances of sub-optimal practice depicted in the dilemmas.

Equal numbers of respondents said they would IMS and IFR within their organisation ((140/720 (19.5%) and 139/720 (19.3%)) respectively). There were 7/720 (0.97%) responses suggesting EFR to an organisation outside of the clinical centre. The frequencies of respondents suggesting the different reporting types were analysed according to each FTP dilemma (Table 8.1).
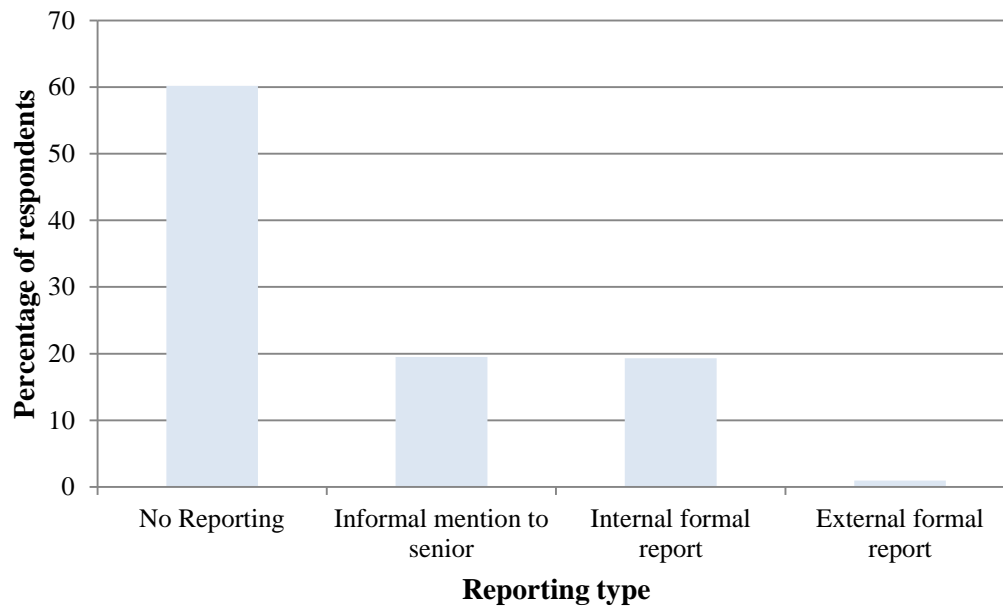
Figure 8.1 Frequency of reporting type for survey one and two combined for all scenarios

External formal reporting was seldom suggested, only stated for three of the eight dilemmas (intoxication (2/108 (1.9%), identity disclosure (1/108 (0.9%) and bullying threats (4/72 (5.6%)). Most participants chose not to report for the inaccurate set-up dilemma (Dilemma 3) (101/108 (93.5%), followed by the recency of practice (62/72 (86.1%)), physical impairment (57/72 (79.2%)) and dose error (49/72 (68.1%)) dilemmas. The identity disclosure and bullying threats dilemmas resulted in the highest frequencies of IFR with 51/108 (47.2%) and 42/72 (58.3%) of responses respectively. The repeated mistakes and dose error dilemmas had the highest frequencies for the IMS with 47/108 (43.5%) and 22/72 (30.6%) respectively.

Table 8.1 Frequency of reporting type according to dilemma

FTP Dilemma	Reporting type			
	No reporting n/N(%)	Informal mention to senior n/N(%)	Internal formal reporting n/N(%)	External formal reporting n/N(%)
1 - Intoxication	50/108 (46.3)	25/108 (23.1)	31/108 (28.7)	2/108 (1.9)
2 - Repeated mistakes	54/108 (50)	47/108 (43.5)	7/108 (6.5)	0
3 - Inaccurate set-up	101/108 (93.5)	7/108 (6.5)	0	0
4 - Identity disclosure	41/108 (38)	15/108 (13.9)	51/108 (47.2)	1/108 (0.9)
5 - Recency of practice	62/72 (86.1)	7/72 (9.7)	3/72 (4.2)	0
6 - Physical Impairment	57/72 (79.2)	10/72 (13.9)	5/72 (6.9)	0
7 - Bullying threats	19/72 (26.4)	7/72 (9.7)	42/72 (58.3)	4/72 (5.6)
8 - Dose error	49/72 (68.1)	22/72 (30.6)	1/72 (1.4)	0

8.5.3 Demographic characteristics and the odds of reporting

Analysis was undertaken to elucidate potential associations between respondent demographic characteristics and the four reporting response types (NR, IMS, IFR and EFR). Frequency tables are presented in Appendix D, and the results of the binary logistic regressions are presented in Tables 8.2-8.6. In three cases, the frequency of IMS reporting exceeded the no reporting response:

1. Dilemma 2 (repeated mistakes) demographic classification of five or less years of professional experience with 7/15 (46.6%) IMS response and 6/15 (40%) NR response (Appendix D Table, D2).

2. Dilemma 2 (repeated mistakes) regional location 18/34 (52.9%), IMR and 14/34 (41.2%) NR (Appendix D, Table D2).

3. Dilemma 4 (identity disclosure) demographic classification of five or less years (Appendix D, Table D4), where a response of IMS 5/15 (33.3%) was slightly higher than NR at 3/15 (20%).

Logistic regression: Reporting preferences for the whole group

Logistic regression was performed on the data which was combined for the whole group (all participants and all eight dilemmas pooled), to ascertain whether there were any significant associations between demographic characteristics and informal reporting vs formal reporting. Table 8.2, presents the data for the model as a whole, for which there was a statistically significant association with respect to informal vs formal reporting ($p<0.05$). The contribution of each unique demographic characteristic (sector of service delivery, number of years' experience in the profession, location of workplace and gender) to the model was also analysed. There was a significant association between the number of years' experience of RTs and reporting ($p<0.05$), where the odds of respondents with six or more years of experience in the profession reporting formally, were 115.2% more than for those with five or less years' experience in the profession (Table 8.3). In addition, there was also a significant association between gender and reporting ($p<0.1$), with the odds of females reporting formally being 44.1% lower than for males. There was no statistical association between demographic characteristics and no reporting vs reporting. The next two stages of the regression analysis were performed according to FTP determinant classification (data was split into impairment, competence and values/ethics groups) and individual dilemmas, within each classification group (e.g. analysis of the Impairment classification group and then the intoxication and physical impairment dilemmas).

Table 8.2 Binary logistic regression: summary of significant associations for informal vs formal reporting (whole group and determinant classification groups)

Dilemma group	Demographic characteristic	Exp(B)	Model χ²	Cox & Snell R square (%)	Nagelkerke R square (%)	Overall correct classification (%)
Whole group	Years' exp Gender	2.152** 0.559*	χ² (4, N=282) = 13.325**	4.6	6.2	59.9
Impairment	Years' exp	1.853**	χ² (3, N=71) =6.910*	9.3	12.4	67.6
Values/Ethics	Years' exp	1.606**	χ² (1, N=117) =4.948**	4.1	6.7	81.2

Exp(B) = Odds Ratio, Model χ² = Chi squared for the model

Significance values *p<0.1, **p<0.05

Table 8.3 Binary logistic regression: predicting no reporting vs reporting and informal vs formal reporting according to demographic characteristics (whole group)

Demographic characteristic	No reporting Vs Reporting			Informal Vs Formal reporting		
	β	SE	Exp(B)	β	SE	Exp(B)
Sector	0.116	0.162	1.123	0.205	0.256	1.227
Years' experience in the profession	- 0.167	0.159	0.846	0.766**	0.253	2.152
Location	0.185	0.166	1.203	0.197	0.262	1.218
Gender	-	-	-	-0.582*	0.331	0.559

(β represents the regression coefficient, Exp(B) the Odds Ratio and SE = 95% confidence interval)
Dependent variable coding: No reporting Vs reporting: 1 = no reporting, 2 = reporting, Informal Vs formal: 1 = informal, 2 = formal. Independent variables coding: Years in profession: 1 = less than five years' experience in the profession, 2 = greater than six years in the profession, Sector: 1 = public sector, 2 = private sector, Location: 1 = metropolitan, 2 = regional, Gender: 1 = male, 2 = female, Significance values *p<0.1, **p<0.05

8.5.4 Analysis of the impairment group of dilemmas and suggested reporting preferences

The most frequently suggested reporting preferences for males and females for the intoxication dilemma were IFR with 4/17 (23.5%) males and 26/90 (28.8%) females suggesting this form of reporting response (Table D1 of Appendix D). One of the male respondents stated he would:

> *'Report the matter to practice manager (sic) immediately and do not treat patients until assistance/additional staff arrive.'* POIFRS1:59

The physical impairment dilemma results indicated IMS was the most frequently suggested response for females (8/49 (16.3%)). Both IMS and IFR were reported as the most prevalent preferences for males at 2/23 (8.7%) (Appendix D, Table D6). The most prevalent reporting choice for RTs with five or less years of professional experience for the intoxication dilemma was IMS with 6/15 (40%) of responses. The frequency was similar to the no reporting theme for this category. In the case of respondents with between six and 10 years' experience, both IMS and IFR yielded the same number of responses (8/29 or 27.5%). Internal formal reporting was the most frequently suggested action for practitioners who had worked for 11-20 or over 20 years in the profession (28.5% and 35.3% respectively). In addition, IFR was the most prevalent reporting choice for RTs in both the public and private sector of service delivery and in both metropolitan and regional locations (Table D1 of Appendix D). The reports in the IFR theme were made to the Chief RTs/RT manager:

> *'At the earliest time possible when there are more staff members around, I would report to the manager what I have observed.'* POIIFRHCCS1:18

The results of the physical impairment dilemma indicated IMS predominated as the most prevalent reporting response. RTs with 11-20 and 21 years or more experience, had

results similar for IMS and IFR at 1/22 (4.5%) and 2/23 (8.7%) respectively. External formal reporting was suggested by two females who responded to the intoxication dilemma. Both respondents had over 11 years' clinical experience, were working in the public sector, one in a metropolitan and one in a regional clinical centre. The two respondents indicated on both occasions the report would be directed to the registration board, for example:

> *'If this was a one-off occurrence I would not take any further action but if this happened regularly I would report the RT concerned to the Registration board.'*
> POIEFRS1:1

Logistic regression: Reporting preferences for the impairment dilemma group

The data from the two impairment dilemmas (intoxication and physical impairment) were combined. Binary logistic regression was then performed comparing no reporting vs reporting according to demographic characteristics, with no significant association between the variables observed. However, when an analysis for informal vs formal reporting was undertaken, a significant association for the whole model was evident ($p<0.1$) (Table 8.2).The model as a whole explained between 9.3% (Cox and Snell R square) and 12.4% (Nagelkerke R squared) of the variance. This was the greatest degree of variance across the regressions performed (Table 8.2). The number of years' experience in the profession provided a statistically significant contribution to the model ($p<0.05$), where the odds of respondents with six or more years of experience in the profession reporting formally were 85.3% more than for those with five or fewer years' experience in the profession Table 8.4).

Logistic regression: Reporting preferences for the physical impairment dilemma

Analyses were undertaken on the data for the intoxication and physical impairment scenarios. Comparisons were performed for both no reporting vs reporting responses and also informal vs formal reporting. The only significant association observed was for the physical impairment, no reporting vs reporting regression (p<0.05) (Table 8.5). Gender was the only demographic characteristic which resulted in a statistically significant contribution to the model (p<0.05), where the odds of females reporting were 241.9% more likely than for males (Table 8.6).

Table 8.4 Binary logistic regression: predicting no reporting vs reporting and informal vs formal reporting according to demographic characteristics (FTP determinants)

FTP Dilemma classification/ Demographic characteristic	No reporting Vs Reporting			Informal Vs Formal reporting		
	β	SE	Exp(B)	β	SE	Exp(B)
Impairment						
Sector	-	-	-	0.519	0.550	1.680
Years of experience in profession	-	-	-	0.617**	0.256	1.853
Location	-	-	-	0.255	0.583	1.291
Competence						
Sector	0.241	0.252	1.273	-	-	-
Years of experience in profession	-0.291	0.249	0.748	-	-	-
Location	0.271	0.257	1.312	-	-	-
Values/Ethics						
Sector	0.460	0.346	1.584	-	-	-
Years of experience in profession	0.347	0.325	1.415	0.474**	0.216	1.606
Gender	0.344	0.374	1.411	-	-	-

(β represents the regression coefficient, Exp(B) the Odds Ratio and SE = 95% confidence interval) Dependent variable coding: No reporting Vs reporting: 1 = no reporting, 2 = reporting, Informal Vs formal: 1 = informal, 2 = formal. Independent variables coding: Years in profession: 1 = less than five years' experience in the profession, 2 = greater than six years in the profession, Sector: 1 = public sector, 2 = private sector, Location: 1 = metropolitan, 2 = regional, Gender: 1 = male, 2 = female Significance values *p<0.1, **p<0.05

Table 8.5 Binary logistic regression: summary of significant associations for no reporting vs reporting (individual dilemmas)

Dilemma	Demographic characteristic	Exp(B)	Model χ^2	Cox & Snell R square (%)	Nagelkerke R square (%)	Overall correct classification (%)
Identity disclosure	Location	2.474*	χ^2 (2, N=108) =5.689*	5.1	7	62
Physical impairment	Gender	3.419**	χ^2 (1, N=72) =4.870**	6.5	9.6	73.6
Dose error	Sector Location	3.175** 0.103**	χ^2 (2, N=72) =4.604*	6.2	8.7	65.3

Exp(B) the Odds Ratio, Model χ^2 Chi squared for the model
Significance values *p<0.1, **p<0.05

Table 8.6 Binary logistic regression: predicting no reporting vs reporting and informal vs formal reporting according to demographic characteristics (individual dilemmas)

FTP Dilemma/ Demographic characteristic	No reporting Vs Reporting			Informal Vs Formal reporting		
	β	SE	Exp(B)	β	SE	Exp(B)
Repeated mistakes						
Sector	0.092	0.405	1.097	-	-	-
Location	0.506	0.423	1.659	-	-	-
Identity disclosure						
Sector	0.453	0.433	1.573	-0.327	0.634	0.721
Years of experience in profession	-	-	-	1.134*	0.661	3.108
Location	0.906*	0.471	2.474	0.578	0.692	1.783
Gender	-	-	-	-	-	-
Physical impairment						
Gender	1.229**	0.559	3.419	-	-	-
Dose error						
Sector	1.155**	0.544	3.175	-	-	-
Location	-0.023**	0.542	0.103	-	-	-

(β represents the regression coefficient, Exp(B) the Odds Ratio and SE = 95% confidence interval) Dependent variable coding: No reporting Vs reporting: 1 = no reporting, 2 = reporting, Informal Vs formal: 1 = informal, 2 = formal. Independent variables coding: Years in profession: 1 = less than five years' experience in the profession, 2 = greater than six years in the profession, Sector: 1 = public sector, 2 = private sector, Location: 1 = metropolitan, 2 = regional, Gender: 1 = male, 2 = female, *p<0.1, **p<0.05.

8.5.5 Analysis of the competence group of dilemmas and suggested reporting preferences

The most popular form of suggested reporting response for males and females for the repeated mistakes, inaccurate set-up, recency of practice and dose error dilemmas was IMS (Appendix D, Tables D2, D3, D5 and D8). One of the female respondents suggested she would:

> '…*discuss this situation with the senior manager in planning, with a view to supporting the RT.*' POIIMSS2:3

Those participants who had 11 or more years of experience in the profession of RT predominantly reported using IMS. Seldom did respondents report any other way than IMS for the dose error dilemma (Appendix D, Table D8). Only one female respondent, who was in the 11-20 years of professional experience group, the private sector and located a regional area stated she would internally formally report.

> '*This is not acceptable unless there is absolutely no other beam arrangement possible (highly unlikely). I would speak to more the chief RT (sic) and the Doctor.*' POIFRSS8:72

The regression model comparing no reporting to reporting for the competence group of dilemmas, was unable to distinguish between respondents who indicated they would not report vs report sub-optimal practice (Table 8.4).

Logistic regression: Reporting preferences for the dose error dilemma

Individual analysis of the dilemmas related to competence, indicated for the scenario depicting dose error, a significant association between no reporting and reporting for the whole model was observed ($p<0.1$) (Table 8.5). The sector of service delivery made an individually significant contribution to the model ($p<0.05$), with the odds of RTs

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working in the private sector, reporting being 217.5% more likely than those in the public sector. In addition, location provided a significant contribution ($p<0.05$), with the odds of RTs working in regional areas who would report this instance of sub-optimal practice 89.7% lower than those in working in metropolitan areas (Table 8.6).

8.5.6 Analysis of the values/ethics group of dilemmas and suggested reporting preferences

The results for the identity disclosure scenario indicated the reporting preference of males was IFR 11/17 (64.7%). In contrast, females had preferences for all types of reporting (15/91 (16.5%) for IMS, 40/91 (44%) for IFR and 1/91 (1.1%) for EFR) (Appendix D, Table D4). In the case of the bullying threats scenario, both males and females suggested all types of reporting response, with IFR being the most common at 11/23 (47.8%) for males and 31/49 (63.6%) for females (Appendix D, Table D7). Internal formal reporting predominated for all the other demographic characteristics in scenarios describing the identity disclosure bullying dilemmas.

An EFR response for the identity disclosure scenario was observed in one female respondent who had 21 or more years in the profession and worked in a public, metropolitan centre:

> '...contact management and report to APHRA (sic)' POIEFRRBS4:1

Interestingly, this RT suggested he/she would report to AHPRA (incorrect spelling in the citation - APHRA), not the MRPBA. There were four EFR responses for the bullying scenario, one male and three female. All of these respondents had 11 or more years of experience in the profession, and they represented both public and private, and

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metropolitan and regional centres. There was no indication the reports would be made to the registration board. However, the four respondents suggested they would report to the police and on one occasion additionally to the social media website administration.

> *'I would make a report to the social media website & report to police.'*
> POIEFRPS7:24

Logistic regression: Reporting preferences for the values/ethics dilemma group

Statistical significance was observed for the full regression model for the values/ethics determinant classification group, for informal vs formal reporting ($p<0.05$). This model had the greatest percentage of correctly classified cases (81.2%) across all the regressions performed (Table 8.2). The number of years the practitioner had worked in the profession was again the strongest predictor of reporting preference ($p<0.05$). The odds of a formal reporting preference being suggested by the more experienced RTs were 60.6% higher than for those with less experience (Table 8.4).

Logistic regression: Reporting preferences for the identity disclosure dilemma

Regression analyses for the identity disclosure scenario demonstrated significant associations for both the models predicting: no reporting vs reporting and informal vs formal reporting preferences.

When analysis for no reporting vs reporting was undertaken, the demographic characteristic with the only significant association was location ($p<0.1$). The odds of RTs in regional areas reporting were 147.4% higher than for those working in metropolitan areas (Tables 8.5 and 8.6). The comparison between informal and formal reporting for the same dilemma, showed clinical experience to be a significant factor, with six or more

years' experience in the profession increasing the odds for formal reporting by 210.8% compared to RTs with five years or less experience (Tables 8.5 and 8.6).

8.6 Discussion

8.6.1 To report or not?

The recognition and subsequent reporting of sub-optimal practice on the part of a colleague is a challenging issue for health care practitioners. Factors associated with the causes and consequences of internal and external reporting and whistleblowing are well documented in the medical and nursing literature.[7,388-392,413] However, other than the current research, there have been no investigations into the reporting of sub-optimal practice in the MRP professions, including RT. Whistleblowing occurs when illegal, immoral or illegitimate practice is disclosed by an employee or former employee to a party they believe may be able to stop it from occurring.[414] However, many practitioners do not want to report because they believe their managers will not welcome complaints.

The reporting of sub-optimal practice also presents a range of conflicting issues for practitioners including personal, physical, emotional and professional consequences.[398] Practitioners may be concerned about the impact on their colleague and not want to compromise their co-workers' privacy, but they may also worry about the impact on patient safety.[399] Additional reasons for avoiding reporting include; not wanting to be labelled a trouble maker, organisational cultures of silence, not wanting to 'report on your mates', concerns about job security, professional standing and fear of reprisals, mistrust and lack of confidentiality, organisational support, time and systems for reporting and follow-up.[392,398,400-403,415-420]

Lack of knowledge about incident reporting systems and what constitutes an error, and the level of individual autonomy of practitioners are other reasons why healthcare professionals do not always report errors.[379]

Since its inception in 2012, the MRPBA has received few notifications.[8,10,341,421] Although the MRPBA reports it has delivered sessions Australia wide on increasing practitioner awareness of regulatory processes and registration and also disseminates information to new graduates on the need to make formal notifications, the results may indicate that practitioners remain unsure about the types of practice warranting notification. In addition, they may not feel confident 'exposing' themselves to the potential ramifications of whistleblowing.

Our study found that out of a total of 720 RT responses to the eight FTP dilemmas, 433 responses (60%) did not choose to report at all when posed with the FTP dilemmas (Table 8.1). This category of respondent was classified as the 'silent observer/non-reporting observer' in a large scale Australian study which investigated whistleblowing propensity across a number of public sector organisations. The results of this large scale survey which included employees of health, education, policing, defence, utility management and policy administration indicated 2243/3232 (69.4%) of respondents were classified as non-reporting observers.[288] Although the number of respondents in the study was far greater than in our study, the incidence of silent observers was similar.

The inaccurate set-up and recency of practice dilemmas in the competence determinant classification group, had 101/108 (93.5%) and 62/72 (86.1%) respondents who did not suggest any form of reporting (Table 8.1). These findings occurred despite the fact the

reporting of technical errors in RT has had a heightened profile over the past decade.[393-397] Mechanisms have been in place for the past decade in RT centres to encourage staff to report the outcomes of technical, dose related, and near miss errors in a 'no-blame culture'.[396,422,423] More specifically, in Australia since the publication of the open disclosure framework document in 2013, by the Australian Commission on Safety and Quality in Health Care, the importance of having a 'no blame' culture in health care has been reinforced.[424] However, those who whistleblow, in relation to technical errors continue to be vilified, for example the whistleblower who reported the Royal Adelaide Hospital radiation dose incident.[128]

In addition, the physical impairment dilemma had a high rate of silent observers (57/72 (79.2%)) (Table 8.1). These findings are interesting given that RT expert checks of each of the eight dilemmas identified issues where the FTP of the RT should have been called into question by either reporting informally or formally.

8.6.2 Reporting preferences

The three reporting response themes identified in this study IMS, IFR and EFR concur with those identified in other studies from nursing and medicine.[410,425,379,382,426] McNab et al in their study of culture and ethics management, proposed a typology containing four distinct elements: internal reporting; internal whistle-blowing; external reporting and external whistle-blowing.[382] In the current study, informal reporting predominated over formal (internal or external) reporting for the competence/technical dilemmas (repeated mistakes, inaccurate set-up, recency of practice and dose error) (Table 8.1).

Informal reporting was cited as one of the reporting types in a study undertaken by Espin et al in their study on intensive care error reporting.[379] In this study, informal reporting constituted informing managers, senior staff and staff engaging in dialogue with colleagues about incidents.[379,427] The theme of informal reporting in the current study however, only related to engagement of RTs in dialogue with peers or senior staff. Consultation with Chief RTs/RT managers in the current study was classified as internal formal reporting. The large number of RTs who used either IMS or IFR, may have suggested these preferences because of the confidence they had in their own manager to deal with reports which are made about the performance of colleagues.

It has been proposed that although reporting internally (IMS and IFR in the case of this study) may stop the act of sub-optimal practice, it may consequently prevent an external disclosure, which may be detrimental to the organisation.[410] This form of informal reporting might be considered a strategy to discharge personal responsibility without threatening power relationships. However, this form of informal reporting has been suggested to be counter-productive because it does not promote awareness and prevention across the system. It may in fact expose others to the same error in the future.[427]

Participants were more likely to suggest a formal reporting action for the values/ethics dilemmas than for the impairment and competence dilemmas. Although RTs are legally obliged to notify the MRPBA in the event of experiencing sub-optimal practice, there were only 7/720 (0.97%) participants who indicated they would lodge a formal external report. This low number of EFR responses in the current study overall, reinforces the suggestion by Espin et al in their earlier study on nurses which suggested, the lack of formal reporting is a real and important phenomenon.[427] This is of concern because a

reduced incidence of external reporting may be indicative of either, giving a practitioner whose performance is seriously impaired the benefit of the doubt or ignoring the issues completely. As a consequence the impaired practitioner may be allowed to continue working and this may pose a safety risk.

External reporting often occurs as a result of not having any success with the internal reporting process within their organisation.[389,428] For example in the current study, if a RTs reports to their Chief RT/RT manager about a fellow RT practising whilst intoxicated were ignored, they may then have no choice but to contact the registration board.

All external disclosures in the current study were preceded with either IMS or IFR, which may indicate RTs felt it was important their Chief RTs/RT managers were aware of the issue. The literature proposes initial IMS or IFR prior to EFR, demonstrates the whistleblower's loyalty to the organisation.[413] If the whistleblower then reports externally, they feel this action is morally justified because the internal channels of reporting may not have been effective. The Bundaberg hospital case, exemplifies the issues which whistleblowers encounter when their internal complaints are ignored. In this case, a senior nurse made numerous unsuccessful attempts to inform hospital management about her concerns regarding Dr Patel, and eventually turned to exposing the malpractice to the media and a member of Parliament because she was being ignored by the hospital managers.[429] Similarly, the case of the medical physicist who made many attempts to inform management about the radiation dose error at the Royal Adelaide Hospital. She was ignored by the hospital management prior to externally whistleblowing.[128]

Radiation therapists may however not be adequately trained to manage these types of dilemmas, nor may they be fully informed about how to exercise reporting mechanisms, and this may be a reason why practitioners do not report. Evidence from the literature suggests practitioners who are aware of reporting processes in their workplace, are more likely to report colleagues.[430]

There was no evidence in the data to suggest that just because a participant had suggested for one scenario they would whistleblow externally they would also externally report for the other scenarios. Interestingly, data from both the U.K. and Australia demonstrate only a small percentage of external notifications actually originate from practitioners themselves. In the U.K. in 2013, only 9% of notifications were made by fellow health care practitioners and 11% in 2012/13 in Australia.[9,421] The bulk of external reporting to regulatory authorities for both the MRPBA (31%) and HCPC (45%) was carried out by employers.[9,421] It may therefore be argued that employers report on behalf of internal whistleblowers after the internal reporting process has been followed. Very rarely were reasons specified by respondents for not reporting. One respondent suggested they would not report bullying because of their past experiences of being bullied and for fear of reprisals.

Reporting preferences according to demographic characteristics

Analysis of the socio-demographic characteristics indicated very few significant associations with reporting, suggesting there was no single characteristic which was a consistent predominant predictor of reporting preference. Similar results were found in the large scale study of Australian public sector workers, with no association between gender, age, cultural background or level of experience and reporting preference.[288] In

addition, the results of other studies demonstrate inconsistent associations between demographic characteristics and silent observers and whistleblowers.[382,431-436]

The number of years of experience in the profession, gender, location and sector provided unique contributions to some of the regression models, indicating there was a significant association between these and no reporting vs reporting or informal vs formal reporting. These will be explored further in context of the literature in the following section.

Reporting preference according to gender

For many of the regression analyses, it was not possible to include gender because of the limited numbers of respondents in some of the categories. However, for the whole group, when informal vs formal reporting were compared, the odds of females reporting formally were 44.1% lower than males. This may be because females are more sensitive to the risks involved in formally reporting.[288,425,426,437,438] Female RTs may for example, be more concerned about the effects of the power differential between themselves and management, particularly if their Chief RTs/RT manager is male. This is a potential issue, given the RT workforce is predominantly female and anecdotal evidence suggests there are equal numbers of males and females in management positions. Females may feel comfortable reporting to other females in an informal manner (IMS), however they may not feel as happy to formally report an issue to a male superior, for fear of being ostracised or ridiculed.

In contrast, the odds of female RTs reporting a physical impairment were 241.9% higher than for males. This may have been because females felt they had personal responsibility to report the issue from a safety point of view, but also ensure the welfare of the RT

whose practice was in question. Male RTs may have been more likely to want to protect their colleague by not reporting the issue and assisting them to 'save face' and continue working as though nothing was wrong.

Reporting preference according to cultural background and age

The respondent numbers for all cultural backgrounds other than Australia/New Zealand and U.K./Ireland were too small to use in regression analysis. As a result determining whether cultural background influenced reporting actions could not be evaluated. One of the issues relating to cultural background emerging from the design of the demographic questions was that very few RTs indicated they were from cultural backgrounds other than the dominant Anglo-celtic (Australia/New Zealand, the U.K. and Ireland). However, anecdotal evidence suggests many of the RTs working in Australia may be first or second generation Australians who continue to uphold the traditional beliefs and values of the culture from which their families originate.

Being able to ascertain more accurate information on the cultural background of RTs may have resulted in a more varied distribution of responses and permitted regression analysis. The effect of cultural background on health practitioner perceptions of professionalism has been investigated in different Chinese cultures using the nominal group method.[439] In their study, Ho et al concluded that some aspects of professionalism were shared globally between Chinese and Western societies (for example clinical and communication competence). A study undertaken by Chandratilake et al support that there are a list of 29 core elements of professionalism which transcend cultural boundaries.[89] However, constructs such as morality, integrity and social relations are interpreted differently because they have been shaped by Confucianism. Ho et al suggest Western societies place

emphasis on the professional factors, as opposed to Confucian-based Chinese culture which preferences personal influences.[439] Nevertheless, these are all crucial elements in determining FTP. Therefore, consideration should be given to the potential for practitioners from different cultural backgrounds to interpret the same situation differently to one another, which may affect reporting of instances of sub-optimal practice. Cultural background has been suggested to influence perceptions of what constitutes wrong doing, whether to report and what form of reporting action to take.[425] It may be the case that cultural background contributed to the different responses to the dilemmas in the current study, but this is inconclusive. Further research, specifically into the impact of cultural background on RT understanding of FTP and reporting preferences is required.

The distribution of respondents related to age range did not allow for regression analysis of this demographic characteristic. Interestingly, a number of researchers have been unable to find a statistically significant association between age and whistleblowing.[382,436,440] However in non-medically related fields such as accountancy, older professionals were more likely to report wrongdoing than younger counterparts when faced with a scenario based survey.

A positive correlation was also found by Keenan with respect to age and whistleblowing relating to fraud in executives and managers.[434,437] In their study about nursing students and nurses responses to ethical dilemmas, Mansbach et al suggest there is a positive association between age and whistleblowing, which is similar to that observed in relation to the number of years of clinical experience possessed by the practitioner.[410] This association could not be evaluated in the current study because of the insufficient numbers of respondents in some of the age group categories, however many of the factors

related to the number of years in the profession and propensity to whistleblow could be applied to participant age.

Reporting preference according to the number of years' experience in the profession

The number of years practitioners have been working in the profession was the only demographic characteristic for which there were recurring significant associations between informal vs formal reporting preferences. There were four regression models indicating an association where RTs with six or more years of experience in the profession had higher odds of reporting formally than those with five years or less in the profession. This outcome was evident for the whole group of participants when evaluating, impairment and values/ethics dilemmas, as well as the identity disclosure dilemma.

The increase in propensity to whistleblow with longevity in the profession is corroborated by a study undertaken in the field of information technology project management, which showed a positive association between reporting incidence and years of work experience.[441] Studies have also demonstrated length of tenure in an organisation has a positive association with reporting,[288,431,441] the principles of which may be applied tentatively to the duration of experience in the profession:

1. With the duration of experience of an RT (particularly if they are employed in one organisation for a long period of time), may come a more detailed and deeper understanding organisational reporting mechanisms.[434] Radiation therapists with six or more years of experience may also be more familiar with the external reporting mechanisms such as those related to notification at the level of national registration.

2. In being part of the profession for a long period of time (particularly if the RT is employed in one organisation for a long period of time) displays of loyalty and competence during employment may protect the whistleblower from retaliation.[438]

3. More experienced RTs may be more confident in dealing with the repercussions of whistleblowing, thus be less fearful of reprisals than non-reporting observers.[288]

4. Longevity in the same organisation may mean the whistleblower has more positive relationships with those 'in power' and this may mean the whistleblower is more likely to report to them.[442]

Contradictory findings were published in a paper which had similar respondent numbers to the current survey (n=165). In this scenario-based survey, two vignettes with closed-ended response formats were presented to nursing students (n=82) and practitioners (n=83) and their responses were compared. The findings demonstrated there was a tendency for the students (with less professional experience), to have a greater readiness to blow the whistle, internally (B=0.34, p<0.01) and externally (B=0.35, p<0.01).[410] This was suggested to be because the more experienced nurses were apparently more aware of the retribution which might occur after blowing the whistle, and were therefore deterred from this action. Further, the more experienced nurses may have become more socialised to the environment, and as such have a greater awareness of the power of management to retaliate.[410]

The perceived scope of practice of the professional was identified as a factor which influences reporting preference of peri-operative nurses (when an error fell outside the scope of practice, the nurse was unlikely to consider reporting it).[427] Similarly RTs with less than five years of experience in the profession may not have perceived it was their

role to report other RTs, particularly if they were more experienced than them. However, direct comparison with these findings and those of the current study should be evaluated cautiously. This is because the results from the current study were related to FTP issues (some of which may have resulted in error, such as the competence scenarios) rather than medical error, which practitioners may consider more serious because of the potential threat to patient safety.

It is evident there is a lack of awareness among less experienced RTs with respect to reporting processes and the repercussions of reporting and whistleblowing. Strategies are therefore required to address this during entry level training at university and in the clinical environment by Chief RTs/RT managers.

Reporting preference according to location of clinical centre and sector of employment

There were two instances where the location of the RT's workplace was associated with reporting choice. Where identity disclosure was at stake, RTs in rural locations were more likely to report than those in metropolitan centres (Exp(B)) of 2.474). This may be because in regional RT centres anecdotal evidence indicates that RTs in charge of management may at times 'work' on the floor with the staff. As such they may be far less 'removed' from the clinical team, have a closer working relationship[427] and be perceived as more approachable than a manager at often larger metropolitan centres.

Radiation therapists working in regional locations may also be more sensitised to confidentiality and disclosure issues. In smaller, close knit regional communities, health care practitioners have to be mindful about the potential for the professional and personal

roles to overlap (e.g. a RT may know a patient because they have children at the same school).[443] As a consequence RTs reporting preferences may have been influenced because they have heightened awareness of strategies to ensure that confidentiality is maintained at all times.

Further research into the organisational culture of regional and metropolitan centres and reporting may allow for exploration of this issue, because organisational culture, personal attitudes and perceptions have also been associated with the frequency of reporting device incidents in nursing.[444]

The dose error dilemma however indicated RTs in regional locations were less likely to report compared with their metropolitan colleagues. This may be as a result of the close knit community which develops in smaller regional centres, where practitioners feel it would be unfaithful to 'tell on' their colleagues.[420] Radiation therapists working in regional centres may also be reluctant to report FTP issue related to colleagues, because of the potential impact it might have on workforce numbers, which are always more difficult to sustain in regional centres.[445]

In addition, if a practitioner in a metropolitan centre decides to whistleblow there may be more colleagues to support them in doing so, and in the event they are ostracised by one group, there may be enough practitioners outside of that group to provide support, which may not be the case in a regional centre.

Radiation therapists in the private sector were also more likely to report dose errors than those in the public sector. This may be because Chief RTs/RT managers in the private

sector are more likely to have a dual role working 'on the floor' alongside the RT team. Thus closer working relationships may be formed making staff feel more comfortable in approaching them to report FTP issues. Also, there may be different training programs regarding error reporting in the public sector and with larger workforce numbers to train in the error reporting process, there may be a reduced chance of all staff members knowing the appropriate action to take.

8.7 Conclusion

The findings identified limited demographic characteristics accounting for internal or external reporting. However, the study sample was limited and as such, there may be other demographic characteristics which were not analysed which might impact on a RT propensity to report. Factors impacting on the decision to report or remain silent include: practitioners possessing specialist knowledge on the area (e.g. because they have studied medical law and ethics). In addition personal experience of being reported, or reporting, or having a relative who has been harmed because of a sub-optimal performance may also impact on reporting preferences.

RTs in general prefer to not report or only report informally or formally internally within their organisation. External reporting is rare and tends to be more common in females, although the results cannot be generalised to the population because of the extremely low number of RTs suggesting this reporting response. Lack of reporting may be due to a multitude of factors. It is evident that a range of training strategies are required to facilitate RTs in identifying the determinants of FTP. A greater awareness is also needed on the part of the RT with respect to regulatory guidelines and notification processes. Training therefore needs to be delivered at all stages along the continuum of professional

practice. As a result, the concept of FTP and the use of reporting strategies to notify internally and externally should be incorporated into entry level university curricula.

The MRPBA needs to propose that universities' pedagogical strategies for teaching, learning and assessment relating to FTP are clearly articulated. Employers and the MRPBA should take a greater responsibility in ensuring RTs are aware of when to report and how to report. The U.K. HCPC illustrates very clearly the process of making notifications, using multi-media, as opposed to written documents and it releases most of the proceedings of FTP hearings. Both these strategies are useful educational tools in their own right and compliment the other resources that are available. Lessons can be learned from international regulation agencies, so that the general public can be reassured it is protected from practitioners whose performance is below the accepted standard.

Chapter 9

General discussion:

9.1 Introduction

Radiation therapists are key members of the radiation oncology multi-disciplinary team. The role of the RT is very technically oriented, with the accuracy and reproducibility of treatment being an imperative aspect of their practice. Equally important is a well-developed portfolio of professional skills. In order for patients to receive high standards of care, the RT needs to consistently perform in line with the requisite capabilities, professional guidelines and codes promulgated by the registration board.[17,322] Thus they need to be fit to practise.

In the event a RT's practice falls below the accepted standard, a number of challenges are presented for the RT in question and for the colleagues with whom they are working. According to the National law, serious instances of sub-optimal practice are required to be reported to the registration board through the mandatory notifications process.[11] If the departure from competent clinical practice falls outside of that which constitutes notifiable conduct (warranting mandatory reporting), the challenge arises as to whom to report to and how to go about reporting. In addition, colleagues of the practitioner whose FTP is in question may not realise practice has fallen below expectations. A reason for this may be because practitioners view the concept of FTP in variable ways.[178,287]

Limitations in RTs understanding about FTP and its application to daily clinical work are probably based on the poor definition of FTP in the literature. Further, registration bodies do not define FTP well and in a consistent manner. As such, this thesis was undertaken to determine what RTs understood about the concept of FTP in the first instance, and thereafter to elucidate their interpretation of FTP with respect to their daily practice. A series of FGs revealed how RTs defined FTP in their professional context. The participants could not reach a consensus on the definition of FTP. However, three key determinant classifications of FTP in RT emerged from the data, namely: impairment: competence: and values/ethics.

The thesis also investigated RTs' responses to hypothetical scenarios depicting FPT dilemmas via an online survey. Even though there were relatively low numbers of survey participants, a range of themes emerged with some achieving data saturation.

9.2 Formulation of the substantive theory through integration of the research findings

The findings from the grounded theory analysis of the FG discussion and the national survey data were integrated to form the following substantive theory. The theory encapsulates the essence of the research as a whole:

Radiation therapists' understanding of fitness to practise is contextually derived and subjectively interpreted, throughout the continuum of their professional working life. Radiation therapists demonstrate reluctance to report FTP issues and where reporting does occur, the more experienced the RT the greater the chance of them reporting.

The following discussion will attempt to summarise how the theory has been created, through an integration of the qualitative and quantitative data from the FG discussions, the national survey and the literature. The key findings of the study and how they might be applied to practice will also be described.

The discussion follows the flow of the thesis, with each chapter being examined in turn with respect to the literature and the findings of this research. Where manuscripts have been included in Chapters 4, 5 and 7, with incorporated discussions within their content, a summary will be provided of the key discussion points. The chapter concludes with a discussion on the implications of the findings of the research to the different stakeholders within the profession and registration board, and recommendations for future directions in research.

9.3 Defining fitness to practise in radiation therapy

There is a lack of clarity in the literature relating to the definition of FTP in the medical and nursing professions[14,15,317,446] and a paucity of literature relating to FTP, professionalism and competence in the RT profession. This lack of consensus was reflected in the findings of the FGs.

Rather than defining FTP as a list of characteristics (akin to many publications defining professionalism and FTP, and their measurable behavioural expectations)[15,61,69,70,91,447,448], the four themes which emerged from the FGs presented FTP from different perspectives. These may have been influenced by the context and subjective interpretations of the participants (environmental/situational and personal influencing factors). This was exemplified by one FG participant who suggested definitions of FTP may depend on the

'practitioners' level of experience/longevity in the profession'. The level of experience is reflected in the concept of the continuum of professional practice, where the RTs definition of and indeed their perception of FTP may change according to their point along the continuum of professional experience.[178]

Although there is no evidence from the literature to suggest professional experience is related to perceptions of FTP, two studies from the medical profession have indicated generational differences in the perceptions of professionalism.[310,311] Given there are similarities between some aspects of FTP and professionalism, both professional experience and age, together with other personal factors such as attitudes and values may contribute to the differences in perceptions and definitions of FTP.

The notion that FTP exists along a continuum, which evolves in parallel with changes in technology[178] presented a clear reminder some RTs continue to remain wedded to the notion that technology 'governs' RT practice. As such it will be important in the future for RTs to continue the quest for recognition of their specific body of knowledge and skills, both within the profession and in the wider health care field. It will also be necessary for RT to establish its professional position alongside other allied health professionals and remove itself from the long existing perception that it is nothing more than a technical vocation. This will be a challenge given the hierarchical relationship between RTs, ROMPs and ROs continues to prevail in some areas of RT.

In contrast to defining FTP as a continuum, the theme of 'being qualified' was stated by a small number of RTs in their definitions of FTP. These definitions intimated possession of a qualification meant the RT was fit to practise. The descriptions from participants

were reflective of FTP being achieved by virtue of having graduated into the profession, irrespective of how long ago this was or other personal factors which might affect their capacity to practise safely post-graduation. This 'static' perception of FTP as a 'one off' occurrence creates the expectation that once the RT has qualified, they have achieved FTP and 'ticked the box'. This notion parallels the 'checklist approach' to defining professionalism which has been discussed previously.

Similarly, the themes related to defining FTP as 'behaviour and conduct' and a 'state of mind' are reflective of the list-based approach which traditional definitions of professionalism have been based upon.[70] Fitness to practise as a 'behaviour and conduct' theme represented the overt visible actions of competence which practitioners' FTP may be judged upon. In contrast, the state of mind theme related primarily to the values and attitudes of RTs (the personal characteristics). It is these characteristics which help to shape each individual practitioner's subjective interpretation of the social reality around them. As such RTs definitions of FTP may be influenced by values and attitudes.

It was evident from the codes assigned to both themes that there was a lack of clarity on the part of RTs being able to distinguish between professionalism and competence.[178] This may be due to RTs having the traditional list-based schema for the concepts of professionalism and competence embedded into their practice and appraisal of performance. There has, however, been a recent departure from the list-based approach to defining professionalism towards the notion of professionalism being a belief system about how groups ensure their members are trustworthy.[70] Utilisation of lists of the behaviours expected of a professional may assist in ensuring members of the professional group can be trusted by the public and patients. However, lists of behaviours should not

be the only method of attesting to whether a practitioner is performing in a professional manner. With respect to FTP, these lists may be a useful method of helping a practitioner discern whether there has been a departure from accepted standards, but they should not be used as the sole tool for determining FTP.

The next section of the discussion examines the different determinants of FTP which were explored by participants in the FG discussions. These determinants were thematically analysed and used to develop a classification system of the determinants of FTP which informed the design of the survey.

9.4 Classification of the determinants of fitness to practise in radiation therapy

Identification of the factors which determine FTP remains unclear in the literature. There are a limited number of publications, with novel research seldom undertaken. More so, papers use the synthesis of existing literature to make recommendations.[14,15,319] The challenge with this approach is that the application of these generic lists of determinants to other disciplines may not be appropriate due to the nature of the role of the specific profession. There may though be core determinants of FTP which can be applied across all health professions. However, the emphasis placed on these may be different for RT. For example, the high-tech, team centred approach in RT treatment delivery, (where RTs work closely with one another and are constantly checking one another) may give rise to unique perspectives of what RTs consider are the determinants of FTP.

There were 21 different factors from the FGs which RTs suggested were determinants of FTP. All were related to performance in the workplace and did not consider issues which may have arisen outside of the workplace, which nevertheless might have impacted on FTP, for example criminal activity.[287] The data from SRTs provided a more comprehensive overview of the factors which influence FTP. This included the core themes of competence, health and ethics (rather than just competence and ethics that were suggested by the junior RTs).[287] This may be explained by the greater exposure this more experienced group of RTs might have had to issues relating to FTP over the course of their professional life.

The key themes from the definitions and determinants of FTP were used to inform the design of the survey, where RTs provided a diverse range of responses reflecting the contextual and subjective interpretation of FTP and reporting preferences.

9.5 A national survey investigating Australian radiation therapists' responses to FTP dilemmas

When faced with a diverse range of hypothetical FTP dilemmas relating to impairment, competence and values/ethics, RTs presented many and varied suggestions of how they would respond. These will be discussed further in the subsequent section, with respect to the concepts which form the substantive theory. There were two key themes which emerged from the data:

1. Radiation therapists suggested they would respond to the hypothetical dilemma immediately, by 'dealing with the situation'. The key characteristics of this theme

involved the RT displaying either a verbal and/or physical action to manage the situation;

2. Radiation therapists indicated after experiencing the hypothetical instance of sub-optimal practice, they would act either as a silent observer and not report the issue to anyone or they suggested one of three reporting preferences (IMS, IFR and EFR).

9.5.1 Key theme 1: Radiation therapists' immediate responses to hypothetical fitness to practise dilemmas

A series of eight hypothetical dilemmas were presented to RTs, relating to one of three FTP determinant classifications; impairment: competence and values/ethics.[286,287] Each RT was allocated four dilemmas to respond to (one impairment, two competence and one values/ethics). Each hypothetical dilemma was situated in a different context, with differing situational factors surrounding each dilemma. In addition, every RT respondent came to the survey with different levels and extents of experience, training and knowledge of their organisation. These factors have been proposed to influence the recognition of incidents related to medical devices and may be attributed to how RTs recognise and react to FTP dilemmas.[444]

Avoiding responsibility was one of two themes which were common across the impairment, competence and values/ethics dilemmas. The theme of 'avoiding responsibility' indicated practitioners did not want to take the risk of making a decision about the FTP of a colleague on their own. The preference of the RT was to consult another RT who provided guidance/reassurance about their decision. The results of a

study undertaken on intensive care nurses and doctors indicated participants informally reported errors in order to clarify or validate their opinions or concerns.[379] The results of the above study provide a different perspective to that of 'avoidance of responsibility' and mirror more so, the 'responsible referral' theme which emerged from the dose error scenario in the current study.

Nevertheless, whether RTs consult their peers to shift the decision making responsibility, gain reassurance or seek guidance, it is necessary for Chief RTs/RT managers to better equip staff with the confidence and competence to deal with such situations. This is of particular importance for the dilemmas related to competence, because they arise more frequently than impairment or values/ethics issues. Providing examples of FTP dilemmas and discussion forums to address ways of approaching real FTP issues in practice may be one strategy which Chief RTs/RT managers can use to assist in developing the skills of RTs.

Highlighting how situation awareness can impact on decision making capability and how moral distress can affect staff are also areas which require attention by Chief RTs/RT managers. Neither of these concepts have been investigated in RT, however, both may impact on decision making about FTP. For example, when RTs suggested in the current study they would 'cover' for a colleague or assist them in 'saving face', they may have done so with the knowledge that this may not have been the correct course of action to take. As such, the RT may have encountered a degree of moral distress in making the decision. It would be of value to investigate the concepts of both situational awareness and moral distress with respect to the immediate responses of RTs to FTP dilemmas.

Giving the hypothetical practitioner the 'benefit of the doubt' was also a core theme which featured across all three determinant classifications. This theme suggested those RTs responding in this manner, attributed the sub-optimal practice issue as a one off occurrence. The danger with this approach is that in the workplace RTs will move around the department and work with different people at different times. Thus there is the potential for a trend to be established where patterns of poor performance go un-noticed, because colleagues are prepared to give their peers the benefit of the doubt.

Overall the findings suggest many RTs take a pragmatic approach to dealing with the hypothetical situation. The responses of RTs reflected what would work in practice to allow them to continue to get through their daily work.

9.5.2 Key theme 2: Radiation therapist reporting preferences in response to hypothetical FTP dilemmas

Reluctance to report

A large proportion of RTs were reluctant to report instances of sub-optimal practice outside of their workplace, acting as 'silent observers'. This is of concern when one considers the plethora of issues which might potentially arise in the radiation oncology department and impact on patient and staff safety. Although the literature postulates there is a no-blame policy relating to technical errors, the results of the current study suggest there need to be additional strategies in place to encourage reporting of both technical and professional issues. One such strategy might involve having a trained group of RTs or health care professionals from outside of the RT department to provide advocacy for

those RTs who may want to report but are unsure about the process or whether the issue warrants reporting.

Radiation therapists need to be confident that should an issue arise, their colleagues will have the knowledge, confidence and time to address the situation in an appropriate manner. Another strategy would be to provide more in-depth guidance to RTs as to what constitutes FTP and what the processes are in the event of witnessing a colleague whose practice is sub-standard. Indeed, a study of nurses and doctors and their attitudes to reporting suggested despite most staff knowing incident reporting processes existed, many did not know how to access them.[418] Utilisation of scenario-based examples may be beneficial in developing packages for use in guiding practitioners in making decisions about FTP.

It is clear that guidance for FTP should be addressed during entry level training, by employers for the duration of tenure of practitioners and by the professional regulatory organisations (MRPBA).

The high workload of RTs and the 'mind-set' that they need to keep up to speed with the throughput of patients may mean they do not feel they have the time to report issues when they arise. The findings from an Australian survey support this where 50% (93/186) of doctors and 40% (235/587) of their nursing counterparts felt completion of incident forms was too time-consuming, or the incident was too trivial to report.[418]

If they do not report and time passes, RTs recollections of what happened may fade and their perceptions of the potential effects of what happened may become diluted. It is at

this point the RT may decide it is not worth bothering other staff with this issue and so they do not pursue reporting. Chief RTs//RT managers should therefore develop guidance which encourages practitioners to report as soon as possible after an issue has arisen.

The training of a core group of RT advocates in each department able to support and provide advice for those wanting to report may be a useful strategy. However, it would be important for this group to be representative of the cross section of staff and not be composed solely of RTs at management level. Representation of a range of staff (gender, age, cultural background, levels of experience) may increase the likelihood of appropriate reporting because they are not seen to be in a 'position of power'. Therefore, the inhibitors cited in the literature as to why people do not report, such as fear of losing their job, personal vulnerability or demotion can be avoided.[392,449]

The close-knit team environment in RT may make reporting more problematic and reduce the likelihood of RTs wanting to report. This is because the RT may know they have to work with members of staff on a daily basis. However, this situation is challenging, particularly if the poor performance of certain individuals is ignored and goes unreported for long periods of time. It may then be accepted as an idiosyncrasy of that individual and be tolerated, even though other staff may suffer as a result. Therefore, to reduce the likelihood of any ill-feeling or animosity amongst their team, they may decide not to report. Colleagues may even advise others who are considering reporting to not do so, in case they upset other members of the team. In this case, having an advocate who the staff member can go to, may promote reporting. In addition, having members of staff external to the department to provide support would enable those wanting to report incidents to do so anonymously.

The issue of non-reporting should be addressed locally within RT departments and also at an organisational level within hospitals. Further research is required to ascertain respondents' reasons for non-reporting because this would provide further insight into the development of strategies to facilitate whistleblowing. This is of particular importance in cases such as the intoxication and physical impairment dilemmas, because these may warrant mandatory notification to the MRPBA and support with this process may be required.[11]

Reporting of sub-optimal practice

In general, RTs were inclined to mention their concerns to colleagues in an informal manner, as opposed to proceeding with formal methods of reporting. This may be interpreted as their inclination to seek reassurance they were taking the correct action. A response such as referral to another member of the team for advice might be construed as the RT avoiding the responsibility of being the sole reporter of the event. Therefore, RTs need to be empowered by their employers to take a more formal route of reporting. Utilisation of an advocate system may give practitioners the confidence to take their concerns forward. Both the 'avoiding responsibility' and 'responsible referral' themes identified in the current study, are again indicative that generally, RTs require clarification and reassurance about how to action their concerns as observed by Espin in their study on errors in medicine and reporting by medical staff. [379]

Very rarely was an external report suggested in the data, even for events that might warrant notification. This may be an area where the registration board needs to consider how they promote and inform RTs about what constitutes both mandatory and voluntary notifiable conduct.

Utilisation of scenario-based dilemmas has seen an increase in ethical and whistleblowing research in the past few years.[288,390,391,410] As a result of participation in the current study and considering the instances of sub-optimal practice depicted in the scenarios, RTs may have become more aware of how they might in the future respond to clinical FTP dilemmas. Given this there may be merit in the MRPBA developing a scenario-based training package to further RTs understanding and decision making skills. Rather than using a unidimensional approach of document-based information, the use of multi-media based solutions offers potential to engage practitioners. In addition, employers and universities could be encouraged to utilise resources produced in the training of students and staff.

Targeting training related to FTP and reporting

Although there were no demographic characteristics indicating outright predictive capacity for reporting, consideration may need to be given to targeting training towards RTs who are less experienced. Increasing the experience of staff regarding FTP issues and reporting may then impact on their propensity to act appropriately. The findings of a survey of South Australian doctors and nurses on their attitudes towards reporting, suggested they were more likely to report on incidents they had experienced more often.[418]

It is also important that prior to entering the profession, RT students are equipped with the knowledge, understanding and skills to deal with instances of sub-optimal practice. This is something which has arguably been neglected in entry level RT education. Only since the inception of the NRAS,[153] and implementation of the MRPBA course accreditation process has FTP been included as one of the criteria for evaluating practitioner

performance. As such, it is timely that universities ensure their curricula are updated to reflect these changes.

The effect of context and subjectivity on reporting preference

The situational context of individual dilemmas and the previous professional experience of each RT may have contributed to the responses which were proffered in the survey. As the professional life of the RT progresses along the continuum of clinical experience, their personal collection of unique experiences increases. Reflections on these experiences may then shape how they interpret each dilemma and the subsequent response and reporting preference. This may be one reason why RTs with six or more years' experience in the profession were more likely to report, because they had more experience to draw upon. It may also be because they were more confident in articulating their concerns to a senior member of staff or because they themselves had more senior positions. Nevertheless, it is still necessary to continue to reinforce this group of RTs about FTP.

Our results indicate that with longevity in the profession RTs may be able to discern more clearly what constitutes sub-optimal practice. As previously discussed, the duration of employment in an organisation has been positively associated with whistleblowing.[441] It would be important to investigate the impact these findings have on actual reporting in clinical practice. It may be necessary for Chief RTs/RT managers to develop strategies which help encourage reporting amongst staff with shorter tenure. In the case of RTs who have a shorter tenure in a particular clinical environment, their understanding of the organisation may be limited, they may feel less of an obligation to be loyal, more fearful of reprisals and have a less firm personal relationship with management.[288,434,438,442]

The following section will provide an overview of the recommendations and the impact of the findings from the study on the different stakeholders: education institutions, clinical organisations and their Chief RTs/RT managers, the registration board and RT themselves.

9.6 Implications for stakeholders

A series of general implications for the stakeholders will be presented in the following section and then these will be elaborated with specific recommendations relating to each. In addition, the application of the findings to other health care professions will be discussed.

1. The profile of FTP needs to be raised amongst the professional community in RT

2. Pedagogical strategies need to be developed by universities, clinical organisations and the registration board to educate RTs on FTP and reporting processes

3. Cultural shifts in the workplace need to be made, so RTs are empowered and feel comfortable reporting

4. RTs need to acknowledge that the maintenance of FTP and the reporting of sub-optimal practise is part of professional responsibility

9.6.1 Impact of the findings on educational institutions

It has been established that educational institutions need to better prepare their students with the knowledge, skills and confidence to recognise and report FTP issues. Mansbach et al suggest, whistleblowing has remained part of the 'hidden curriculum'.[410] As such, knowledge stems from 'assumptions of the teacher' and values the students' expectations, and the social context in which both teacher and those taught find themselves.[450] Given

this is the case in the delivery of Australian RT entry level programs, pedagogical tools and strategies are required to remove these assumptions and make the issues related to FTP and whistleblowing more explicit.

The use of scenario-based teaching, learning and assessment approaches may provide a platform to facilitate students in building a more diverse repertoire of experiences to reflect upon, and a forum for discussion amongst student groups with respect to:

1. Whether an instance of sub-optimal practice warrants reporting

2. To whom to report

3. What reporting processes to follow

Students also need to be better prepared to manage the issues they may encounter related to the workplace culture in RT. The importance of role models, managing peer or hierarchical pressure and not feeling compelled to conform to group norms should be explicitly incorporated into the curriculum. In addition, the impact of situation awareness and the effect of decision making on moral distress should be included. Introduction of these concepts into curricula for beginning students and development of these in parallel with student progression along the continuum towards competence, may better prepare students to deal with these situations in the workplace.

Taking a united approach with industry partners, whereby clinical educators, practitioners and representatives from the registration board take an active role in delivering sessions on FTP would also demonstrate to students that FTP issues are 'real'. It would also demonstrate the university takes the issue of FTP seriously.

Ensuring staff working in educational institutions are available to act as advocates should students experience instances of sub-optimal practice whilst on placement is also important. Students are in a vulnerable position on clinical placement and may not want to report issues to their clinical supervisors. In addition, it is crucial to provide students with the strategies and support to be aware of their own FTP together with the identification and management of personal issues which may impact on their performance.[451]

9.6.2 Impact of the findings on clinical organisations and management

Chief RTs/RT managers need to ensure they create local, contextualised, educational opportunities to assist staff in developing the ability to recognise and report instances of sub-optimal practice.[427] Additionally, a supportive culture and environment should be established and continuously reinforced, for example employing advocates to whom practitioners can consult in confidence about FTP issues. This may allow RTs to feel they can report instances of sub-optimal practice without being blamed or facing reprisals from management or peers.

Health care organisations and authorities might also want to consider the employment of an ombudsman to deal with FTP issues. This may encourage reporting because the ombudsman has a non-judgemental, neutral position and can assist the practitioner in considering different perspectives and re-framing issues.[452] There were two such agencies which were reviewed in relation to this. The Office of the Health Ombudsman in Queensland is an example of a health service complaints agency which operates

independently, impartially and in the public interest.[453] This organisation, has a multi-facetted role. It receives and investigates complaints (notifications) about health services and both registered and non-registered practitioners. Having an agency that allows the reporting of notifiable conduct of non-registered practitioners is beneficial, for example in the field of sonography, where practitioners are not required to be registered by AHPRA. Sonographers nevertheless perform investigations which are sometimes invasive and often their patients are in a vulnerable position.

In the U.K. there is a Parliamentary and Health Service Ombudsman which deals with complaints that have not been resolved by the National Health Service.[454] One of the benefits of the ombudsman is that a complaint can be made about an organisation which is not fulfilling its obligation to follow up, investigate or take action relating to a complaint. It is important that alternate reporting routes are made available for practitioners who are concerned about a colleagues FTP. An ombudsman is another route that a vulnerable practitioner (who may be anxious about reporting a colleague) can take to make the notification/complaint outside of their employer or professional registration agency. Implementation of such agencies should however be undertaken cautiously, with feasibility and cost effectiveness being considered thoroughly prior to their establishment.

Devising strategies to overcome issues related to the workplace culture (culture of silence and collectivism) may create an atmosphere where practitioners feel comfortable reporting. Facilitating discussion groups and information sharing related to whistleblowing, notifiable conduct and reporting may also benefit staff in RT departments.[444] Another forum where issues of FTP and reporting could be raised would be the usually technically-oriented journal clubs. These are conducted regularly in many

RT centres around Australia and could provide the opportunity to heighten awareness and allow for open conversations about practitioners' experiences to be raised, with respect to the evidence.

Chief RTs/RT managers need to gain the trust of their employees, so staff feel comfortable in raising concerns about issues in confidence without fear of reprisal. This is important because research has suggested silent observers who doubt managerial benevolence, integrity or ability to prevent the wrongdoing, may decide personal risk is unacceptably high and so remain silent.[455,456]

The provision of feedback on reporting also needs to be proffered by Chief RTs/RT managers to ensure the individual making the complaint knows the incident has been thoroughly considered by the relevant members of the organisation. This is important because a lack of feedback with respect to reporting has been identified as one of the greatest deterrents to reporting.[418] The encouragement of reflective practice as part of continuing professional development may also be a beneficial method of allowing practitioners to explore their views on FTP issues.

9.6.3 Impact of the findings on the registration board

The role of the MRPBA is to develop standards, codes and guidelines for the MRP profession. In addition it is responsible for approving accreditation standards and accredited courses of study, registering MRPs and students and handling notifications, complaints, investigations and disciplinary hearings.[457] As such its role in ensuring practitioners are fit to practise is paramount. At present the MRPBA and AHPRA provide

a plethora of documents for practitioners regarding capabilities, codes of conduct and guidelines relating to FTP and notifications. The findings of this study, however, suggest practitioners remain confused about what to report, how to report and to whom to report. One of the roles of the MRPBA is to raise the profile of FTP and reporting. The following section provides a discussion on some of the strategies which could be employed to do this.

A case-based approach to educating professionals about their responsibilities with respect to sub-optimal practise, may prove valuable. This might facilitate engagement of RTs and enable them to learn more about FTP and reporting. The U.K. HCPC provides an interactive, vignette-based approach to educating their registrants about FTP and raising concerns about colleagues. This approach may be appealing, particularly for less experienced practitioners who, as our study findings suggest, may be less inclined to report. It is also important for regulatory organisations where possible to develop systems which are user friendly and easy to use, because the literature has shown this impacts on the frequency of reporting issues.[458]

9.6.4 Impact of the findings on practitioners

Universities, clinical centres and their Chief RTs/RT managers and registration boards can provide the tools for improving practitioner understating of the concepts of FTP and processes for reporting of sub-optimal practice. However, before this occurs, the MRPBA need to reach a consensus on what constitutes FTP and develop guidelines which reflect this (akin to what the U.K. HCPC has done).[291]

Chief RTs/RT managers can provide a structure to encourage shifts in the workplace culture which in the past may have deterred practitioners from reporting. However, ultimately it is the responsibility of each RT under national registration, to ensure they themselves have the knowledge, skills and confidence to be able to recognise and report FTP issues. Radiation Therapists (as well as their Chief RTs/RT managers) are the agents who will influence a change in the organisational culture. Practitioners should also be actively involved in educating each other (and students), through peer discussion about their experiences. In this way they will be exposed to a greater breadth of experience via strategies such as reflective practice which may influence their future responses to issues concerning their or a peers' performance.

Finally, acknowledgement must be made of the fact that on occasions, practitioners may be reported by colleagues solely based on malicious intent, to cause them personal distress or to tarnish their professional reputation. One of the challenges all stakeholders face with FTP and reporting, is to develop and implement a fair system which also protects practitioners from false allegations.

9.6.5 Application of the findings to other health professions

There is the potential for the above implications to be applied in other health professions. This is highly relevant in medicine, where an Expert Advisory Panel of the Royal Australasian College of Surgeons has recently undertaken a large scale investigation into discrimination, bullying and sexual harassment. The panel identified the need for clear reporting processes for complaints about the professional behaviour of surgeons.[459]

Implementation of advocates and ombudsman roles may prove useful in this field and this may be of particular relevance to less experienced surgeons who may not feel comfortable reporting sub-optimal behaviours of practitioners who hold more senior positions. However, further research in medicine would need to be undertaken to investigate whether the number of years in the profession (or any other demographic or personal factors) were predictors of the reporting of sub-optimal practice (as is the case in the current study in RT).

9.7 Limitations of the study

A discussion of the limitations of each results chapter has already been provided in Chapters four to eight. Therefore the key limitations of the two phases of the study are summarised in the following section.

Timing of the two phases of the study

The two phases of the study were carried out four years apart. In the period between the FGs being undertaken and the survey disseminated, a new national registration and accreditation board was implemented. This may have altered RTs' perceptions of FTP because of its inclusion in the registration policy. However, the FGs were undertaken in Victoria, which had an established State registration board which incorporated FTP prior to implementation of the MRPBA. Consequently the introduction of the new registration board and its policies, may not have had a significant impact on the study. However, if the study were to be repeated, it would be beneficial to attempt to undertake the two phases with a shorter time frame between them, to facilitate data collection and analysis.

Sampling strategies

- There were a limited number of RTs who expressed interest in participating in the focus group study. This restricted the number of FGs conducted and meant it was not possible to achieve saturation of all of the data.[20,142]

- It is likely the invitation to participate in the survey did not reach all RTs in Australia. The professional body distributed the invitation to all of its members. In addition hard copy and email information was sent to all Chiefs RTs/RT managers. Ideally use of the list of registered practitioners from the MRPBA would have allowed all registered RTs in the country to be captured, however no such list was available at the time of request.

- The relatively small sample size for the survey meant data analysis using logistic regression was limited to the number of participants responding to specific questions. Therefore a comprehensive analysis on the influence of all demographic characteristics on reporting preferences was unable to be performed.

- Given the small sample size participant responses for all four dilemmas were used in the regression analyses. It cannot therefore be guaranteed that each and every response was independent (a condition of regression analysis).[289]

Non-response bias

Both phases of the study may have been subject to selection/response bias.[460]

- The sample size may have meant the groups studied were not representative of the overall population of RTs in Australia.

- In addition, only those interested in the topic may have participated and so representation of the population of RTs across the country may not have been achieved. This may have meant those participating were more informed about FTP and reporting processes, and as such, this may have given rise to a greater

proportion of RTs suggesting they would report the instance of sub-optimal practice depicted in the scenarios.

Survey length

Although the initial eight survey scenarios were split into two groups of four, the survey was still lengthy because of the free text response format. This may have been the reason for some questions being left unanswered in the responses and why some RTs were unwilling to respond at all.

Authenticity of responses

The survey asked participants to provide responses to the scenarios in terms of what they would do in a particular situation. Although authentic scenarios from clinical practice were used, it cannot be guaranteed what the RT said they would do in the survey is what they would actually do in the workplace when faced with a real dilemma. For example, it could be that some respondents in the survey indicated they would report an issue. In the event of a similar instance arising in clinical practice, they may decide not to report the issue, and vice versa.

Chapter 10

Conclusion and future directions

This two-phase, MMR study has investigated the perceptions of RTs with respect to their understanding of the concept of FTP and its application in daily practice. The responses and reporting preferences of RTs in relation to hypothetical FTP dilemmas were also explored.

The findings suggest there are different interpretations of what FTP is. There was however consensus on the determinants of FTP in RT, which were categorised into three key themes: Impairment, Competence and Values/Ethics. Responses to both the phase one and two studies paint a complex situation. The responses revealed practitioners' understanding of FTP evolves along the continuum of professional practice. At times, the RT's understanding of FTP may be influenced by the technology which the RT encounters during their professional life. Personal and situational factors may also affect perceptions of FTP and influence the responses and reporting preferences of RTs to hypothetical FTP dilemmas.

It was evident in the responses of the participants to the hypothetical dilemmas that RTs preferred not to report FTP issues. The most influential variable predicting reporting was the number of years the practitioner had worked in the profession. RTs with six years or more had a greater propensity to report.

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The discussion in the previous chapter described the implications of the research findings for the key stakeholders. These related primarily to the development of pedagogical approaches to engage students and practitioners in learning about FTP and reporting processes. In addition, it was argued that both education institutions and clinical organisations need to create a supportive environment which fosters open communication about FTP issues and reporting processes. This might include the creation of advocate and ombudsman roles in clinical organisations and there is the potential for these positions to be introduced across all health care disciplines, not just in RT.

There are a plethora of opportunities for further exploration of the topic of FTP and reporting/whistleblowing in RT and the wider health care field:

1. Further examination of how demographic characteristics influence the reporting of sub-optimal practice is needed. This would require a re-structured survey with a sampling strategy which ensures the recruitment of larger numbers of participants (than were recruited in the current survey) in each of the demographic categories. In addition other personal factors, such as previous experience of a FTP issue and familiarity with legal and ethical ramifications could be analysed for predictive capacity for reporting.

2. The implementation of pedagogical strategies in education institutions, clinical organisations and the regulatory organisation (MRPBA) requires evaluation, as would the incorporation of advocate and ombudsman roles in clinical organisations.

3. Testing of the substantive grounded theory to confirm its assertions empirically in RT, the other MRP professions and wider health care field is required.

4. The reasons why RTs and other health care professionals are reluctant to report warrants further investigation, to allow for strategies to be put into place to overcome these.

5. The impact of moral distress and situation awareness on decision making with respect to FTP issues should be explored as these are both areas which are yet to be examined in RT and the MRP professions.

6. The reporting/whistleblowing propensity of students should also be investigated to allow for additional strategies to be put into place to support students who encounter instances of sub-optimal practice whilst on clinical placement.

7. Exploration in the wider health care professions fields into reasons why reporting does not occur. This may be of particular interest in medicine, particularly Surgery, given the recent focus on the reporting of bullying, sexual harassment and discrimination.

In summary, our study has demonstrated important gaps in the understanding and implementation of FTP by all stakeholders. There needs to be a cultural shift in the profession of RT, starting with the delivery of FTP education and awareness programs for entry level students. This should then be reinforced by clinical organisations, Chief RTs/RT managers and the registration board to ensure complete professionalisation of RTs, which may in turn make RTs more accountable for their actions and those of others.

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Appendices

Appendix A: Dissemination of findings

The following is a list of presentations arising from the work undertaken for the purposes of the thesis.

Presentations

- Defining fitness to practise in Australian radiation therapy: a focus group study, Poster, UKRO, Manchester, 2011

- The Determinants of fitness to practise: A focus group study, Proffered Paper, ASMIRT, Sydney, 2012

- Qualitative research in the medical radiation sciences, AIR Research Symposium, Invited Speaker, Brisbane, 2012

- Focus groups: A suitable method for research in regional/rural centres, AIR Research Symposium, Proffered Paper, Melbourne, 2012

- Investigating Australian radiation therapists' responses to fitness to practise scenarios, ISRRT, Helsinki, 2014

- The use of an online survey to investigate Australian radiation therapists' responses to instances of un-professional conduct, ASMIRT, Melbourne 2014

Appendix B: Focus groups ethical approval and supporting documents

Ethics Approval Letter: Focus groups

MONASH University

Standing Committee on Ethics in Research Involving Humans (SCERH)
Research Office

Human Ethics Certificate of Approval

Date	24 September 2007
Project Number	CF07/2809 – 2007001727
Project Title	A focus group study into fitness to practise in radiation theraphy
Chief Investigator	Assoc Prof Marilyn Baird
Approved	From 14 September 2007 to 14 September 2012

Terms of approval
1. Approval is only valid whilst you hold a position at Monash University.
2. It is the responsibility of the Chief Investigator to ensure that all pending information (such as permission letters from organisations) is forwarded to SCERH. Research cannot begin at an organisation until SCERH receives a permission letter from that organisation.
3. It is the responsibility of the Chief Investigator to ensure that all investigators are aware of the terms of approval and to ensure the project is conducted as approved by SCERH.
4. You should notify SCERH immediately of any serious or unexpected adverse effects on participants or unforeseen events affecting the ethical acceptability of the project.
5. The Explanatory Statement must be on Monash University letterhead and the Monash University complaints clause must contain your project number.
6. **Amendments to the approved project:** Requires the submission of a Request for Amendment form to SCERH and must not begin without written approval from SCERH. Substantial variations may require a new application.
7. **Future correspondence:** Please quote the project number and project title above in any further correspondence.
8. **Annual reports:** Continued approval of this project is dependent on the submission of an Annual Report. This is determined by the date of your letter of approval.
9. **Final report:** A Final Report should be provided at the conclusion of the project. SCERH should be notified if the project is discontinued before the expected date of completion.
10. **Monitoring:** Projects may be subject to an audit or any other form of monitoring by SCERH at any time.
11. **Retention and storage of data:** The Chief Investigator is responsible for the storage and retention of original data pertaining to a project for a minimum period of five years.

Dr Souheir Houssami
Executive Officer, Human Research Ethics (on behalf of SCERH)

Cc: Prof Brian Clark Jolly; Dr Michal Elisabeth Schneider-Kolsky; Ms Caroline Anne Wright

Phase one: Explanatory information for focus group participants

Note, There were 2 versions of this distributed according to which focus group

practitioners were allocated into: Radiation therapist/Senior radiation therapist

MONASH University

October 2007

Explanatory Statement (Radiation Therapist)

Research Project:

A Focus Group Study into Fitness to Practise in Radiation Therapy

Project Number: CF07/2809 – 2007001727

Investigators:

Associate Professor Marilyn Baird, Professor Brian Jolly, Dr Michal Schneider-Kolsky,

Caroline Wright

This information sheet is for you to keep.

My name is Caroline Wright and I am conducting a research project under the supervision

of A/Prof Marilyn Baird, Prof Brian Jolly and Dr Michal Schneider-Kolsky in the

Department of Medical Imaging and Radiation Sciences towards a Master of Philosophy

at Monash University.

Introduction

We have randomly selected you from a list of practitioners who responded to a letter

which was sent to you in October 2007. Your name was taken from a list of practitioners

(in the public domain) who are registered by the Medical Radiation Practitioners Board of

Victoria (MRPBV). This letter invited you to contact us and register your interest in

participating in a focus group on Professionalism.

The purpose of the research

The purpose of this focus group is to investigate your views on Fitness to Practise in Radiation Therapy. We are conducting this research to find out what Fitness to Practise means to you. The information that we get from this focus group will allow the researchers to understand Fitness to Practise from the point of view of practitioners. The data once analysed will assist us in the development of a questionnaire relating to Fitness to Practise, which will be distributed widely throughout the Radiation Therapy community. Your views, opinions and experiences will be valuable in helping us to construct the questionnaire.

What does the research involve?

This focus group will involve ten randomly selected participants all of whom are state registered Radiation Therapists. It will allow you to discuss your views, opinions and experiences with fellow participants on the topic of Fitness to Practise. This discussion will be co-ordinated by a nominated, suitably trained person who will be briefed on the topic and provided with a guide to assist in managing the discussion. There will also be another person present who will make anonymised notes on what is discussed.

In addition to taking notes, we will be audio-taping the discussion.

In order that we are able to organise a suitable date and time for the focus group, we would like you to complete the attached form and rank the dates in order of your preference and availability for the conduct of the focus group. We would then like you to email this back to us at the following address: ████████████████████████ by October 19th 2007.

The focus group will be conducted at the Secretariat of the Australian Institute of Radiography (32 Bedford Street, Collingwood, Victoria) on a weekday evening and will last for two hours. We will provide further details of the location and travel/parking

instructions in advance by email and telephone you to confirm your attendance a few days prior to the focus group. This will give you the opportunity to clarify anything or ask any questions relating to the conduct of the focus group.

On the evening of the focus group, you will have the opportunity to ask any questions, before you are asked to sign a consent form agreeing to participate. At the conclusion of the focus group, we will ask you to fill in a short evaluation survey (this will take approximately five minutes to complete and will be anonymous).

If you have experienced instances of less than optimal practice, we will also ask if you would like to participate in a short individual interview. The information from the interview will further assist us in our research. You do not have to agree to participate in the interview.

Apart from taking the time to travel, park and participate in the focus group, participation in this study will not cause you any further inconvenience.

There will be no financial rewards for participation in this study, however participation may contribute to your own Continuing Professional Development (CPD).

As such we have organised appellation of CPD credit points from the Australian Institute of Radiography CPD program. Refreshments will be provided during the evening.

Can I withdraw from the research?

Being in this study is voluntary and you are under no obligation to consent to participation. You may withdraw at any stage, or avoid answering questions and discussing issues, which are felt to be personal, sensitive or intrusive.

Confidentiality

All aspects of the study, including the results will be strictly confidential and only the researchers will have access to information on participants. The data collected will not identify your personal details. At the commencement of the focus group you will be

issued with a colour coded name badge (each participant will have a badge of a different colour). This will enable the note taker to differentiate between the opinions each participant and record them without using names. In order to preserve your identity the reporting of any results will incorporate pseudonyms. As this is a group discussion, we ask that confidentiality be maintained by all participants and that you do not relay any information, which has been discussed during the focus group to anyone outside of the group.

Department of Medical Imaging and Radiation Sciences

Faculty of Medicine, Nursing and Health Sciences

Monash University

Building 13C

Wellington Road

Clayton 3800

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████████████████████████████

www.monash.edu.au/radiography

ABN 12 377 614 012 CRICOS provider number 00008C

Incident Reporting

If during the course of the focus group discussion you conclude that you ought to report an incident or professional misconduct, you will be counselled to approach the Registrar of the MRPBV.

The details of the MRPBV complaints process can be found on the following website:

http://www.mrpb.vic.gov.au/complaints.php

Storage of data

Storage of the data collected will adhere to the university regulations. All data will be kept on university premises in a locked cupboard/filing cabinet for 5 years. A report of the study may be submitted for publication, but individual participants will not be identifiable in such a report.

Results

If you would like to be informed of the initial research findings, please contact Caroline Wright by email after March 30th 2008.

If you would like to contact the researchers about any aspect of this study, please contact the Chief Investigator:	If you have a complaint concerning the manner in which this is being conducted, please contact:
Associate Professor Marilyn Baird Faculty of Medicine, Nursing and Health Sciences Monash University Building 13C Wellington Road Clayton 3800 ███████████████ ███████████ ████████████████	**Human Ethics Officer** Standing Committee on Ethics in Research Involving Humans (SCERH) Building 3e Room 111 Research Office Monash University VIC 3800 ██████████ █████████ ██████████████

Thank you for participating in this research project

Focus group consent form

MONASH University

Consent Form – *Radiation Therapist*

Title: *A Focus Group Study into Fitness to Practise in Radiation Therapy*

I agree to take part in the Monash University research project specified above. I have had the project explained to me, and I have read the Explanatory Statement, which I will keep for my records.

I understand that agreeing to take part means that I am willing to/for:

1. Participate in a focus group
2. Complete an evaluation form at the conclusion of the focus group

I also understand that the focus group proceedings will be audio-taped and that anonymised notes of the discussion will be recorded.

I understand that my participation is voluntary, that I can choose not to participate in part or all of the project, and that I can withdraw at any stage of the project without being penalised or disadvantaged in any way.

I understand that any data that the researcher extracts from the focus group for use in reports or published findings will not, under any circumstances, contain names or identifying characteristics.

Participant's name _____

Signature _____

Date _____

NOTE: This consent form will remain with the Monash University researcher for their

records

Focus group room layout

		D
		O
		O
		R

		1			Floyd
Sue		1			Bob
Lucy		1		3	Ryan
Bobby		9		4	Rosemary
Basil		8		5	Towser

R	J
7	6

DOOR

Refreshments Table
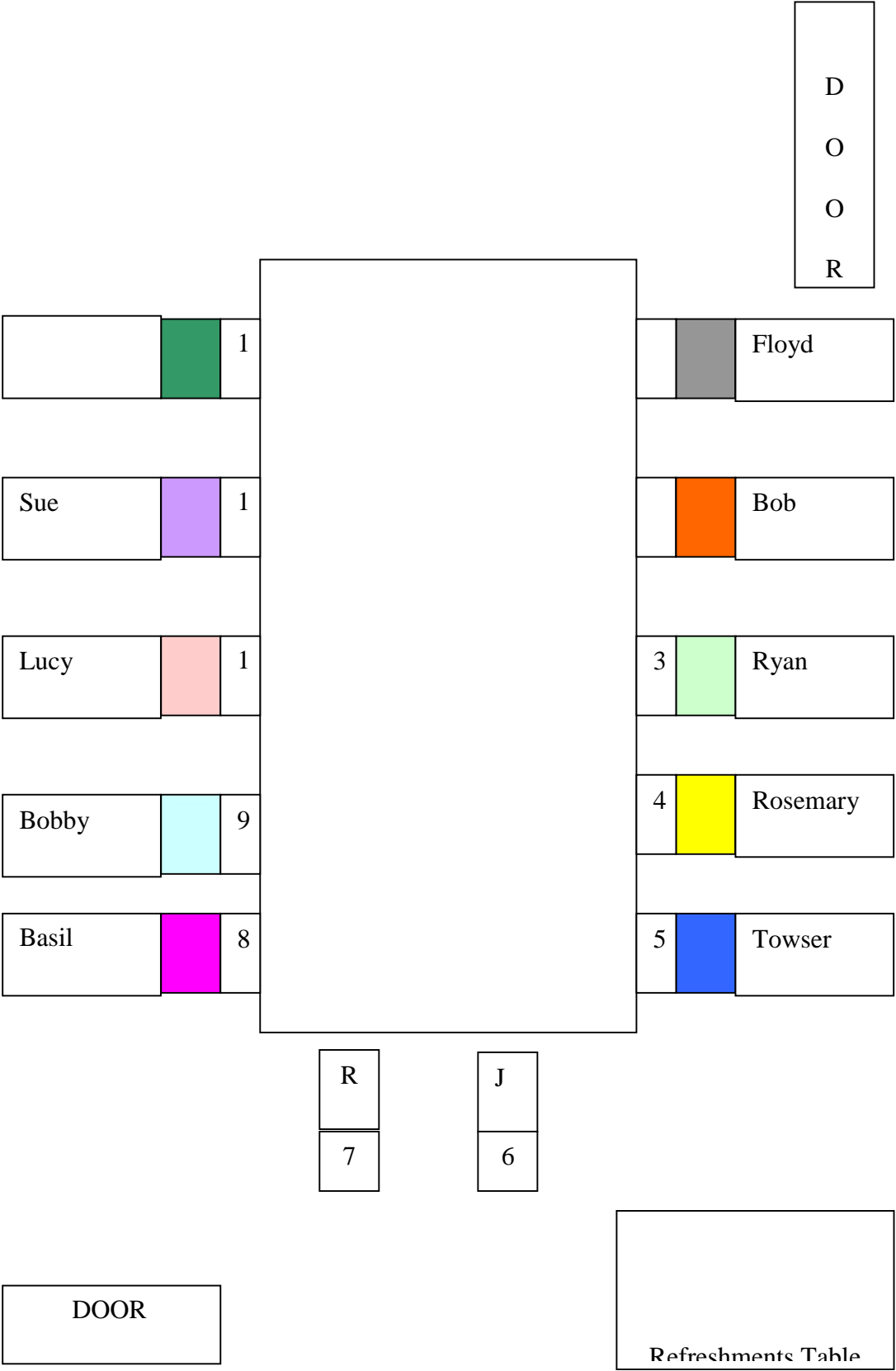
Summary of preparatory activities for focus groups

Contact details of registered RTs were acquired for a $40.00 fee from the Medical Radiations Practitioners Board of Victoria public domain list (MRPBV). The contact details of the MRPBA were sourced from the internet, and an email requesting access to the names of practitioners was sent to the registrar of the Board. This application provided information about the study, and justification for the need to access the names and contact details of RTs. Approval was granted and an electronic database of the names of all registered RTs in the State of Victoria was acquired. The recruitment process follows:

The sample of practitioners from which the FG participants were recruited was selected from the MRPBV list, this included all practising RTs living in metropolitan Melbourne, with complete contact addresses.

Prior to mailing hard copy letters that invited RTs to consider participating in the focus groups, a cross check of the names and addresses (which were printed directly from the data base) revealed a number of inaccuracies. This meant each name and contact address had to be checked manually prior to re-printing the envelope labels because some RTs had specified their home addresses and others their employers addresses. This was unanticipated and very time consuming, but necessary if the letters were going to reach their destinations. Table A1 shows the distribution destinations list for the hard copy mail out and the number of letters sent to individuals and each clinical organisation.

The whole sample of RTs were sent a letter providing information about the study, with an rsvp email address and date to respond if they were interested in participating. In the case of practitioners who had their employer address for correspondence, it was possible to send a follow up email requesting information on the number of letters which did not get distributed and the reasons for this. Only two hospitals responded to this request (Hospital I and H). Hospital I had a total of ten practitioners on maternity leave, one who

had re-located to a rural centre and one who was unknown to the department and hospital

H had three people on annual leave and one on maternity leave (Table A1).

Table A1 Dissemination of letters to study sample

Contact Address	Number of practitioners sent letters of invitation to participate (N=331)
Private Address	67
Hospital A	21
Hospital B	20
Hospital C	25
Hospital D	13
Hospital E	12
Hospital F	7
Hospital G	6
Hospital H	35
Hospital I	81
Hospital J	44

A ten day period was given for RTs to register their interest by email

A return email was sent on the 11th day to all those who responded by the deadline (and

the fourteenth day for late respondents) containing the explanatory statement eligibility

criteria form and a dates preference form. The eligibility criteria form was designed to

allow participants in the three focus group categories to be identified in terms of their

current role, seniority and level of experience in the profession (Junior RT (JRT), Clinical

Educator (CE) and Senior RT (SRT). This form also requested a pseudonym, telephone

contact details and a preferred focus group date. The choice of the final date for each FG

was the one which the majority of practitioners ranked highest.

A deadline of seven days was set for these forms to be returned. During the initial stages

of recruitment process (day 21) a Pilot FG was conducted in order to ensure the questions

were interpreted correctly and the Moderator and Moderators' Assistant had the opportunity to familiarise themselves with their roles.

Twenty three practitioners returned the forms indicating they were willing to participate in the FGs. There were 14 JRTs three of whom had worked as a Clinical Educator (CE) and 9 Senior RT's (SRTs), two of whom were currently CE's.

It was decided three FGs should be conducted. Two of the groups consisted of JRTs and one group of SRTs (this reflected the composition of the profession being comprised of a greater number of Junior RTs).

All participants were contacted by telephone one week prior to the FG to confirm the date and provide the opportunity for them to ask any questions about the conduct of the study. They were informed at this stage that they would be contacted again by telephone on the day before the FG. A follow up email was also sent containing a participant guide (ground rules for the conduct of the FG) and directions to the venue. Participants were requested to notify the researcher by telephone or email if they discovered they were unable to attend the FG. Table A2 provides a summary of the processes involved in conducting the FGs.

Table A2

Week	Activity
1	Contact MRPBV Book venue Send initial letters Brief Moderator and Writer, provide with focus group interview guide Photocopy Evaluation forms with date on (to identify group) Photocopy Consent forms Prepare do not disturb signs
2	Deadline for expressions of interest, Confirmation of entry criteria explanatory statement and dates list ,venue information
3	Response to confirmation of entry email and preferred dates Randomisation Prepare participant name badges
4	Confirm attendance by telephone Dry run of focus group Evaluation of dry run Modification of FGI questions and process Organise refreshments
5	Prepare and test recording devices Undertake FGI (Charge RT's)
6	Undertake FGI (Clinical Educators RT's)

MONASH University

Focus group introductory letter

Caroline Wright

Room 125,

Building 13C

October 30th 2007

Dear

My name is Caroline Wright (MSc, PGCE, BSc(Hons) DCR(T)) and I am the Course Convenor for the Graduate Entry Master of Radiation Therapy at Monash University. As part of my role at Monash, I am interested in issues surrounding professionalism and how we can investigate these and use the results to improve the course. As such, I am undertaking a research project as part of my MPhil in this area.

I am looking to recruit practicing Radiation Therapists to participate in a focus group discussion on professionalism. This project has been approved by the Monash University Standing Committee on Ethics in Research on Humans (SCERH). Your name and contact details were obtained from a public domain list of practitioners who are currently registered by the Medical Radiations Practitioners Board of Victoria (MRPBV).

For my initial investigations I will conduct a series of focus group interviews with practicing Radiation Therapists. The groups will comprise of Clinical Educators and Radiation Therapists with all levels of experience. The FGs will be held at the Secretariat of the AIR (Collingwood) and will last approximately 90 minutes. The focus group discussions have been given appellation from the AIR as a Continuing Professional Development activity.

If you are interested in participating in one of the FGs, please contact me on the following email address: ▮▮▮▮▮▮▮▮▮▮ by Friday October 12th 2007. I will then be able to provide you with further information relating to the study by return email.

Thank you for your time.

Kind Regards,

Caroline Wright

Focus group selection criteria questionnaire

Please complete and return forms A and B to Caroline Wright by email or Fax before October 19th 2007 ███

Name: _____

Contact telephone number: _____

Preferred email contact: _____

Please tick the box that applies to you for each question

Question 1: How long have you held your current State Registration as a Radiation Therapist?

Less than 1 year ☐   1 -3 years ☐   4-5 years ☐   More than 5 years ☐

Question 2: Are you currently working as a:

Radiation Therapist (Grade 1, 2, 2A) ☐   Charge Radiation Therapist (Grade 3) ☐

Senior Management (Grade 4+) ☐   Clinical Educator (any grade) ☐

Question 3: Have you previously held the position of Clinical Educator?

Yes ☐   No ☐

Question 4: How long have you been employed in your current position?

Less than 6 months ☐   6 months to 1 year ☐

1 year to 3 years ☐   More than 3 years ☐

If you are selected to participate in the focus group we will be using pseudonyms to identify you during the discussion to maintain anonymity, please provide the name which you would like us to use (this may be a 'middle name' or the name of a friend/relative which you will remember).

The pseudonym I would like to use is: _____

The role definition of the senior, clinical and junior radiation therapist

The SRT is an experienced member of staff responsible for managing an area of Radiation Therapy (such as a treatment machine or an area in treatment planning) or a Chief RTs/RT manager. At the time of the FGs, the promotional levels in clinical centres in Victoria were classified as grades three an grade four. It was decided the SRT should have held registration for at least five consecutive years because anecdotal evidence suggested practitioners usually require at least 5 years of experience working in the field prior to being employed in senior roles. In order to maintain homogeneity within the groups, there was an initial requirement that the SRT had no previous experience as a CE, (however this changed due to recruitment issues).

The CEs role is primarily related to training and development for staff and students. The same five year registration criterion applied for this group, together with an additional requirement for the practitioner to have been in the position for at least six months. This time frame was decided upon as it is the time taken for one cohort of students to complete an academic year. This therefore allows sufficient time for the CE to become familiar with the requirements of training and assessment of the students.

It was also decided a third group of practitioners should be included into the study. This decision was taken because anecdotal evidence suggested the two previously mentioned groups (SRT and CE) only made up a small proportion of the RT workforce. This third group consisted of lower grade/less senior practitioners working in either RT planning or treatment (JRTs).

List of Proposed Dates for Focus Groups

- Below are three shaded boxes, select the one that applies to your current role.
- You will see the proposed dates and times for the focus group on Fitness to Practise.
- Using the numbers 1 and 2 in the boxes rank your most preferred date and time

(1 indicating most preferred date and time and 2 indicting least preferred date and time).

Date	Time	Venue	Indicate Preference (1= most preferred 2= least preferred)
Senior Radiation Therapist (Grade 3/4)			
29th October	5.30pm -7.30pm	AIR	
30th October	5.30pm -7.30pm	AIR	
Clinical Educator (any grade)			
19th November	5.30pm -7.30pm	AIR	
20th November	5.30pm -7.30pm	AIR	
Radiation Therapist (Grade 1, 2, 2A)			
12th November	5.30pm -7.30pm	AIR	
15th November	5.30pm -7.30pm	AIR	

The Australian Institute of Radiography is located at 32 Bedford Street, Collingwood (just off Smith Street). On-street parking is available on the roads around the Institute. More details on the location of the venue will be forwarded to you closer to the time of the focus group.

Refreshments will be provided during the evening.

Thank you,

Caroline Wright

Focus Group: Participant Guide

Thank you for agreeing to participate in the focus group which will be held at the Secretariat of the AIR, 32 Bedford Street, Collingwood, Victoria (just off Smith Street) on Tuesday October 30th. Please see the attached map of the area to locate the exact location of the AIR Secretariat.

This guide has been designed provide you with some information about the conduct of the focus group and what the evening will entail. Please read this information carefully.

- Please arrive at 5.30pm

- We have allocated 20 minutes prior to the start of the focus group for refreshments, questions, consent procedures, distribution of name badges etc.
- We advise that you read the Explanatory Information before the day of the focus group and contact Caroline Wright if you have any questions
- If for any reason you are unable to make the focus group please let us know as we will need to make a prompt start
- Anyone arriving late will be advised that they will not be able to participate as interruptions may affect the flow of the discussion
- Mr Jonathan McConnell will be facilitating the discussion and Ms Ruth Druva will be taking notes, it will also be audiotaped
- You will have a coloured name badge with your chosen pseudonym on it, this is the name which you should use throughout the discussion and which will be recorded in any notes.
- Remember your participation is voluntary and you are free to withdraw at any time
- Certificates of attendance will also be issued with the AIR CPD appellation

If you have any questions relating to the conduct of the focus group please contact me by email or telephone (

Thank you once again for agreeing to participate,

Caroline Wright

Focus Group Venue

The AIR Secretariat is located at 32 Bedford Street, Collingwood

Street Parking is available so please bring money for meters

(15 minutes' walk from Parliament station)

Large Scale Map
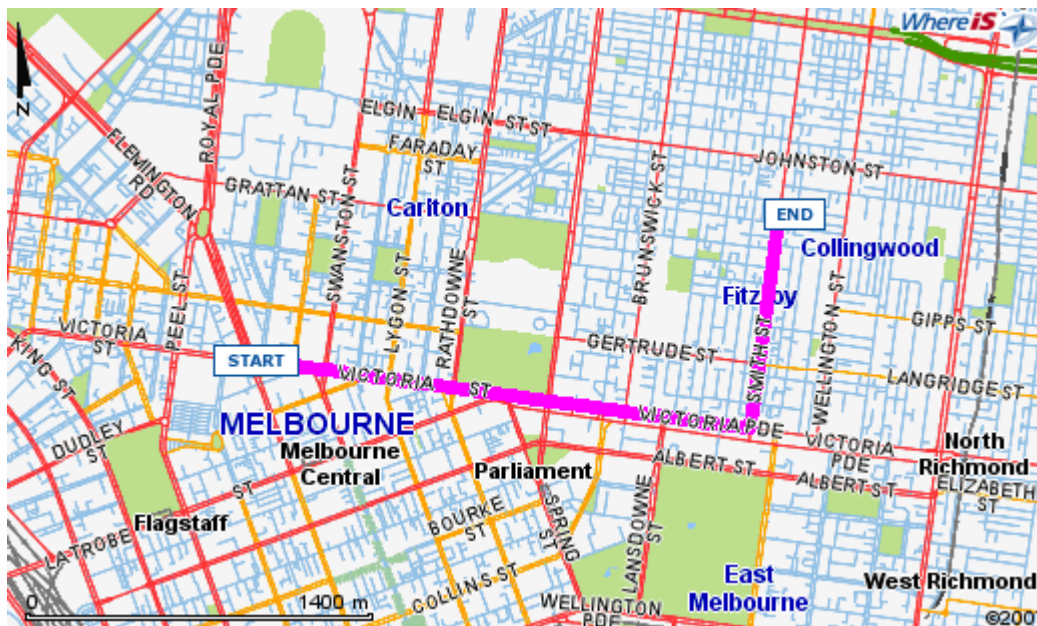
Street Map
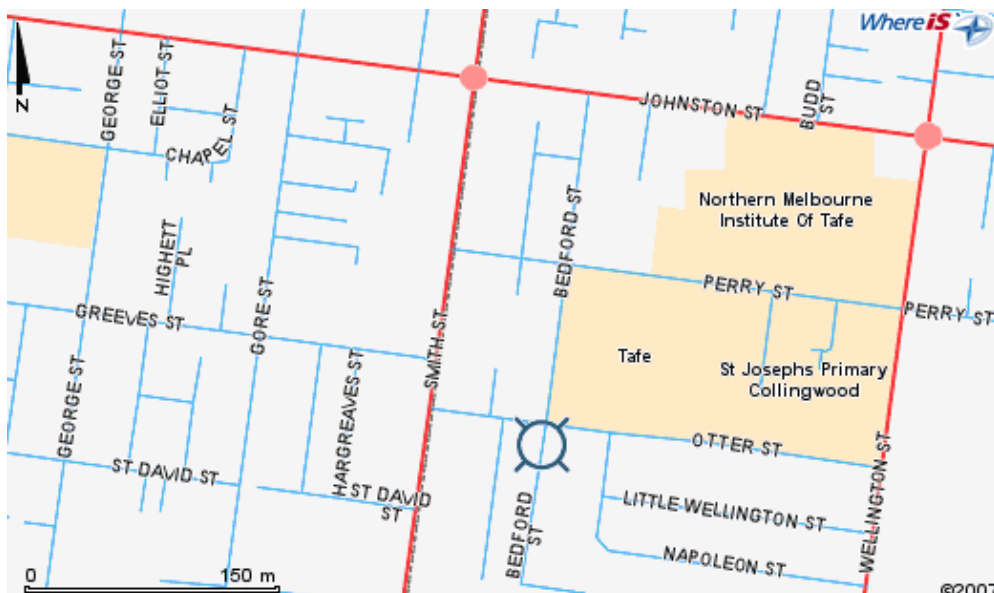
Focus group Moderator and Writers' guide

Role of the moderator (see guide below)

- Use badge colour or pseudonyms to ID
- Use questions and [prompts to facilitate discussion
- Clarify points and give all participants opportunity to contribute
- Keep to time
- Discuss all questions
- Use prompts if needed
- Close and clarify all points

Role of the writer

- Use badge colour or pseudonyms to ID
- Note emotional responses
- Body language
- Comments

Make notes

Arrival and Consent (20 mins)

The first 20 mins can be used for settling in and refreshments, seating and handing out name badges and takes into account late arrivals etc.

On arrival all participants should be given a copy of the **Explanatory Information** sheet and **Consent Form**. The consent form should be signed prior to commencement of the discussion. Use the **participant list of names** and indicate in the space provided that consent has been given (check all forms have been signed).

Anyone arriving when the focus group discussion has started should be advised by the "Writer" that they will be unable to participate due to potential for disruption of the group.

Please turn off mobile phones

Introduction: (10 mins)

Welcome

Welcome and thank you for coming to this focus group.

I am JM and I will be acting as moderator for the discussion, I will be trying to keep the discussion focussed on the topic.

I am acting on behalf of the Caroline Wright who is a student of Monash University

The conduct of the project is being supervised by Ass/Prof Marilyn Baird, Prof Brian Jolly and Dr Michal Schneider-Kolsky.

This Focus Group Interview has been approved by the Monash University Ethics Committee, as such all information will be confidential and anonymised in the write up of the research. The research may be published; however your anonymity will be maintained. You are free to withdraw at any time without giving a reason. If you do not feel comfortable disclosing something as part of the group you do not have to.

We have anonymous evaluation forms for completion at the conclusion of the focus group, which will allow you to expand on any issues that you may not have felt comfortable disclosing in the group situation.

I would also like to introduce Ruth Druva who will be taking notes during the session today. These notes will assist us in verifying the audio-taped discussion and facilitate our data analysis.

You will notice that you all have different coloured badges, the colours of the badges and your pseudonym will be used to identify you in the notes.

As stated in the consent form we will also be tape recording the discussion and in signing the consent form you are agreeing to this. The discussion is being recorded to facilitate data analysis.

You were selected because of your experience working in radiation therapy and your point of view is important to us.

We know that you are very busy and so appreciate your contribution to this project.

This is not a test and there are no right or wrong answers.

We are interested in what you think and feel and we want to know your opinions on the topic. We are not interested in whether you are in agreement with others, but feel free to communicate agreement if this is how you feel.

Please do not name colleagues or organisations in the discussion.

Feel free to help yourself to refreshments and use the toilets which are located ……. at any time.

Purpose

The purpose of this focus group is to determine your ideas and opinions about the topic of FTP. We would like this to be a group discussion which I (the moderator) will facilitate.

We encourage everyone to speak freely and honestly about your views.

As the moderator, I am independent to the researcher and therefore have no vested interest in the outcome.

Guidelines

There are a few guidelines I would ask you to follow during the discussion:

You do not need to speak in any particular order.

When you have something to say please do so and say your pseudonym name prior to commenting.

Do not speak while someone else is talking.

Remember that there are number of you in the group and we would like to give everyone the opportunity to express their views.

You do not need to agree with what everyone in the group says.

State your view but maintain sensitivity and respect for privacy of other group members.

Please ensure all information discussed in the group remains confidential.

As there is limited time we may need to stop you and re-direct the discussion.

We have allocated 90 minutes for the discussion; there will be a 5 minute introduction and a 10 minute conclusion within this time.

Does anyone have any questions?

Conduct of Focus Group

Warm up (5 mins)

Put the group at ease and set the scene

Allow each participant to introduce themselves (use pseudonyms if they wish)

1.Have you heard of the term Fitness to Practise? (5 mins)

• If there is a response of No…. progress onto Q2

• If there is a response of yes, allow group to discuss and see where it takes the discussion

Probe

Where have you heard of this term?

In what context have you heard this term?

Note down how many participant responded yes and no

2.What do you think Fitness to Practise means? (10 mins)

Probe

If limited discussion ask the group how they would describe:

Competence

Professionalism

How do these relate to FTP?

3.What do you think are the key components of Fitness to Practise? (20 mins)

On the paper provided write down what you think the different components of FTP are

Writer to gather these and make a list on acetate (we will come back to this during the discussion)

Probe

What attributes do you look for when evaluating whether someone is ready to enter the profession?

4.Why do you think Fitness to Practise is a hot topic at the moment? (10 mins)

Probe

Have you seen or heard anything in the media on less than optimal practise?

5.What do you think are the reasons why people fail to report Fitness to Practise issues? (10 mins)

Probe

Do you think people are reluctant to report in case they are ostracised?

Do you think people are reluctant to report in case they are not taken seriously?

Do you think people are reluctant for fear of tarnishing their own reputation?

6. How should students be prepared to fulfil the major criteria for Fitness to Practise?

Probe (10 mins)

What elements of a university course do you think allow students to develop skills and understanding related to FTP?

Is there anything missing from the courses which might assist in developing the necessary skills and understanding for a student to be FTP on entering the profession?

Close (20 mins)

Unfortunately we are out of time

I would like to conclude with a summary of the major themes that have been discussed……

Summarise Outcomes of Q1-6

Refer back to acetate notes on main components of FTP

Member Check:

I would like to go around the group and check with each of you how you feel about the key issues to get a general idea about how many of you feel a particular way

How many of you…………..

334

There were several topics that we touched upon that we were not able to explore more fully in this discussion……..

Acknowledge all conversational points that were not completed

If you have experienced instances where there has been less than optimal practise we would like to explore some issues further. We will do this by asking for volunteers who are willing to participate in a 30 minute individual interview at a later date. The questions we will be asking are as follows:

Acetate:

> Can you give some examples of less than optimal Fitness to Practise issues you have encountered with students?
>
> Can you give some examples less than optimal Fitness to Practise issues you have encountered with staff?
>
> Have you ever experienced an issue related to Fitness to Practise which did not get reported?

If you are interested in participating in the interview please leave me your contact details and someone will get back to you within one week to arrange a convenient date.

As we close I would like to remind you that the audiotape will be transcribed and you will all be given false names to protect you anonymity, the tape will then be stored in a secure location. Please do not discuss the comments of the group with anyone.

Confirm AIR Appellation number for CPD

Are there any questions?

Distribute Evaluation Forms, Collect Evaluation Forms

Issue certificates of attendance, Identify potential interviewees and record contact number, Thank you for participating, we appreciate your honest responses and they will be of value to the research.

De-brief with Caroline and Ruth – draw main themes together

Focus group schedule for moderator and assistant

Activity	Rationale
Meet and greet participants	Orientates participants and puts them at ease
Provide explanatory information and ensure consent form signed prior to participation	Ensures that all participants are fully aware of the study and their role in the research
Introduction	Purpose, guidelines and ground-rules
Warm up questions	Puts group at ease and sets the scene
Clarification of terms	Avoids confusion and ensures all members of the group understand the nature of the FGI Allow a few responses to initial questions and link these
Easy and Non-threatening questions	Allow group time to get comfortable with each other
More difficult questions	Participants state opinions and views on more sensitive issues
Wrap up	Identification of major themes and clarification of key discussion points, acknowledge any points that there wasn't time to discuss
Member check	Ensures that all participants have contributed what they want to the discussion
Closing statements	Concludes and, reinforce confidentiality and thank for participating

Focus Group Evaluation Form

Focus Group 2 (Radiation Therapist)

Pseudonym _____

We would like to thank you for taking part in the focus group and value the time you have taken to attend. We would appreciate your feedback on the focus group process and therefore request you to spend a few minutes completing this evaluation form. This form will provide you with the opportunity to comment on your experience of being a focus group participant and will allow you to anonymously provide any additional information, which you did not disclose in the group setting.

1. On a scale from 1-5 how would you rate the environment in which the focus group was held? (Please circle)

1	2	3	4	5
Very Uncomfortable   Uncomfortable   Adequate   Comfortable   Very Comfortable

2. Were you able to disclose all your opinions on the topic in the group setting? (Please circle)

   Yes   (go to question 4)   No   (go to question 3)

3. What inhibited you from disclosing your opinions? (please comment)

   _____
   _____
   _____
   _____
   _____
   _____
   _____

Please see overleaf for question 4…

4. Please use the space below to comment freely on any experiences or opinions you feel are relevant to the focus group discussion, which you did not get time to feedback or did not feel appropriate to do so in a group situation.

   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____
   _____

If you have experienced instances of 'un-fit' practice we would like to know a bit more about these. If you are willing to participate in a short individual interview which will be conducted by an impartial interviewer please tick the box below. You will then be contacted within 7 days of this focus group to arrange a convenient time for the interview.

I would be willing to participate in an individual interview at a later date

Thank you for taking the time to complete this evaluation form, please hand to the moderator prior to leaving.

If you have any questions relating to this evaluation form or any other aspect of the research, please contact me by email ███████████████████████████████ ████████

Caroline Wright

Monash University

Appendix C: Survey ethical approval and supporting documents

Ethics Approval Letter: Survey

MONASH University

Monash University Human Research Ethics Committee (MUHREC)
Research Office

Human Ethics Certificate of Approval

Date:	28 May 2012
Project Number:	CF12/0629 - 2012000268
Project Title:	A pilot study evaluating radiation therapy practitioner's responses to questions on fitness to practise: A comparison between closed and open ended scenario based questions
Chief Investigator:	Assoc Prof Marilyn Baird
Approved:	From: 28 May 2012 To: 28 May 2017

Terms of approval

1. The Chief investigator is responsible for ensuring that permission letters are obtained, if relevant, and a copy forwarded to MUHREC before any data collection can occur at the specified organisation. **Failure to provide permission letters to MUHREC before data collection commences is in breach of the National Statement on Ethical Conduct in Human Research and the Australian Code for the Responsible Conduct of Research**.
2. Approval is only valid whilst you hold a position at Monash University.
3. It is the responsibility of the Chief Investigator to ensure that all investigators are aware of the terms of approval and to ensure the project is conducted as approved by MUHREC.
4. You should notify MUHREC immediately of any serious or unexpected adverse effects on participants or unforeseen events affecting the ethical acceptability of the project.
5. The Explanatory Statement must be on Monash University letterhead and the Monash University complaints clause must contain your project number.
6. **Amendments to the approved project (including changes in personnel):** Requires the submission of a Request for Amendment form to MUHREC and must not begin without written approval from MUHREC. Substantial variations may require a new application.
7. **Future correspondence:** Please quote the project number and project title above in any further correspondence.
8. **Annual reports:** Continued approval of this project is dependent on the submission of an Annual Report. This is determined by the date of your letter of approval.
9. **Final report:** A Final Report should be provided at the conclusion of the project. MUHREC should be notified if the project is discontinued before the expected date of completion.
10. **Monitoring:** Projects may be subject to an audit or any other form of monitoring by MUHREC at any time.
11. **Retention and storage of data:** The Chief Investigator is responsible for the storage and retention of original data pertaining to a project for a minimum period of five years.

Professor Ben Canny
Chair, MUHREC

cc: Prof Brian Clark Jolly, Dr Michal Elisabeth Schneider-Kolsky, Ms Caroline Wright

Pilot study explanatory information and consent for participants
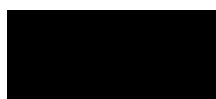
MONASH University

Explanatory Statement for survey pilot

A pilot study evaluating radiation therapy practitioner's responses to questions on fitness to practise:
A comparison between closed and open ended scenario based questions

Investigators:

Caroline Wright: PhD Student, Department of Medical Imaging and Radiation Sciences, Faculty of Medicine, Nursing and Health Sciences, Monash University

Associate Professor Marilyn Baird (Supervisor): Head, Department of Medical Imaging and Radiation Sciences, Faculty of Medicine, Nursing and Health Sciences, Monash University

Dr Michal Schneider-Kolsky (Supervisor) Department of Medical Imaging and Radiation Sciences, Faculty of Medicine, Nursing and Health Sciences, Monash University
Professor Brian Jolly (Supervisor Health Workforce and Education Assessment Research Team at Monash University.

Diane Luc (Research Assistant) Department of Medical Imaging and Radiation Sciences, Faculty of Medicine, Nursing and Health Sciences, Monash University

Dear Radiation Therapist,

We are currently performing a pilot research study to evaluate radiation therapists' responses to questions relating to their understanding of fitness to practise and how it relates to day to day work as a professional. This study is part of a PhD project and is being conducted by the people listed at the start of this explanatory statement. Your name was randomly selected from the public domain list of practitioners held by the Medical Radiations Practitioner Board of Victoria.

The study which has approval from the Monash University Human Research Ethics Committee invites you to complete an anonymous electronic survey (which should not take more than 20 minutes). For this pilot study we will be recruiting fourteen consecutive female and six consecutive male respondents from the publically available list of practitioners registered with the Medical Radiations Practitioner Board of Victoria (this proportion of females to males reflects the current gender balance of registered radiation therapists in the state of Victoria).

Information about the consent process for this study is attached to this email. All collected data will adhere to the University regulations and be kept on University premises in a locked cupboard/filing cabinet/password protected server for 5 years. The data which will be collected in this pilot study will be used to modify (where necessary) the question response format so that the most useful information from practitioners can be elicited about fitness to practise, when the same scenarios are presented in a future national survey.

A report of the study may be submitted for publication, but individual results will not be identifiable in the report. PLEASE DO NOT include your name, the name of other practitioners or clinical centres or any form of identifiable information in the survey.

If you would like to be informed of the research findings, or have any questions regarding the research project, please contact ▬▬▬▬▬▬▬▬ (Department of Medical Imaging and Radiation Sciences Research Assistant/Administrative Officer).

If you have a complaint concerning the manner in which this research is being contacted, please contact:

Executive Officer
Monash University Human Research Ethics Committee (MUHREC)
Building 3e Room 111
Research Office
Monash University VIC 3800

▬▬▬▬▬▬ ▬▬▬▬▬▬▬▬▬▬▬▬▬▬

Yours sincerely,
Caroline Wright

Please read through the following before commencing the survey:

I understand that my participation is voluntary, that I can choose not to participate in part or all of the project, and that I can withdraw at any stage of the project without being penalised or disadvantaged in any way. However, please note that due to de-identification of the surveys, we will not be able to withdraw your data once it has been submitted electronically.

I understand that any data that the researcher extracts from the survey for use in reports or published findings will not, under any circumstances, contain names or identifying characteristics.

I understand that any information I provide is confidential, and that no information that could lead to the identification of any individual will be disclosed in any reports on the project, or to any other party. There are currently no mandatory reporting requirements under the MRPBV regulations. .

I understand that data from the survey will be kept in a secure storage and accessible to the research team. I also understand that the data will be destroyed after a 5 year period unless I consent to it being used in future research.

CLICK HERE TO COMMENCE SURVEY

Link to either Group 1 or Group 2 survey will be attached here

Confirmation of amendment to ethical approval for national survey

Caroline Wright ███████████████████████

MUHREC Amendment CF12/0529 - 2012000268: A national survey investigating

radiation therapy practitioner's responses to questions on fitness to practise

MRO Human Ethics Team██████████████████ November 2012 15:28

To: Marilyn Baird ████████████████████ Caroline Wright

████████████████████████, Brian

Jolly ███████████████████"Michal Schneider-Kolsky (Med)"

██████████████████

█████████>

PLEASE NOTE: To ensure speedy turnaround time, this correspondence is being sent by

email only. MUHREC will endeavour to copy all investigators on correspondence

relating to this project, but it is the responsibility of the first-named investigator to ensure

that their co-investigators are aware of the content of the correspondence.

Dear Researchers

Thank you for submitting a Request for Amendment to the above named project. This is

to advise that the following amendments have been approved and the project can proceed

according to your approval given on 28 May 2012:

Change to Title:From - A pilot study evaluating radiation therapy practitioner's responses to questions on fitness to practise: A comparison between closed and open ended scenario based questions

To - A national survey investigating radiation therapy practitioner's responses to questions on fitness to practise.

Change to Procedures:Recruitment: Participants (registered radiation therapists in Australia) will be recruited from the publicly available list of registered practitioners of the Medical Radiation Practice Board of Australia (MRPBA). An email will be sent via the MRPBA to practitioners inviting them to participate. In addition a poster will be sent to all clinical centres to advertise the survey. This poster will contain a web-link to the survey to enable practitioners to complete the survey via this means as well as through the registration board email. There are currently 2000 registered radiation therapists in Australia.

Survey:

1. Section 1: Demographics

1.1 A greater variety of demographic questions included

2. Section 2: Scenario based questions

2.1 Free text responses to all scenarios in section 2 of the survey

2,2 Survey split into two 2 versions - first version - participants to respond to first 4 scenarios and 2nd version participants to do last 4 questions

3. Section 3: Closing questions

3.1 Combine and re-word section 3 Q1 and 2 to now read: Where has your awareness been heightened about issues like the ones depicted in the above scenarios? Remove Section 3 Q3 on hours of coursework related to FTP as over half could not remember. Thank you for keeping the Committee informed.

Professor Ben Canny

Chair, MUHREC

Human Ethics

Monash Research Office

Pilot study (and national survey) explanatory information and consent for

participants

MONASH University

Participant Information

A national survey investigating radiation therapy practitioner's responses to questions on fitness to practise

Investigators:

Caroline Wright: PhD Student, Department of Medical Imaging and Radiation Sciences, Faculty of Medicine, Nursing and Health Sciences, Monash University

Associate Professor Marilyn Baird (Supervisor): Head, Department of Medical Imaging and Radiation Sciences, Faculty of Medicine, Nursing and Health Sciences, Monash University

Dr Michal Schneider-Kolsky (Supervisor) Department of Medical Imaging and Radiation Sciences, Faculty of Medicine, Nursing and Health Sciences, Monash University

Professor Brian Jolly (Supervisor Health Workforce and Education Assessment Research Team at Monash University.

Diane Luc (Research Assistant) Department of Medical Imaging and Radiation Sciences, Faculty of Medicine, Nursing and Health Sciences, Monash University

Dear Radiation Therapist,

We are currently performing research study to evaluate radiation therapist's responses to questions relating to their understanding of fitness to practise and how it relates to day to

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day work as a professional. This study is part of a PhD project and it is being conducted by the people listed at the start of this explanatory statement. We would like to thank to the AIR for facilitating this contact by inviting you to respond.

The study which has approval from the Monash University Human Research Ethics Committee invites you to complete an anonymous electronic survey (which should not take more than 20 minutes).

Information about the consent process for this study follows on the next page. All collected data will adhere to the University regulations and be kept on University premises in a locked cupboard/filing cabinet/password protected server for 5 years. The data which will be collected in this study will be analysed and a report of the study may be submitted for publication, but individual results will not be identifiable in the report. PLEASE DO NOT include your name, the name of other practitioners or clinical centres or any form of identifiable information in the survey.

If you would like to be informed of the research findings, or have any questions regarding the research project, please contact ███████████████ (Department of Medical Imaging and Radiation Sciences Research Assistant/Administrative Officer).

If you have a complaint concerning the manner in which this research is being contacted, please contact:

Executive Officer

Monash University Human Research Ethics Committee (MUHREC)

Building 3e Room 111

Research Office

Monash University VIC 3800

████████████   ████████████████████████████

Yours sincerely,

Caroline Wright

Invitation letter for RTs from focus groups to contribute to writing of dilemmas

MONASH University

Dear Radiation Therapist,

Re: Writing of scenarios for survey into Fitness to Practice in Radiation Therapy

Thank you for agreeing to assist in the creation of the scenarios for the forthcoming survey in fitness to practise in radiation therapy.

This survey will be based on research previously undertaken by Barry et al (2000). You may wish to refer to this article to give a background on the scenarios that they used for medical practitioners and as such I have attached it for your convenience.

I would be grateful if you could think of three (or more) professional or technical scenarios and complete the proforma provided for each one. Once created these scenarios will be presented as part of an ethics submission prior to utilisation in the survey. It is anticipated that the survey will be undertaken on students, Interns/PDY's, new graduates and experienced practitioners. I would be grateful if you could email the proformas back to me by 20th May 2011.

Many thanks

Caroline

Information on scenarios

These scenarios could incorporate issues relating to technical competence, professionalism, attitude, behaviour, ethical practice, qualifications or they may be external personal issues outside of professional work which have impaired a professionals' ability to practice in the appropriate manner. These can be hypothetical situations or ones which you have experienced (do not include any names of practitioners or centres).

I have included two examples demonstrating the type of scenarios we require which were taken from the outcomes of the FGs. We would also like you to develop a series of potential actions that could result from the situation, where the respondent has to select one out of four/five responses which they think would do in the given scenario.

Example fitness to practise scenarios:

Scenario 1

'Near enough is good enough'

You are working with another practitioner setting up a patient who is to receive palliative treatment to the thorax for late stage lung cancer. This practitioner is notorious for not taking on board the views of other members of staff. You notice that your colleague does not position the isocentre of the field accurately and it is 'off centre' by more than 2 cm. Do you?

a) Leave it and 'beam on', near enough is good enough, it only palliative after all.

b) Leave it and 'beam on' but question the practitioner after as to why they did not position the field accurately – do not inform a senior member of staff of what happened

c) Leave it and 'beam on' but question the practitioner after as to why they did not position the field accurately – complete the required non-conformance forms and inform a senior member of staff of what happened

d) Re-position the field in the presence of the other practitioner before beaming on

e) Re-position the field when the practitioner has left the room and not say anything further

Scenario 2

'Tea break dilemma'

It is a Monday morning and you are in planning, and your 10.00am patient has arrived for their CT scan. Your team has a pre-arranged tea break where an applications specialist is showing you an updated version of a planning system and ask you to come to tea with them to see this.

Do you?

a) Say ok, I'll be a minute and go and tell the patient they will have to wait 15mins for their scan

b) Nip off with the team without telling the patient, as they shouldn't mind waiting a little bit longer now they are here

c) Stay and CT the patient even though your colleagues really want you to go with them

d) Ask another member of staff to undertake the scan for you

Fitness to practise dilemma proforma

Scenario title:

Keywords:

Please highlight in **bold** one of the keywords below to which your scenario relates, or if it

does not match one of the keywords, please provide your own key word in the space;

Technical competence; Professionalism; Attitude; Behaviour; Ethical practice; External

personal issues; Illegal behaviour, Mental health; Physical health;

Other key word:

Scenario:

Please write your scenario of between 50-150 words in the space provided:

Please indicate your responses with your suggested preferred answer typed in **bold.**

You can provide either 4 or 5 responses (a-d or a-e) for each question

a)

b)

c)

d)

e) use if required

Initial letter and list of scenarios that were sent to expert RTs for validation and response from a reviewer

Dear Reviewer,

Re: Validation of survey scenarios about fitness to practise

The concept of fitness to practise is recognised both nationally and internationally as a means of regulating professional practice in the health care professions. It encompasses a number of different elements such as: health, safety, wellbeing, legal and ethical issues, professional behaviour and attitudes together with technical competence. We are intending to ask Australian radiation therapists to complete a survey to provide us with information on what they consider being fit to practise means and if their professional decisions are appropriate. The section below presents a series of 19 authentic scenarios related to fitness to practise in radiation therapy which have been written by practising radiation therapists as direct reflections on clinical experiences. We would like you to read the scenarios carefully and provide feedback as to how suitable you consider them to be for inclusion in the survey. In the survey itself, practitioners will be asked for a response as to what they would do in each case. We anticipate that we will pilot the scenarios once they have been validated by yourself and three other experts in the field of professional regulation, law and ethics, prior to a national roll out of the survey across Australia.

Thank you for your feedback this will prove most valuable and you will be acknowledged on any papers in which your input is cited.

Caroline Wright (PhD Student Monash University)

Prof Brian Jolly (PhD Supervisor)

A/Prof Marilyn Baird (PhD Supervisor)

Dr Michal Schneider-Kolsky (PhD Supervisor)

Scenario A (1)

You are working in planning, and completing administrative related tasks while a fellow staff member is explaining a procedure to a learner in your department. Overhearing their conversation, you become aware that the information being taught is incorrect. What do you do?

Please comment on the appropriateness of this scenario to be used in the survey:

This scenario is relevant for introducing the concept of competence. It also involves safety issues, as incorrect information, if not corrected or addressed, could lead to planning inaccuracies later on.

What fitness to practise issues does this raise? Competence in terms of information provision and potential lack of experience. This would raise issues of the need for mentorship, supervision or delegation, as well as communication problems. Training and safety issues, i.e. if staff are not capable of training learners effectively, then this may create a knock on effect.

Comments on legal/ethical issues: Respect for others, i.e. colleagues. Privacy issues, e.g. listening in or eavesdropping on another person's conversation. Whistleblowing, i.e. the need to report poor practice in terms of training. Ethical values, such as accountability, pursuit of excellence, loyalty, respect for others, responsible citizenship etc.

Scenario B (2)

You are working with a member of staff who you know is excellent technically, but struggles with communication and can be hard to understand at the best of times because English is not their primary language. On this particular day, you are having trouble understanding him/her in front of the patient, and you are aware that the patient is slightly confused as well. What do you do?

Please comment on the appropriateness of this scenario to be used in the survey:

Relevant, as it relates to professional competence. Must allow time for the patient to digest information and ask questions. Re-iterate what has been stated by colleague and provide the information in an understandable way for the patient. Inter-personal skills and man-management skills would be a priority. Report this situation to one's manager, so that the issue can be addressed.

What fitness to practise issues does this raise? Competence, i.e. poor communication. Lack of ability to perform duties, in terms of duty to inform.

Comments on legal/ethical issues: Potential discrimination and/or equal opportunities issues, if colleague is openly criticised in front of the patient. Potential consent issues, if patient does not understand information provided. Effect on patient's autonomy, if patient is not fully informed. Empowerment of the patient (advocacy) could also be affected. Negligence, if patient is ill informed, resulting in consent being invalid. Patient's best interests must be addressed.

Scenario C(3)

You and your colleague are rostered for an early shift on a treatment unit and you have a fully booked schedule for the first hour. Your colleague arrives 15 minutes after the scheduled start of the shift and you are now running late. You notice that your colleague

is having difficulty in focusing on the tasks at hand and you smell alcohol. What do you do?

Please comment on the appropriateness of this scenario to be used in the survey:

Important scenario as it places colleagues in potential conflict with one another. One would need to consider the safety of patients and other relevant stakeholders here, and one's duty to report the incident to the department manager should prevail (whistleblowing). Ask colleague to go home, as they are not fit to work and seek help elsewhere.

What fitness to practise issues does this raise? Professional misconduct/behaviour. Safety issues, as mistakes could lead to serious adverse outcomes. Health-related problems or wellbeing of staff concerned, i.e. alcohol abuse may be part of an underlying illness or addiction. Staff attitudes.

Comments on legal/ethical issues: Beneficence (doing good) and non-maleficence (doing no harm). Utilitarian concept, i.e. make decision based on consequences. Deontological perspective, i.e. one knows what one's duties/obligations should be under the circumstance, i.e. to report this occurrence. Ethical values, such as accountability, responsibility, loyalty etc.

Potential criminal outcome if the colleague causes harm to a patient under the influence of alcohol, as this may be deemed to be reckless behaviour or gross negligence.

Scenario D(4)

A female RT insists on wearing surgical gloves when treating male patients. When asked, she states that this is her religious preference. Several patients have questioned her wearing gloves; asking if they have an infection, or if she is infectious. None of the other staff on the treatment unit wear gloves. What do you do?

Please comment on the appropriateness of this scenario to be used in the survey:

Relevant in terms of introducing concepts of cultural and religious differences and how these may impact on the way one practices. Clarification of religious preference and religious obligations are needed? While respecting another person's beliefs, we must also ensure that this does not work to the detriment of others. Also, need to consider patient's best interests, i.e. such practice may be creating alarm or concern among patients, so communication is vital in order to allay such fears.

What fitness to practise issues does this raise? Indicates how cultural or religious beliefs may impact on one's ability to follow departmental standard operating procedures or routine practice guidelines. Professional behaviour may not conform with standard practice.

Comments on legal/ethical issues: Respect for others' beliefs. Duties/obligations to patients and how own beliefs may conflict with these. Discrimination or equal opportunities issues? Potential for conscientious objection? Distributive justice, i.e. conflict of need to wear gloves with misuse of departmental resources? Fairness issues, i.e. allowing the radiographer to follow her beliefs.

Scenario E (5)

News arrives that a young patient your team had treated a few weeks earlier has died. One of your colleagues had formed a close relationship with the patient and their family and you are aware that they have kept in touch with the family subsequently. Your colleague is especially upset at the news. They announce their intention to attend the funeral. What do you do?

Please comment on the appropriateness of this scenario to be used in the survey:

Appropriate in terms of addressing our professional responsibilities to patients and the need to treat all equally/fairly and without favour. Important not to let our own personal feelings create unprofessional situations. The colleague should be offered counselling to deal with this situation and receive advice about any potential problems that may arise from forging such close relationships.

What fitness to practise issues does this raise? The affect that forging close relationships with patients may have on one's ability to perform one's duties in a professional manner. Wellbeing issues of the staff concerned also arise, and whether their professional behaviour is appropriate.

Comments on legal/ethical issues: Potential issues relating to fairness and justice, i.e. if staff form special relationships with patients then they may hold themselves open to accusations of preferential treatment or impartiality.

Scenario F (6)

An RT has recently joined your team in planning. They had been working on the treatment units for about a year prior to coming to planning. You begin to notice over several weeks - that they continue to make the same mistakes on the same techniques. They do not seem to understand the basic principles of planning and show minimal evidence of progression and learning. You are forming doubts about their ability and competence. What do you do?

Please comment on the appropriateness of this scenario to be used in the survey:

Relevant, as supervision, delegation, inexperience, training and competence issues are to the fore. The supervisor /mentor should try to seek out any underlying reason or cause for the incompetence.

What fitness to practise issues does this raise? Raises issues of competence and safety. Recurrent mistakes show a lack of competence, so the radiographer concerned will either need to receive further training, under close supervision or be moved to another clinical area. Safety of patients or colleagues could be put at risk.

Comments on legal/ethical issues: Potential for clinical negligence if a patient is harmed as a consequence of mistakes made by this radiographer. Vicarious liability issues, i.e. if the employer is aware that this employee is not competent, then the risk should be addressed in an appropriate manner and patient safety should be utmost in the direction or actions to be taken. Beneficence and non-maleficence issues.

Scenario G (7)

You are working with a senior practitioner setting up a patient who is to receive palliative treatment to the thorax for late stage lung cancer. You notice that your colleague does not position the isocentre of the field accurately and it is 'off centre' by more than 2 cm. What do you do?

Please comment on the appropriateness of this scenario to be used in the survey:

This is a major error. Raises issues of potential conflict with a senior colleague, i.e. inter-personal relationships. Nevertheless, one's obligation is to ensure that the patient is treated safely and accurately, so the error must be pointed out and corrected in a tactful manner. The fact that the patient is receiving palliative care is irrelevant to the need for accuracy.

What fitness to practise issues does this raise? Human error v negligent practice (safety)? Is this a one-off mistake or is the same radiographer constantly making similar errors? If so, this would need to be reported. Raises issues relating to the need for checking of set-ups etc. and close collaboration between colleagues in the same team.

This error does not relate to inexperience, so the cause may be some other factor, such as lack of attention or disregard for the patient's best interests. This also brings the patient's wellbeing to the fore.

Comments on legal/ethical issues: Utilitarianism, i.e. consequences of actions/omissions, or deontological, i.e. duty/obligation to provide accurate treatment.

Scenario H (8)

It is a Monday morning and you are in planning, and your 10.00am patient has arrived for their CT scan on time. Your team has a pre-arranged tea break where an applications specialist is showing you an updated version of a planning system and asks you to come to tea with them to see this. What do you do?

Please comment on the appropriateness of this scenario to be used in the survey:

As written, this case is a bit vague. If the patient has arrived at the correct appointment time, then one should ensure that the patient is treated, as scheduled. If the patient has arrived early, then (s)he could be asked to wait, after careful communication explaining the circumstances. Do all staff have to have the break at the same time or can this be split?

What fitness to practise issues does this raise? Raises issue of respect for the patient. Staff attitudes.

Comments on legal/ethical issues: Respect for others. Duties to the patient. Rights of the patient to be seen on time, as scheduled (promise keeping). Caring, i.e. ensure the patient receives high quality care. Categorical imperative (do unto others as you would have others do unto you), i.e. see this from the patient's perspective.

Scenario I (9)

You are working with a colleague who is in their sixties. They have been practising safely for many years and but you begin to see them develop problems with their fine motor skills. You notice that their hands shake, and they are finding it difficult to use the hand pendant and position the patient. What do you do?

Please comment on the appropriateness of this scenario to be used in the survey:

Important for addressing inter-personal relationships between colleagues.

What fitness to practise issues does this raise? Health and wellbeing. Underlying cause of the problem? Privacy issues, if a health-related matter. Professional behaviour. Safety and technical competence.

Comments on legal/ethical issues: Utilitarianism, i.e. consequences of acts or omissions. Duties/obligations to report concerns. Loyalty to colleagues, which may conflict with truth-telling and honesty. Responsible citizenship.

Scenario J (10)

You are working on a busy treatment machine and have been experiencing emotional distress due to a personal relationship breakdown. You notice that this is affecting your performance at work and you are making mistakes. What do you do?

Please comment on the appropriateness of this scenario to be used in the survey:

Raises issues of competence. Duty of individual to seek help or to take sick leave.

What fitness to practise issues does this raise? Health and wellbeing and their effect on competence. Safety.

Comments on legal/ethical issues: Potential negligence, if patient suffers harm through careless practice. Confidentiality issues, i.e. may not wish to share information on this

problem. Truth-telling and honesty? Respect for colleagues, i.e. duty to inform if you feel that you are letting the team down.

Scenario K (11)

You are a radiation therapist who has worked solely on superficial units for the past 10 years in a small centre which treats skin cancers. You are registered with the State Registration Board and get a job in a larger centre on their superficial machine. A number of staff has called in sick to the department and one of the seniors, who is also new, comes and asks you if you will assist on a Megavoltage treatment machine with an IMRT patient. What do you do?

Please comment on the appropriateness of this scenario to be used in the survey:

Introduces concept of competence, where radiographer may be taken out of their comfort zone or feel unqualified to perform a requested task. This relates to delegation, i.e. the person delegating the task has a duty to ensure the person taking it up is competent to perform it. Responsibility and accountability issues all arise.

What fitness to practise issues does this raise? Technical competence and safety.

Comments on legal/ethical issues: Non-maleficence. Coercion. Responsibility and accountability. Potential negligence case if error occurs, as inexperience is no defence in legal terms. Vicarious liability, i.e. employer has a responsibility to ensure all employees are competent and qualified to perform tasks they are given.

Scenario L (12)

You are treating a new patient with lung cancer with a newly qualified radiation therapist. One of the reference measurements for the position of the isocentre/treatment reference point appears to be incorrect by 10cm. You set up the field and proceed to take a pre-

treatment image as per policy. The resulting image has very little 'open area' and it is difficult to determine which vertebra the field is centred on. There are no other structures marked on the simulation image to compare to. What do you do?

Please comment on the appropriateness of this scenario to be used in the survey:

Raises issues of competence, inexperience, supervision, delegation etc., as working with a newly qualified practitioner. If the initial image is insufficient, then one could repeat this? As you have concern that an error has been made, it is one's duty to flag this and to refer the patient back to the planning area to check for inaccuracies. The communication with the patient is vital here, so as to not raise any alarm, i.e. the patient should be informed that this is part of the routine checking procedure etc.

What fitness to practise issues does this raise? Technical competence. Wellbeing of the patient must be a priority.

Comments on legal/ethical issues: If there is a known risk, i.e. one suspects that the reference point is incorrect, then one has a duty to have this checked prior to proceeding with treatment. It would be careless to proceed regardless, i.e. error v negligence? Truth-telling and honesty, i.e. what should the patient be informed? Pursuit of excellence, i.e. ensure the patient has the most accurate treatment and best care possible.

Scenario M (13)

You are 'friends' with a colleague on Facebook. Your department is currently treating a well known actress. You notice that your colleague is discussing this actress over Facebook with other users, bragging that they treated her that day and commenting about her physical features. Your colleague is not using the actress's real name, but it is quite obvious who they are talking about due to the media coverage of her illness. What do you do?

Please comment on the appropriateness of this scenario to be used in the survey:

Appropriate, as it addresses privacy issues.

What fitness to practise issues does this raise? Professional behaviour/misconduct. Staff attitudes, i.e. disregards the rights of the patient.

Comments on legal/ethical issues: Professional misconduct. Beneficence and non-maleficence. Privacy, i.e. confidentiality breach. Abuse of patient's rights and autonomy of the patient. Categorical imperative. Legal issues of breach of confidence, failure to gain patient's consent and negligence are all relevant here. VIP, i.e. public interest v private interest arguments. Need to know basis for disclosure does not apply, so this is a clear breach of confidence.

Loyalty to colleague may come into conflict with need to protect the rights of the patent and one's duty to be honesty. Lack of integrity of colleague and lack of respect for the patient.

Scenario N (14)

You are performing a first day machine check for a new case- conformal technique to the brain- and notice that one beam exits through the eyes. You query this with the planner who states the RT in charge of planning actually took over the plan and came up with the final beam arrangement. When you point out that the eyes are in full beam the planner states they brought that fact to the charge's attention; the charge stated that given the diagnosis and prognosis the patient will in all likelihood be deceased before late sequelae manifest. What do you do?

Please comment on the appropriateness of this scenario to be used in the survey:

Important for raising potential conflict or disagreement between colleagues and inter-personal relationships. Duty to follow up on this and to document one's concerns, for the

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record. The proposed plan is unreasonable and there is a foreseeable risk to the patient – breach of duty f care, so one needs to take action to avoid this.

What fitness to practise issues does this raise? Technical competence and safety. Patient's health and wellbeing. Attitudes of staff and professional behaviour.

Comments on legal/ethical issues: Non-maleficence, i.e. do no harm. Respect for the patient. Palliative care case, so why the need to subject the patient to this treatment plan? Caring, i.e. consider the patient's best interests. Utilitarian view, i.e. make decisions based on the consequences of the actions. Negligence – i.e. there is a foreseeable risk and this may deemed to be careless practice? Deviation from normal practice – negligent? Categorical imperative - do unto others as you would have others do unto you? Neutral impartial rule-making (NORM theory), i.e. this is not a good decision as most radiographers would not find it acceptable or reasonable practice? Conscientious objection, i.e. right to refuse to treat the patient in this way if one does not feel it is appropriate? Consent issues, i.e. if the patient is a competent adult, then has he been informed of the risk?

Scenario O (15)

You are in the control area of a linac waiting to take the next patient in for treatment and overhear the 2 RTs treating the current patient discussing whether to override the longitudinal couch value. One radiation therapist is helping out from planning; the other is a first year qualified. You notice the couch parameter is incorrect by 10.0 cm and the patient's set-up is indexed. The junior RT is pressuring for an override, reasoning it's not unusual to override every now and then. What do you do?

Please comment on the appropriateness of this scenario to be used in the survey:

Appropriate, as raises competence and inexperience issues. As you are in charge, you must immediately manage this situation and then ensure that the inexperienced colleagues are spoken to about this situation, so as to ensure they are clear of the dangers of such practice and so that it will not occur again. The department manager should also be informed of such practice, so that other colleagues can be warned about such procedures. Staffing issues, i.e. ensure that appropriate staff and suitably qualified staff are available to man the machines?

What fitness to practise issues does this raise? Technical competence and safety. Professional behaviour and attitudes.

Comments on legal/ethical issues: Competence, inexperience, delegation, supervision issues – potential for careless practice or negligence? Privacy issues, i.e. conversations in room are overheard by waiting patients? Responsibility and accountability of in charge radiographer, i.e. ensure inexperienced colleagues are suitably supervised and that checks are made on set-ups?

Scenario P (16)

One of your colleagues who is a radiation therapist with an account on a social network informs you that a staff member- not an RT- whose employment was recently terminated has made threats against their line manager on this network. Your staff member offers to log into this network to show you the comment. You accept the offer and read the comment. Whilst your organisation is not identified, the line manager is named and a physical threat is described. What do you do?

Please comment on the appropriateness of this scenario to be used in the survey:

Relevant. Protection of third parties. Duty to inform? Rather vague, i.e. is the person another healthcare professional? The case implies that person's employment was terminated due to some previous misdemeanour or professional misconduct.

What fitness to practise issues does this raise? Wellbeing and safety of person under threat. Professional behaviour and attitude, i.e. inappropriate action of the person posting the threat. Even though they are no longer employed in the hospital, (s)he is still registered as a healthcare professional?

Comments on legal/ethical issues: Criminal case, if the threats are deemed to be actionable. Duty to protect the rights and livelihood of a colleague, i.e. report this occurrence to an appropriate authority, such as the person's professional Board (whistleblowing). Beneficence, i.e. do good. Responsible citizenship. As this is a social networking site, then there is no breach of confidence in accessing and reading the information with the help of a colleague.

Scenario Q (17)

You are working with a senior practitioner who regularly alters the documented setup equipment for patients to reflect 'what they think is best'. The patient that you are treating was treated successfully by you and another staff member yesterday in accordance with the current documentation, however the senior practitioner you are now treating with wants to alter the setup for the patient because 'the staff in planning don't know what they are doing'. What do you do?

Please comment on the appropriateness of this scenario to be used in the survey:

Relevant. Potential conflict and inter-personal relationships are to the fore. Ask the senior colleague to report his concerns to the planning team, rather than simply disregard what

they have prescribed? Restricted right of access to information on this patient – need to know basis.

What fitness to practise issues does this raise? Technical competence. Professional behaviour and attitude.

Comments on legal/ethical issues Lack of respect of senior colleague for planning staff? Duty to report concerns, if senior colleague insists on altering the planned treatment. Loyalty to colleague may conflict with duty to inform. Patient's best interests should prevail.

Scenario R (18)

You are aware that a patient with a 'well known media profile' is undergoing treatment in your department. You have not had any involvement in the planning or treatment of this patient as they are being managed by a small group of staff but would like to know what they have been diagnosed with and their likely prognosis. What do you do?

Please comment on the appropriateness of this scenario to be used in the survey:

Important for addressing privacy rights of all patients, regardless of their public standing or fame.

What fitness to practise issues does this raise? Professional behaviour/misconduct. Staff attitude.

Comments on legal/ethical issues: Privacy rights of all patients. Professional misconduct. Beneficence and non-maleficence. Abuse of patient's rights and lack of respect for autonomy of the patient. Categorical imperative, i.e. see this from the patient's perspective. Relationships are built on trust and on the need to safeguard the interests of the patient, in terms of information provided. Legal issues of breach of confidence, failure to gain patient's consent and negligence are all relevant here. VIP, i.e. public interest v

private interest arguments. 'Need to know basis' for disclosure/access does not apply, so this could be a clear breach of confidence.

Need to protect the rights of the patient and one's duty to be honest. Lack of integrity and lack of respect for the patient, if one accesses the information without reasonable cause.

Scenario S (19)

You are treating a patient for lymphoma with anterior and posterior fields to the neck and chest. After treating the first field you enter the room and the patient queries with you why you did not insert the shielding tray today. Upon looking at the setup note you realise that you forgot to insert the shielding blocks that were required for that field. What do you do?

Please comment on the appropriateness of this scenario to be used in the survey:

Important for addressing human errors and to relate this to the need for incident reporting, so that errors may be managed appropriately. Needs changing to reflect more current practice.

What fitness to practise issues does this raise? Technical competence. Wellbeing of the patient.

Comments on legal/ethical issues: Respect for patient and adopting a caring attitude. Honesty, integrity and truth-telling. Duty to inform or record the error, i.e. incident reporting. Deviation from normal practice, i.e. if one tries to conceal the error, then this could be a negligent omission. Failure to report could be egoistical action, i.e. looking after one's own self-interest rather than the patient's best interests.

Example of reviewer feedback

Reviewer 2: Appropriateness of scenario for use in survey and dimensions of FTP contained in each scenario

Scenario	Mental Health	Physical Health	Self awareness	Technical competence	Professional Skills	Knowledge	Professional development	Experience	Values/ ethics	Criminal
A				Appropriate		Appropriate	Appropriate			
B					Appropriate					
C	Appropriate	Appropriate	Appropriate		Appropriate					
D	Inappropriate	Inappropriate	Inappropriate	Inappropriate	Inappropriate	Inappropriate	Inappropriate	Inappropriate	Inappropriate	Inappropriate
E	Inappropriate	Inappropriate	Inappropriate	Inappropriate	Inappropriate	Inappropriate	Inappropriate	Inappropriate	Inappropriate	Inappropriate
F						Appropriate				
G					Appropriate				Appropriate	
H	Inappropriate	Inappropriate	Inappropriate	Inappropriate	Inappropriate	Inappropriate	Inappropriate	Inappropriate	Inappropriate	Inappropriate
I	Appropriate	Appropriate								
J	Appropriate									
K				Appropriate		Appropriate				
L				Appropriate						
M					Appropriate				Appropriate	Appropriate
N									Appropriate	
O									Appropriate	
P					Appropriate				Appropriate	
Q									Appropriate	
R					Appropriate				Appropriate	
S										

Appropriate   Unsure   Inappropriate

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Reviewer 2: Comments

	Comment
A	The RT should ensure have relevant training in to achieve competency.
B	Duty of care to communicate effectively
C	Duty of care, practice safely and effectively, ethical responsibility to report instances of unsafe and unethical practice
D	
E	
F	Responsibility to undertake sufficient training to achieve competency.
G	As morally autonomous professionals RTs accountable for clinical decision making, moral and legal obligation for provision safe and competent service delivery. - Responsibility to report instances of unsafe practice.
H	Not sure this is a FTP issue, Duty of care to make the care of patients their first concern.
I	Prime concern of a RT is for the health, welfare and safety of patients and staff should ensure that their mental and physical health is such that it does not compromise their safe and competent practice
J	RT should ensure mental and physical health is such that it does not compromise their safe and competent practice.
K	RT should not undertake activities that are not within their scope of practice, as they may compromise safety; - RTs who delegate duties to a colleague with little experience are also responsible. Duty to keep skills and knowledge up-to date.
L	Legal obligation for safe and competent service delivery.
M	legal and ethical obligation to protect the privacy - Being aware of the Privacy Act conduct themselves in a manner that will uphold public trust and confidence in the profession
N	RTs at all times perform their duties to the best of ability with due regard for patient safety and welfare. Radiation safety issue – eye dose over tolerance.
O	Accountable for clinical decision making and have a moral and legal obligation for the provision of safe and competent service delivery.
P	Professional conduct issue, practitioner is not of good character and is not fit to engage in professional practice.
Q	Radiation therapists are accountable for their clinical decision making and have a moral and legal obligation for the provision of safe and competent service delivery.
R	Privacy act
S	Needs updating with recent techniques

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Letter to Registrar of the Medical Radiation Practitioners Board of Victoria

MONASH University

A pilot study evaluating radiation therapy practitioner's responses to questions on fitness to practise: A comparison between closed and open ended scenario based questions

Investigators:

Caroline Wright: PhD Student, Department of Medical Imaging and Radiation Sciences, Faculty of Medicine, Nursing and Health Sciences, Monash University

Associate Professor Marilyn Baird (Supervisor): Head, Department of Medical Imaging and Radiation Sciences, Faculty of Medicine, Nursing and Health Sciences, Monash University

Dr Michal Schneider-Kolsky (Supervisor) Department of Medical Imaging and Radiation Sciences, Faculty of Medicine, Nursing and Health Sciences, Monash University

Professor Brian Jolly (Supervisor) Health Workforce and Education Assessment Research Team at Monash University

Diane Luc (Research Assistant) Department of Medical Imaging and Radiation Sciences, Faculty of Medicine, Nursing and Health Sciences, Monash University

Dear Registrar,

The above research team, led by A/Prof Marilyn Baird are writing to request the purchase of an electronic copy of the list of registered radiation therapists in Victoria. This list was previously requested in 2007 to facilitate the recruitment of participants for a series of FGs which were conducted as part of a research study undertaken by

Caroline Wright (PhD student from the Department of Medical Imaging and Radiation Sciences at Monash University). In order to undertake the next phase of the research (a pilot study evaluating radiation therapy practitioner's responses to questions on fitness to practise; a comparison between closed and open ended scenario based questions) a current list of registered practitioners is required to facilitate the recruitment of volunteers to complete the pilot survey. This research has been approved by the Monash University Human Research Ethics Committee. The radiation therapists who will volunteer for the pilot study will be randomly selected (by the Research Assistant) from the MRPBV list of registered practitioners and then they will be contacted by email by the Research Assistant to request their voluntary participation. This email will contain a link to the online survey which will have an explanatory statement at the beginning of it and will advise the participants that in completing the survey their consent has been implied. Practitioners can withdraw from the survey at any time without any implications. The names of the participants recruited for this pilot study will be known only to the Research Assistant − Dianne Luc (not to the researchers themselves). The research assistant will de-identify all participants and all completed surveys will be anonymous. Please find attached a copy of the survey questions which the pilot participants will be asked to complete. The results of the pilot study will allow us to further refine the questions for the survey proper which will be nationally distributed to all registered radiation therapists. Payment of $40 will be made by sending credit card details by email and once this has been processed, please forward the list to █████████████

If you require any further information about the study please contact:
A/Prof Marilyn Baird
Chief Investigator
Head of Department of Medical Imaging and Radiation Sciences
Monash University

Example of Pilot Survey

Introduction

The concept of fitness to practise (FTP) is recognised both nationally and internationally as a means of regulating conduct in health care professions including radiation therapy. It encompasses a number of different elements related to practice such as: criminal record, health and well being, safety, legal and ethical awareness, professional behaviour and attitudes and technical competence.

We would greatly appreciate it if you would kindly complete this survey which will provide the research team with invaluable insights into the perceptions radiation therapists have concerning the concept of fitness to practise. The survey should only take you 20 minutes to complete.

You will be able to use your reflections from completing the survey as evidence of continuing professional development for registration purposes.

Section 1: Background Information

Q1   Are you?
☐ Male
☐ Female

Section 2: Fitness to Practise Scenarios
This section presents a number of scenarios related to fitness to practise (FTP) in radiation therapy (RT). We would like you to read each scenario carefully and provide honest responses for all questions. Please be reminded that all surveys are anonymous and as such the researcher will not be able to identify who you are.

Please take note of the time you start this as Q21 and Q44 will ask you to approximate how long it took to complete these sections of the survey.

Scenario A
You and your colleague are rostered for an early shift on a treatment unit and you have a fully booked schedule for the first hour. Your colleague arrives 15 minutes after the scheduled start of the shift and you are now running late. You notice that your colleague is having difficulty in focusing on the tasks at hand and you smell alcohol. What do you do?

Q1   Please write your response below

Q2   What form of impairment contributes to the issues surrounding FTP in this scenario?

You may choose one or more boxes
☐ Mental
☐ Self awareness

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☐ Communication competence

☐ Professional behaviour

☐ Knowledge and understanding

☐ Physical

☐ Technical competence

☐ Cultural competence

☐ Ethical/values

☐ Lack of continuing professional development

Other (please state):

Additional comments:

Q3   What (if any) are the legal and ethical issues surrounding this scenario?

Q4   On a scale of 1 (never) to 5 (often) please rate how frequently you have experienced this type of scenario during your   career

	Never (1)	Rarely (2)	Unsure (3)	Sometimes (4)	Often (5)
Click to write Scale point 1	○	○	○	○	○

Additional comments:

Q5   On a scale of 1 (not satisfied) to 5 (very satisfied) rate your satisfaction with the level of training you have had for dealing with this type of situation

	Not satisfied (1)	Somewhat satisfied (2)	Unsure (3)	Satisfied (4)	Very satisfied (5)
Click to write Scale point 1	○	○	○	○	○

Additional comments:

Scenario B
A Radiation Therapist has recently joined your team in planning. He/she had been working on the treatment units for about a year prior to coming to planning. You begin to notice over several weeks that he/she continues to make the same mistakes on the same techniques. He/she does not seem to understand the basic principles of planning and shows minimal evidence of progression and learning. You are forming doubts about his/her ability and competence. What do you do?

Q6   Please write your response below

Q7   What form of impairment contributes to the issues surrounding FTP in this scenario?
       You may choose one or more boxes

☐ Mental

☐ Self awareness

☐ Communication competence

☐ Professional behaviour

☐ Knowledge and understanding

☐ Physical

☐ Technical competence

☐ Cultural competence

☐ Ethical/values

☐ Lack of continuing professional development

Other (please state):

Additional comments:

Q8   What (if any) are the legal and ethical issues surrounding this scenario?

Q9   On a scale of 1 (never) to 5 (often) please rate how frequently you have experienced this type of scenario during your career

	Never (1)	Rarely (2)	Unsure (3)	Sometimes (4)	Often (5)
Click to write Scale point 1	○	○	○	○	○

Additional comments:

_____

Q10   On a scale of 1 (not satisfied) to 5 (very satisfied) please rate your satisfaction with the level of training you have had for dealing with this type of situation

	Not satisfied (1)	Somewhat satisfied (2)	Unsure (3)	Satisfied (4)	Very satisfied (5)
Click to write Scale point 1	○	○	○	○	○

Additional comments:

_____

Scenario C
You are working with a senior practitioner setting up a patient who is to receive palliative treatment to the thorax for late stage lung cancer. You notice that your colleague does not position the isocentre of the field accurately and it is 'off centre' by more than 2cm and they exit the room ready to 'beam-on'. What do you do?

_____

Q11   Please write your response below

_____

Q12   What form of impairment contributes to the issues surrounding FTP in this scenario? You may choose one or more boxes

☐ Mental

☐ Self awareness

☐ Communication competence

☐ Professional behaviour

☐ Knowledge and understanding

☐ Physical

☐ Technical competence

☐ Cultural competence

☐ Ethical/values

☐ Lack of continuing professional development

_____

Other (please state):

_____

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Additional comments:

_____

Q13   What (if any) are the legal and ethical issues surrounding this scenario?

Q14   On a scale of 1 (never) to 5 (often) please rate how frequently you have experienced this type of scenario during your career

	Never (1)	Rarely (2)	Unsure (3)	Sometimes (4)	Often (5)
Click to write Scale point 1	○	○	○	○	○

Additional comments:

Q15   On a scale of 1 (not satisfied) to 5 (very satisfied) please rate your satisfaction with the level of training you have had for dealing with this type of situation

	Not satisfied (1)	Somewhat satisfied (2)	Unsure (3)	Satisfied (4)	Very satisfied (5)
Click to write Scale point 1	○	○	○	○	○

Additional comments:

Scenario D
You are 'friends' with a colleague on Facebook. Your department is currently treating a well known actress. You notice that your colleague is discussing this actress over Facebook with other users, bragging that they treated her that day and commenting about her physical features. Your colleague is not using the actress's real name, but it is quite obvious who they are talking about due to the media coverage of her illness. What do you do?

Q16   Please write your response below

Q17   What form of impairment contributes to the issues surrounding FTP in this scenario?

You may choose one or more boxes

- ☐ Mental
- ☐ Self awareness
- ☐ Communication competence
- ☐ Professional behaviour
- ☐ Knowledge and understanding
- ☐ Physical
- ☐ Technical competence
- ☐ Cultural competence
- ☐ Ethical/values
- ☐ Lack of continuing professional development

Other (please state):

Additional comments:

Q18   What (if any) are the legal and ethical issues surrounding this scenario?

Q19   On a scale of 1 (never) to 5 (often) please rate how frequently you have experienced this type of scenario during your career

	Never (1)	Rarely (2)	Unsure (3)	Sometimes (4)	Often (5)
Click to write Scale point 1	○	○	○	○	○

Additional comments:

Q20   On a scale of 1 (not satisfied) to 5 (very satisfied) please rate your satisfaction with the level of training you have had for dealing with this type of situation

	Not satisfied (1)	Somewhat satisfied (2)	Unsure (3)	Satisfied (4)	Very satisfied (5)
Click to write Scale point 1	○	○	○	○	○

Additional comments:

Q21   Approximately how long did it take you to complete this section of the survey?

Q22   How easy was it to complete this section of the survey?

	Very difficult	Difficult	Easy	Very easy
Click to write Scale point 1	○	○	○	○

Q23   Please state any comments you may have about the previous questions in the space below

Scenario E
You are working on a busy linac and your colleague has called in sick for the early shift of the day. The radiation therapist (RT) who has agreed to cover your colleague has worked solely on superficial units for the past 10 years in a small centre which treats skin cancers. You need to make a good start to the day so that patients are not waiting too long for their treatment and the list of patients to treat are mainly complex IMRT techniques. What do you do?

Q24   Please select one box which most closely represents how you would respond to this situation

○ Get the RT to assist immediately as the second person, it should be easy enough for them to set the patients up with you and at least patients will not be waiting for their treatment

○ Get the RT to assist after explaining all the procedures for each patient, as it should be easy enough for them to treat when they have been told what to do

○ Decide to wait until the next shift of staff arrive in 45 minutes even though it means that patients will have to wait

○ Go and get a final year student from another machine as they should know what they are doing and there will still be two RTs treating with the student

Q25   What form of impairment contributes to the issues surrounding FTP in this scenario?

      You may choose one or more boxes

☐ Mental

☐ Self awareness

☐ Communication competence

☐ Professional behaviour

☐ Knowledge and understanding

☐ Physical

☐ Technical competence

☐ Cultural competence

☐ Ethical/values

☐ Lack of continuing professional development

Other (please state):

Additional comments:

Q26 What (if any) are the legal and ethical issues surrounding this scenario?

Q27 On a scale of 1 (never) to 5 (often) please rate how frequently you have experienced this type of scenario during your career

	Never (1)	Rarely (2)	Unsure (3)	Sometimes (4)	Often (5)
Click to write Scale point 1	○	○	○	○	○

Additional comments:

Q28 On a scale of 1 (not satisfied) to 5 (very satisfied) please rate your satisfaction with the level of training you have had for dealing with this type of situation

	Not satisfied (1)	Somewhat satisfied (2)	Unsure (3)	Satisfied (4)	Very satisfied (5)
Click to write Scale point 1	○	○	○	○	○

Additional comments:

Scenario F
You are working with a colleague who is in his/her sixties and has been practising safely for many years but today you see him/her exhibiting problems with fine motor skills. You notice that his/her hands shake and they are finding it difficult to use the hand pendant and position the patient. What do you do?

Q29   Please select one box which most closely represents how you would respond to this situation

○ Continue working with them as it is only taking a little bit longer to treat each patient

○ Stop setting the patient up and refuse to treat with them and find another practitioner to work with you

○ Treat the current patient and then mention to him/her that you have noticed they are having problems and suggest they find someone else to treat with you

○ Continue working with them but suggest they should inform a senior member of staff that they are having problems

Q30   What form of impairment contributes to the issues surrounding FTP in this scenario?

You may choose one or more boxes

☐ Mental

☐ Self awareness

☐ Communication competence

☐ Professional behaviour

☐ Knowledge and understanding

☐ Physical

☐ Technical competence

☐ Cultural competence

☐ Ethical/values

☐ Lack of continuing professional development

Other (please state):

Additional comments:

Q31   What (if any) are the legal and ethical issues surrounding this scenario?

Q32   On a scale of 1 (never) to 5 (often) please rate how frequently you have experienced this type of scenario during your career

	Never (1)	Rarely (2)	Unsure (3)	Sometimes (4)	Often (5)
Click to write Scale point 1	○	○	○	○	○

Additional comments:

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Q33   On a scale of 1 (not satisfied) to 5 (very satisfied) please rate your satisfaction with the level of training you have had for dealing with this type of situation

	Not satisfied (1)	Somewhat satisfied (2)	Unsure (3)	Satisfied (4)	Very satisfied (5)
Click to write Scale point 1	○	○	○	○	○

Additional comments:

Scenario G
One of your staff with an account on a social network informs you that a staff member (not an RT) whose employment was recently terminated has made threats against their line manager on this network. Your staff member offers to log into this network to show you the comment. You accept the offer and read the comment. Whilst your organization is not identified, the line manager is named and a physical threat is described. What do you do?

Q34   Please select one box which most closely represents how you would respond to this situation

○ Ask your staff member to send a message via the network to see whether the comments made are a joke

○ Print the screen, de-identifying all but the relevant comment and decide to ask for an opinion of the appropriate course of action from colleagues

○ Contact the relevant department head and pass on the information. The incident can be logged with the relevant authorities, and the line manager can be advised

○ Elect not to get involved - it's probably all 'hot air' and harmless

Q35   What form of impairment contributes to the issues surrounding FTP in this scenario?

You may choose one or more boxes

☐ Mental

☐ Self awareness

☐ Communication competence

☐ Professional behaviour

☐ Knowledge and understanding

☐ Physical

☐ Technical competence

☐ Cultural competence

☐ Ethical/values

☐ Lack of continuing professional development

Other (please state):

_____

Additional comments:

_____

Q36   What (if any) are the legal and ethical issues surrounding this scenario?

_____

Q37   On a scale of 1 (never) to 5 (often) please rate how frequently you have experienced this type of scenario during your career

	Never (1)	Rarely (2)	Unsure (3)	Sometimes (4)	Often (5)
Click to write Scale point 1	○	○	○	○	○

Additional comments:

_____

Q38   On a scale of 1 (not satisfied) to 5 (very satisfied) please rate your satisfaction with the level of training you have had for dealing with this type of situation

	Not satisfied (1)	Somewhat satisfied (2)	Unsure (3)	Satisfied (4)	Very satisfied (5)
Click to write Scale point 1	○	○	○	○	○

Additional comments:

_____

Scenario H
You are performing a first day machine check for a new case conformal technique to the brain an notice that one beam exits through the eyes. You query this with the planner who states the senior RT in planning actually took over the plan and came up with the final beam arrangement. When you point out that the eyes are in full beam the planner states they brought that fact to the Senior RT's attention; the Senior RT stated that given the diagnosis and prognosis the patient will in all likelihood be deceased before late sequelae manifest. What do you do?

_____

Q39 Please select one box which most closely represents how you would respond to this situation
   ○ Accept the beam arrangement and treat as a charge RT created the plan
   ○ Treat the patient and ask the planner to revise the plan for subsequent fractions

○ Discuss the plan with your line manager. Suggest a discussion needs to occur with both the planner and charge RT prior to treating; state your concerns and request the patient is deferred until an optimal plan is created

○ Discuss the plan with your line manager. Suggest a discussion needs to occur with both the planner and charge RT prior to treating; state your concerns and request the patient is deferred until an optimal plan is created. If the plan is not revised, refuse to treat the patient

---

Q40   What form of impairment contributes to the issues surrounding FTP in this scenario? You may choose one or more boxes

☐ Mental

☐ Self awareness

☐ Communication competence

☐ Professional behaviour

☐ Knowledge and understanding

☐ Physical

☐ Technical competence

☐ Cultural competence

☐ Ethical/values

☐ Lack of continuing professional development

Other (please state):

Additional comments:

Q41   What (if any) are the legal and ethical issues surrounding this scenario?

Q42   On a scale of 1 (never) to 5 (often) please rate how frequently you have experienced this type of scenario during your career

	Never (1)	Rarely (2)	Unsure (3)	Sometimes (4)	Often (5)
Click to write Scale point 1	○	○	○	○	○

Additional comments:

385

Q43   On a scale of 1 (not satisfied) to 5 (very satisfied) please rate your satisfaction with the level of training you have had for dealing with this type of situation

	Not satisfied (1)	Somewhat satisfied (2)	Unsure (3)	Satisfied (4)	Very satisfied (5)
Click to write Scale point 1	○	○	○	○	○

Additional comments:

_____

Q44   Approximately how long did it take you to complete this section of the survey?

_____

Q45   How easy was it to complete this section of the survey?

	Very difficult	Difficult	Easy	Very easy
Click to write Scale point 1	○	○	○	○

Q46   Please state any comments you may have about the previous questions in the space below

_____

Section 3: Additional information

_____

Q1   Where have you previously discussed issues like the ones depicted in the above scenarios?

Please select all answers that apply

☐ Clinical practice

☐ During my studies

☐ Informal discussion (e.g. staff room)

☐ Formal discussions (staff meetings)

☐ Social media

☐ Never discussed these

_____

Q2   Where have you learned the most about issues like those in the scenarios?

Please select the best answer

○ Clinical practice

○ During my studies

○ Informal discussion

○ Formal discussion

○ Registration Board

○ No-where

Q3   How many hours of coursework devoted to FTP did you study when training to be a radiation therapist?

○ 0

○ 1 to 4

○ 5 to 10

○ 11 to 15

○ 16 +

○ can't remember

Q4   Were there any questions that you thought were inappropriate for this survey?

End of survey. Thank you very much for participating.

National Survey: Group 1

Please complete this survey if your surname begins with the letters A-M (otherwise follow the link on the email to the other version of the survey)

Introduction

The concept of fitness to practise (FTP) is recognised both nationally and internationally as a means of regulating conduct in health care professions including radiation therapy. It encompasses a number of different elements related to practice such as: criminal record, health and well being, safety, legal and ethical awareness, professional behaviour and attitudes and technical competence.

We would greatly appreciate it if you would kindly complete this survey which will provide the research team with invaluable insights into the perceptions radiation therapists have concerning the concept of fitness to practise. The survey should only take you 20 minutes to complete.

You will be able to use your reflections from completing the survey as evidence of continuing professional development for registration purposes.

If you have previously completed a pilot survey for this research, then we request that you do not complete this survey.

Section 1: Background Information

Q1   Are you?
- Male
- Female

Q2   What is your age group?
- 21-29 years
- 30-39 years
- 40-49 years
- 50+ years

Q3   Which ethnic/cultural group do you primarily identify with?
- Australian Peoples
- New Zealand Peoples
- Melanesian and Papuan
- Micronesian
- Polynesian
- British/Irish
- Western European
- Northern European
- Southern European

- Eastern European
- Arab
- Jewish
- Peoples of the Sudan
- Other North African/ Middle Eastern
- South-East Asian
- Chinese Asian
- Other North-East Asian
- Southern Asian
- Central Asian
- North American
- Central/ South American
- Caribbean Islander
- Central and West African
- Southern and East African

Q4   How long have you been a radiation therapist?
- Less than 5 years
- 6-10 years
- 11-20 years
- More than 20 years

Q5   What entry level qualification in radiation therapy do you have?
- Diploma
- Bachelor degree
- Masters degree

Q6   When did you first graduate into the profession?
- Before 1980
- 1981-1989
- 1990-2000
- 2001-2012

Q7 Where did you gain your entry level qualification?
- South Australia
- New South Wales
- Queensland
- Victoria

○ Other (please indicate below)

If outside of Australia, please state where you gained your entry level qualification

[   ]

Q8 In which sector of health do you work?

○ Public

○ Private

Q9 In what location is the clinical centre in which you work?

○ Metropolitan

○ Rural/regional

Section 2: Fitness to Practise Scenarios
This section presents a number of authentic scenarios related to fitness to practise (FTP) in radiation therapy. We would like you to read each scenario carefully and provide honest responses for all questions. Please be reminded that all surveys are anonymous and as such the researcher will not be able to identify who you are.

Scenario A
You and your colleague are rostered for an early shift on a treatment unit and you have a fully booked schedule for the first hour. Your colleague arrives 15 minutes after the scheduled start of the shift and you are now running late. You notice that your colleague is having difficulty in focusing on the tasks at hand and you smell alcohol. What do you do?

Q10 Please write your response below:

[   ]

Q11   What form of impairment contributes to the issues surrounding FTP in this scenario?

        You may choose one or more boxes

☐ Mental

☐ Self awareness

☐ Communication competence

☐ Professional behaviour

☐ Knowledge and understanding

☐ Physical

☐ Technical competence

☐ Cultural competence

☐ Ethical/values

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☐ Lack of continuing professional development

Other (please state):

[_____]

Additional comments:

[_____]

Q12   What (if any) are the legal and ethical issues surrounding this scenario?

[_____]

Q13   On a scale of 1 (never) to 5 (often) please rate how frequently you have experienced this type of scenario during your   career

Never (1)	Rarely (2)	Unsure (3)	Sometimes (4)	Often (5)
○	○	○	○	○

Additional comments:

[_____]

Q14   On a scale of 1 (not satisfied) to 5 (very satisfied) rate your satisfaction with the level of training you have had for dealing with this type of situation

○ Not satisfied (1)

○ Somewhat satisfied (2)

○ Unsure (3)

○ Satisfied (4)

○ Very satisfied (5)

Additional comments:

[_____]

Scenario B
A Radiation Therapist has recently joined your team in planning. He/she had been working on the treatment units for about a year prior to coming to planning. You begin to notice over several weeks that he/she continues to make the same mistakes on the same techniques. He/she does not seem to understand the basic principles of planning and shows minimal evidence of progression and learning. You are forming doubts about his/her ability and competence. What do you do?

Q15   Please write your response below:

Q16   What form of impairment contributes to the issues surrounding FTP in this scenario?

You may choose one or more boxes

- [ ] Mental
- [ ] Self awareness
- [ ] Communication competence
- [ ] Professional behaviour
- [ ] Knowledge and understanding
- [ ] Physical
- [ ] Technical competence
- [ ] Cultural competence
- [ ] Ethical/values
- [ ] Lack of continuing professional development

Other (please state):

Additional comments:

Q17   What (if any) are the legal and ethical issues surrounding this scenario?

Q18   On a scale of 1 (never) to 5 (often) please rate how frequently you have experienced this type of scenario during your career

Never (1)	Rarely (2)	Unsure (3)	Sometimes (4)	Often (5)
○	○	○	○	○

Additional comments:

Q19   On a scale of 1 (not satisfied) to 5 (very satisfied) please rate your satisfaction with the level of training you have had for dealing with this type of situation

Not satisfied (1)	Somewhat satisfied (2)	Unsure (3)	Satisfied (4)	Very satisfied (5)
○	○	○	○	○

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Additional comments:

_____

Scenario C
You are working with a senior practitioner setting up a patient who is to receive palliative treatment to the thorax for late stage lung cancer. You notice that your colleague does not position the isocentre of the field accurately and it is 'off centre' by more than 2cm and they exit the room ready to 'beam-on'. What do you do?

Q20   Please write your response below:

_____

Q21   What form of impairment contributes to the issues surrounding FTP in this scenario?

       You may choose one or more boxes

☐ Mental

☐ Self awareness

☐ Communication competence

☐ Professional behaviour

☐ Knowledge and understanding

☐ Physical

☐ Technical competence

☐ Cultural competence

☐ Ethical/values

☐ Lack of continuing professional development

Other (please state):

_____

Additional comments:

_____

Q22   What (if any) are the legal and ethical issues surrounding this scenario?

_____

Q23   On a scale of 1 (never) to 5 (often) please rate how frequently you have experienced this type of

scenario during your career

Never (1)	Rarely (2)	Unsure (3)	Sometimes (4)	Often (5)
◎	◎	◎	◎	◎

Additional comments:

[   ]

Q24   On a scale of 1 (not satisfied) to 5 (very satisfied) please rate your satisfaction with the level of training you have had for dealing with this type of situation

Not satisfied (1)	Somewhat satisfied (2)	Unsure (3)	Satisfied (4)	Very satisfied (5)
◎	◎	◎	◎	◎

Additional comments:

[   ]

Scenario D
You are 'friends' with a colleague on Facebook. Your department is currently treating a well known actress. You notice that your colleague is discussing this actress over Facebook with other users, bragging that they treated her that day and commenting about her physical features. Your colleague is not using the actress's real name, but it is quite obvious who they are talking about due to the media coverage of her illness. What do you do?

Q25   Please write your response below:

[   ]

Q26   What form of impairment contributes to the issues surrounding FTP in this scenario?

You may choose one or more boxes

☐ Mental

☐ Self awareness

☐ Communication competence

☐ Professional behaviour

☐ Knowledge and understanding

☐ Physical

☐ Technical competence

☐ Cultural competence

☐ Ethical/values

☐ Lack of continuing professional development

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Other (please state):

[   ]

Additional comments:

[   ]

Q27   What (if any) are the legal and ethical issues surrounding this scenario?

[   ]

Q28   On a scale of 1 (never) to 5 (often) please rate how frequently you have experienced this type of scenario during your career

Never (1)	Rarely (2)	Unsure (3)	Sometimes (4)	Often (5)
⊙	⊙	⊙	⊙	⊙

Additional comments:

[   ]

Q29   On a scale of 1 (not satisfied) to 5 (very satisfied) please rate your satisfaction with the level of training you have had for dealing with this type of situation

Not satisfied (1)	Somewhat satisfied (2)	Unsure (3)	Satisfied (4)	Very satisfied (5)
⊙	⊙	⊙	⊙	⊙

Additional comments:

[   ]

Q30   Where have you gained awareness about issues like the ones depicted in the above scenarios?

Please select all answers that apply

- ☐ Clinical practice
- ☐ During my studies
- ☐ Informal discussion (e.g. staff room)
- ☐ Formal discussions (staff meetings)
- ☐ Social media
- ☐ Registration Board
- ☐ Professional Body
- ☐ Other (please state below)

Group 2

Please complete this survey if your surname begins with the letters N-Z (otherwise follow the link on the email to the other version of the survey)

Introduction

The concept of fitness to practise (FTP) is recognised both nationally and internationally as a means of regulating conduct in health care professions including radiation therapy. It encompasses a number of different elements related to practice such as: criminal record, health and well being, safety, legal and ethical awareness, professional behaviour and attitudes and technical competence.

We would greatly appreciate it if you would kindly complete this survey which will provide the research team with invaluable insights into the perceptions radiation therapists have concerning the concept of fitness to practise. The survey should only take you 20 minutes to complete.

You will be able to use your reflections from completing the survey as evidence of continuing professional development for registration purposes.

If you have previously completed a pilot survey for this research, then we request that you do not complete this survey.

Section 1: Background Information

Q1   Are you?
- ⚪ Male
- ⚪ Female

Q2   What is your age group?
- ⚪ 21-29 years
- ⚪ 30-39 years
- ⚪ 40-49 years
- ⚪ 50+ years

Q3   Which ethnic/cultural group do you primarily identify with?
- ⚪ Australian Peoples
- ⚪ New Zealand Peoples
- ⚪ Melanesian and Papuan
- ⚪ Micronesian
- ⚪ Polynesian
- ⚪ British/Irish
- ⚪ Western European
- ⚪ Northern European
- ⚪ Southern European

○ Eastern European

○ Arab

○ Jewish

○ Peoples of the Sudan

○ Other North African/ Middle Eastern

○ South-East Asian

○ Chinese Asian

○ Other North-East Asian

○ Southern Asian

○ Central Asian

○ North American

○ Central/ South American

○ Caribbean Islander

○ Central and West African

○ Southern and East African

Q4   How long have you been a radiation therapist?

○ Less than 5 years

○ 6-10 years

○ 11-20 years

○ More than 20 years

Q5   What entry level qualification in radiation therapy do you have?

○ Diploma

○ Bachelor degree

○ Masters degree

Q6   When did you first graduate into the profession?

○ Before 1980

○ 1981-1989

○ 1990-2000

○ 2001-2012

Q7   Where did you gain your entry level qualification?

○ South Australia

○ New South Wales

○ Queensland

○ Victoria

○ Other (please indicate below)

If outside of Australia, please state where you gained your entry level qualification

[_____]

Q8   In which sector of health do you work?

○ Public

○ Private

Q9   In what location is the clinical centre in which you work?

○ Metropolitan

○ Rural/regional

Section 2: Fitness to Practise Scenarios
This section presents a number of authentic scenarios related to fitness to practise (FTP) in radiation therapy. We would like you to read each scenario carefully and provide honest responses for all questions. Please be reminded that all surveys are anonymous and as such the researcher will not be able to identify who you are.

Scenario A
You are working on a busy linac and your colleague has called in sick for the early shift of the day. The radiation therapist (RT) who has agreed to cover your colleague has worked solely in Brachytherapy for the past 5 years. You need to make a good start to the day so that patients are not waiting too long for their treatment and the list of patients to treat are mainly complex Head and Neck IMRT techniques. What do you do?

Q10   Please write your response below:

[_____]

Q11   What form of impairment contributes to the issues surrounding FTP in this scenario?

You may choose one or more boxes

☐ Mental

☐ Self awareness

☐ Communication competence

☐ Professional behaviour

☐ Knowledge and understanding

☐ Physical

☐ Technical competence

☐ Cultural competence

☐ Ethical/values

☐ Lack of continuing professional development

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Other (please state):

Additional comments:

Q12   What (if any) are the legal and ethical issues surrounding this scenario?

Q13   On a scale of 1 (never) to 5 (often) please rate how frequently you have experienced this type of scenario during your career

Never (1)	Rarely (2)	Unsure (3)	Sometimes (4)	Often (5)
○	○	○	○	○

Additional comments:

Q14   On a scale of 1 (not satisfied) to 5 (very satisfied) please rate your satisfaction with the level of training you have had for dealing with this type of situation

Not satisfied (1)	Somewhat satisfied (2)	Unsure (3)	Satisfied (4)	Very satisfied (5)
○	○	○	○	○

Additional comments:

Scenario B
You are working with a colleague who has been practising safely for many years but today you see him/her exhibiting problems with fine motor skills. You notice that his/her hands shake and they are finding it difficult to use the hand pendant and position the patient. What do you do?

Q15   Please write your response below:

Q16   What form of impairment contributes to the issues surrounding FTP in this scenario?

        You may choose one or more boxes

- ☐ Mental
- ☐ Self awareness
- ☐ Communication competence
- ☐ Professional behaviour
- ☐ Knowledge and understanding
- ☐ Physical
- ☐ Technical competence
- ☐ Cultural competence
- ☐ Ethical/values
- ☐ Lack of continuing professional development

Other (please state):

Additional comments:

Q17   What (if any) are the legal and ethical issues surrounding this scenario?

Q18   On a scale of 1 (never) to 5 (often) please rate how frequently you have experienced this type of scenario during your career

Never (1)	Rarely (2)	Unsure (3)	Sometimes (4)	Often (5)
○	○	○	○	○

Additional comments:

Q19   On a scale of 1 (not satisfied) to 5 (very satisfied) please rate your satisfaction with the level of training you have had for dealing with this type of situation

Not satisfied (1)	Somewhat satisfied (2)	Unsure (3)	Satisfied (4)	Very satisfied (5)
○	○	○	○	○

Additional comments:

Scenario C
One of your colleagues informs you that another RT has made threats against another member of staff on a social network. You log into this network to see the comment. Whilst your organization is not identified, the staff member is named and a physical threat is described. What do you do?

Q20   Write your response in the space below:

Q21   What form of impairment contributes to the issues surrounding FTP in this scenario?
          You may choose one or more boxes

- ☐ Mental
- ☐ Self awareness
- ☐ Communication competence
- ☐ Professional behaviour
- ☐ Knowledge and understanding
- ☐ Physical
- ☐ Technical competence
- ☐ Cultural competence
- ☐ Ethical/values
- ☐ Lack of continuing professional development

Other (please state):

Additional comments:

Q22   What (if any) are the legal and ethical issues surrounding this scenario?

Q23   On a scale of 1 (never) to 5 (often) please rate how frequently you have experienced this type of scenario during your career

Never (1)	Rarely (2)	Unsure (3)	Sometimes (4)	Often (5)
○	○	○	○	○

Additional comments:

Q24 On a scale of 1 (not satisfied) to 5 (very satisfied) please rate your satisfaction with the level of training you have had for dealing with this type of situation

Not satisfied (1)	Somewhat satisfied (2)	Unsure (3)	Satisfied (4)	Very satisfied (5)
○	○	○	○	○

Additional comments:

Scenario D
You are performing a first day machine check for a new case conformal technique to the brain and notice that one beam exits through the eyes. You query this with the planner who states the senior RT in planning actually took over the plan and came up with the final beam arrangement. When you point out that the eyes are in full beam the planner states they brought that fact to the Senior RT's attention; the Senior RT stated that given the diagnosis and prognosis the patient will in all likelihood be deceased before late sequelae manifest. What do you do?

Q25 Please write your response below:

Q26 What form of impairment contributes to the issues surrounding FTP in this scenario?

You may choose one or more boxes

☐ Mental

☐ Self awareness

☐ Communication competence

☐ Professional behaviour

☐ Knowledge and understanding

☐ Physical

☐ Technical competence

☐ Cultural competence

☐ Ethical/values

☐ Lack of continuing professional development

Other (please state):

Additional comments:

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Q27   What (if any) are the legal and ethical issues surrounding this scenario?

Q28   On a scale of 1 (never) to 5 (often) please rate how frequently you have experienced this type of scenario during your career

Never (1)	Rarely (2)	Unsure (3)	Sometimes (4)	Often (5)
◎	◎	◎	◎	◎

Additional comments:

Q29   On a scale of 1 (not satisfied) to 5 (very satisfied) please rate your satisfaction with the level of training you have had for dealing with this type of situation

Not satisfied (1)	Somewhat satisfied (2)	Unsure (3)	Satisfied (4)	Very satisfied (5)
◎	◎	◎	◎	◎

Additional comments:

30   Where have you gained awareness about issues like the ones depicted in the above scenarios?

Please select all answers that apply

☐ Clinical practice
☐ During my studies
☐ Informal discussion (e.g. staff room)
☐ Formal discussions (staff meetings/conferences/in services)
☐ Social media
☐ Registration Board
☐ Professional body
☐ Other (please comment below)

If other please state:

End of survey. Thank you very much for participating.

Appendix D: Frequency of reporting choice according to demographic characteristics

Table D1 Frequency of reporting choice according to demographic characteristics - Intoxication dilemma

Demographic characteristics	Reporting type			
	0 (NR) n/N	1 (IMS) n/N	2 (IFR) n/N	3 (EFR) n/N
Gender				
Male	11/17	2/17	4/17	0
Female	39/90	23/90	26/90	2/90
Number of years' experience in profession				
< 5 years	6/15	6/15	3/15	0
6-10 years	13/29	8/29	8/29	0
11-20 years	15/28	4/28	8/28	1/28
21+ years	16/33	5/33	11/33	1/33
Sector of employment				
Public	27/67	19/67	19/67	2/67
Private	23/40	6/40	11/40	0
Location of clinical centre				
Metropolitan	32/73	18/73	22/73	1/73
Regional	18/34	7/34	8/34	1/34

Table D2 Frequency of reporting choice according to demographic characteristics –
Repeated mistakes dilemma

Demographic characteristics	Reporting type			
	0 (NR) n/N	1 (IMS) n/N	2 (IFR) n/N	3 (EFR) n/N
Gender				
Male	10/17	6/17	1/17	0
Female	44/91	41/91	6/91	0
Number of years' experience in profession				
< 5 years	6/15	7/15	2/15	0
6-10 years	15/29	13/29	1/29	0
11-20 years	14/28	12/28	2/28	0
21+ years	18/34	14/34	2/34	0
Sector of employment				
Public	35/68	28/68	5/68	0
Private	19/40	19/40	2/40	0
Location of clinical centre				
Metropolitan	40/74	29/74	5/74	0
Regional	14/34	18/34	2/34	0

Table D3 Frequency of reporting choice according to demographic characteristics -
Inaccurate set-up dilemma

Demographic characteristics	Reporting type			
	0 (NR) n/N	1 (IMS) n/N	2 (IFR) n/N	3 (EFR) n/N
Gender				
Male	15/17	2/17	0	0
Female	86/91	5/91	0	0
Number of years' experience in profession	14/15	1/15	0	0
< 5 years	27/29	2/29	0	0
6-10 years	28/28	0	0	0
11-20 years	30/34	4/34	0	0
21+ years				
Sector of employment	62/68	6/68	0	0
Public	39/40	1/40	0	0
Private				
Location of clinical centre				
Metropolitan	72/74	2/74	0	0
Regional	29/34	5/34	0	0

Table D4 Frequency of reporting choice according to demographic characteristics - Identity disclosure dilemma

Demographic characteristics	Reporting type			
	0 (NR) n/N	1 (IMS) n/N	2 (IFR) n/N	3 (EFR) n/N
Gender				
Male	6/17	0	11/17	0
Female	35/91	15/91	40/91	1/91
Number of years' experience in profession	3/15	5/15	7/15	0
< 5 years	15/29	4/29	10/29	0
6-10 years	12/28	3/28	13/28	0
11-20 years	11/34	3/34	19/34	1/34
21+ years				
Sector of employment	29/68	8/68	30/68	1/68
Public	12/40	7/40	21/40	0
Private				
Location of clinical centre				
Metropolitan	33/74	10/74	30/74	1/74
Regional	8/34	5/34	21/34	0

Table D5 Frequency of reporting choice according to demographic characteristics -
Recency of practice dilemma

Demographic characteristics	Reporting type			
	0 (NR) n/N	1 (IMS) n/N	2 (IFR) n/N	3 (EFR) n/N
Gender				
Male	20/23	2/23	1/23	0
Female	42/49	5/49	2/49	0
Number of years' experience in profession				
< 5 years	8/12	3/12	1/12	0
6-10 years	12/15	2/15	1/15	0
11-20 years	22/22	0	0	0
21+ years	20/23	2/23	1/23	0
Sector of employment				
Public	44/50	5/50	1/50	0
Private	18/22	2/22	2/22	0
Location of clinical centre	39/45	5/45	1/45	0
Metropolitan	23/27	2/27	2/27	0
Regional				

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Table D6 Frequency of reporting choice according to demographic characteristics - Physical impairment dilemma

Demographic characteristics	Reporting type			
	0 (NR) n/N	1 (IMS) n/N	2 (IFR) n/N	3 (EFR) n/N
Gender				
Male	19/23	2/23	2/23	0
Female	38/49	8/49	3/49	0
Number of years' experience in profession				
< 5 years	9/12	2/12	1/12	0
6-10 years	9/15	5/15	1/15	0
11-20 years	20/22	1/22	1/22	0
21+ years	19/23	2/23	2/23	0
Sector of employment				
Public	40/50	7/50	3/50	0
Private	17/22	3/22	2/22	0
Location of clinical centre				
Metropolitan	37/45	5/45	3/45	0
Regional	20/27	5/27	2/27	0

Table D7 Frequency of reporting choice according to demographic characteristics - Bullying threats dilemma

Demographic characteristics	Reporting type			
	0 (NR) n/N	1 (IMS) n/N	2 (IFR) n/N	3 (EFR) n/N
Gender				
Male	10/23	1/23	11/23	1/23
Female	9/49	6/49	31/49	3/49
Number of years' experience in profession				
< 5 years	3/12	3/12	6/12	0
6-10 years	6/15	0	9/15	0
11-20 years	5/22	2/22	12/22	3/22
21+ years	5/23	2/23	15/23	1/23
Sector of employment				
Public	14/50	7/50	27/50	2/50
Private	5/22	0	15/22	2/22
Location of clinical centre				
Metropolitan	12/45	6/45	24/45	3/45
Regional	7/27	1/27	18/27	1/27

Table D8 Frequency of reporting choice according to demographic characteristics - Dose error dilemma

Demographic characteristics	Reporting type			
	0 (NR) n/N	1 (IMS) n/N	2 (IFR) n/N	3 (EFR) n/N
Gender				
Male	20/23	3/23	0	0
Female	29/49	19/49	1/49	0
Number of years' experience in profession				
< 5 years	6/12	6/12	0	0
6-10 years	11/15	4/15	0	0
11-20 years	15/22	6/22	1/22	0
21+ years	17/23	6/23	0	0
Sector of employment				
Public	38/50	12/50	0	0
Private	11/22	10/22	1/22	0
Location of clinical centre				
Metropolitan	31/45	14/45	0	0
Regional	18/27	8/27	1/27	0

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