

## ORIGINAL ARTICLE

# Do radiation therapists feel able to routinely screen for symptoms and distress in people with cancer: barriers impacting practice

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Attitude, education, emotional cues, psychosocial support, radiation therapist, role

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## Abstract

**Introduction:** This study aimed to evaluate radiation therapists' (RTs) perceptions regarding the perceived barriers, knowledge, attitudes, confidence and role in administering an electronic screening tool to routinely screen for cancer patients' symptoms and distress. **Methods:** RTs at two radiation therapy departments completed a cross-sectional paper/pen survey to assess their demographic and workplace characteristics, perceptions of barriers, knowledge, attitudes, confidence and opinion of their role in symptom and distress screening. Responses were evaluated using simple frequencies and free-text responses using thematic analysis. **Results:** Of 39 RTs approached, 37 (95%) participated. The majority had not previously attended any emotional cues (77%) or psychosocial training (86%); 68% reported confidence discussing psychosocial concerns and recognising signs of anxiety and depression in patients, and 65% felt discussing patients' psychosocial concerns was part of their role. Administering the tool to patients was agreed to be the role of RTs by 38% of participants. Lack of education about psychosocial issues was the highest-ranked barrier to delivering the patient screening tool, with 74% of RTs responding 'it has made it difficult'. **Conclusion:** Whilst RTs are willing to play a role in patients' psychosocial support, they do not feel able to fulfil this role adequately because they lacked knowledge and confidence to administer symptom and distress screening. This research has highlighted the need for RT education on psychosocial concerns and recognising and responding to emotional cues. Understanding the impact education may have on the knowledge, attitude, confidence and role of RTs performing routine symptom and distress screening is required.

## Introduction

Cancer impacts many lives, with an estimated 17 million new cases globally in 2018<sup>1</sup> of whom approximately 50% will require radiation therapy.<sup>2</sup>

Radiation oncology encompasses a diverse range of specialist staff that provide care during radiation treatment, including radiation oncologists, radiation therapists, nurses, medical physicists and allied healthcare professionals. In

Australia, radiation therapists (RTs) plan and deliver radiation therapy to people with cancer. Beyond their technical tasks, their role includes providing patient education, advocacy and psychosocial supportive care. In support of this, the Australian Society of Medical Imaging and Radiation Therapy (ASMIRT) Professional Practice Standards state 'the scope of practice of the Radiation Therapist (Accredited Practitioner level) shall include: Patient assessment including psychosocial issues'.<sup>3</sup> While

core clinical responsibilities surrounding patient education and support show the importance of RTs being able to communicate,<sup>4</sup> the extent to which they have the necessary education, skills or tools to confidently and effectively address psychosocial issues is unclear.

People undergoing radiation therapy experience substantial levels of distress, depression and social concerns,<sup>5</sup> which vary before, during and after treatment,<sup>6</sup> and impact on outcomes and adherence to treatment.<sup>7</sup> Therefore, the implementation of routine screening for distress and psychosocial needs at critical time points of the disease trajectory<sup>8,9</sup> is recommended as best practice cancer care. People with cancer commonly attend radiation treatment daily for up to seven weeks, providing an opportunity to establish rapport and a relationship with RTs.<sup>4</sup> This uniquely positions RTs to respond directly to patient concerns, including psychosocial and emotional needs during the planning and treatment stages.

Routine collection of patient-reported outcomes (PROs) in a cancer setting enables better patient-centred care.<sup>10,11</sup> PROMPT-Care (Patient-Reported Outcome Measures for Personalized Treatment and Care) is an electronic health system supporting the systematic collection of PROs to inform real-time patient-centred care.<sup>12</sup> It uses validated tools to enable patients to report distress and associated problems (Distress Thermometer (DT) plus checklist)<sup>9</sup>, symptoms (Edmonton Symptom Assessment Scale (ESAS))<sup>13</sup> and unmet needs (Supportive Care Needs Survey-Screening Tool 9 (SCNS-ST9))<sup>14</sup> relating to their cancer diagnosis. In 2017, PROMPT-Care was introduced to facilitate screening as a standard of care for people treated with radiation therapy at two cancer care centres (one regional, one rural) in New South Wales, Australia, to meet state-wide reporting of psycho-oncology performance indicators.<sup>15</sup> In a process unique to these centres, RTs administer the PROMPT-Care tool to patients before treatment planning during an education session, and nursing staff review the PROMPT-Care results post-appointment to discuss and triage patients according to their needs.

There is a paucity of studies evaluating RTs' views of their role in routine psychosocial screening. This study aimed to assess RTs' perceived barriers, knowledge, attitudes, confidence and role in administering electronic symptom and distress screening to cancer patients.

## Method

### Study design and setting

A cross-sectional survey was administered to RTs in the two radiation oncology departments, located within public hospitals, during May 2019.

The Joint University of Wollongong and Illawarra Shoalhaven Local Health District Health and Medical Human Research Ethics Committee approved the study (2019/ETH03944).

### Participants/Recruitment

Staff eligible to participate were (i) RTs, (ii) working in one of the departments (where RTs administer the PROMPT-Care tool to individuals during their education session) and (iii) working clinically with people with cancer.

Eligible RTs were emailed an invitation with an information statement and consent form attached. BA distributed paper questionnaires and collected completed questionnaires in person one week later, following up nonresponders once by email. To enhance participation, managers approved protected time for RTs to complete questionnaires during work hours due to the anticipated 20-minute completion time.

### Sample size

The number of eligible RTs ( $n = 39$ ) at the time of recruitment determined our sample size. The unique procedure these centres used to administer the PROMPT-Care tool excluded the opportunity for RT recruitment from other radiation oncology departments.

### Measures

A questionnaire was developed by the research team to address the specific aims of this study. Questions were based around sub-domains identified for successful implementation of interventions in a hospital setting at a staff and environmental level.<sup>16</sup> It assessed the primary outcomes – barriers, knowledge, attitude, confidence and role of RTs; and demographic and workplace characteristics.

The questionnaire included three main sections: (i) demographic and workplace characteristics (8 items – see Table 1); (ii) perceived barriers, knowledge, attitudes, confidence and role in administering the PROMPT-Care screening tool (32 items – see Table 2); and (iii) perceived need for communication skills training to support RTs' role in addressing identified psychosocial concerns (45 items). Only the results from sections 1 and 2 are reported in this publication.

For the eight items relating to the barriers, that is factors that may have made it difficult to administer the PROMPT-Care tool, the 5-point Likert scale response options were 'not at all', 'a little', 'neutral', 'to some extent' and 'very much', with RTs able to list additional barriers as free text.

For the items relating to knowledge and attitudes (6 items) and perception of RTs' role in the education and care of patients (8 items), response options were 'strongly disagree', 'somewhat disagree', 'neither agree nor disagree', 'somewhat agree' and 'strongly agree'.

For the items relating to confidence in skills (6 items) and dealing with different emotions (4 items), response options were 'not at all confident', 'not confident', 'neutral', 'somewhat confident' and 'extremely confident'.

Response options regarding the role of RTs in addressing the PROMPT-Care assessment results were 'yes', 'no' and 'maybe'; with free text to specify reasons for the answer.

The questionnaire was not validated, however; it was pilot tested by two RTs to check for understanding and completion time, leading to minor revisions in wording and moving to a paper version of the survey to enhance completion rate (most RTs lacked access to a personal computer at work).

Reliability was calculated for questions within each part of section 2 to assess internal consistency of scales, with greater than 0.7 indicating good internal consistency.

**Table 1.** Radiation therapist characteristics

Characteristic	% (n) (n = 37 RTs)
Employment	
Full time	70 (26)
Part time	30 (11)
Gender	
Male	24 (9)
Female	76 (28)
RT Qualification	
Diploma	8 (3)
Degree	87 (32)
Postgraduate	5 (2)
Years working clinically in radiation therapy	
1–10 years	42 (15)
11–20 years	39 (14)
21–30 + years	19 (7)
Hours direct patient care each week	
1–10 hours	46 (17)
11–30 hours	32 (12)
More than 30 hours	22 (8)
Previously attended CST	
Yes	46 (16)
No	54 (19)
Previously attended emotional cues training	
Yes	23 (8)
No	77 (27)
Previously attended psychosocial training	
Yes	14 (5)
No	86 (30)

Percentages are rounded and may not add up to 100%.  
CST = communication skills training

**Table 2.** Participant responses (%; n/number of respondents who completed that item) regarding barriers, knowledge, attitudes, confidence and perceived role in distress and symptom screening

Barriers to delivering the PROMPT-Care tool <sup>a</sup>	Has made it difficult % (n/responses)
Lack of education about psychosocial concerns	74 (25/34)
Amount of time required to deliver the tool	70 (23/33)
Time point of patient's journey in which the tool is administered	68 (23/34)
Understanding the benefit of the tool	68 (23/34)
Belief in the need for this change	66 (21/32)
The physical environment in which the tool is delivered	65 (22/34)
Understanding the reason why the tool needed to be implemented	65 (22/34)
Lack of skills in dealing with psychosocial concerns which patients may experience	65 (22/34)
	Agree %(n/ responses)
Knowledge of the PROMPT-Care tool <sup>a</sup>	
I know why psychosocial screening is recommended for all patients	82 (28/34)
I know the tool is useful in identifying psychosocial problems	68 (23/34)
I am familiar with the content of the different screening tools used within PROMPT	41 (14/34)
I understand the purpose of each of the sections in the PROMPT-Care tool	38 (13/34)
	Confident %(n/ responses)
Attitudes to using the PROMPT-Care tool <sup>a</sup>	
Using the PROMPT-Care tool is beneficial to patients	68 (23/34)
Using the PROMPT-Care tool is important	65 (22/34)
	Confidence in skills in patient care
Educating patient on the radiotherapy process	100 (37/37)
Delivering the screening tool to patients during presimulation education	73 (27/37)
Discussing psychosocial issues with patients	68 (25/37)
Recognising signs of anxiety/depression	68 (25/37)
Asking the patient to complete the PROMPT-Care tool <sup>a</sup>	68 (23/34)
Describing the PROMPT-Care tool to the patient <sup>a</sup>	56 (19/34)
	Confidence in dealing with signs of:
Distress	84 (31/37)
Anxiety	78 (29/37)
Anger	68 (25/37)
Depression	54 (20/37)
	Opinion of the role of a RT in education and emotional care
	Agree %(n/ responses)

(Continued)

**Table 2.** Continued.

Opinion of the role of a RT in education and emotional care	Agree %(n/ responses)
Educating patients on the radiation therapy process	100 (37/37)
Educating patients on the side effects of radiation treatment	92 (34/37)
Referring to other services such as social worker or psychologist	89 (33/37)
Discussing psychosocial concerns with patients	65 (24/37)
Administering the PROMPT-Care tool <sup>a</sup>	38 (13/34)
My organisation values my role in providing the PROMPT-Care tool to patients <sup>a</sup>	44 (15/34)
My work colleagues value my role in providing the PROMPT-Care tool to patients <sup>a</sup>	38 (13/34)
Other members of the healthcare team value my role in providing the PROMPT-Care tool <sup>a</sup>	29 (10/34)

<sup>a</sup>sections skipped by the three RTs who had not yet administered the PROMPT-Care tool.

Cronbach's alpha coefficient calculations were barriers  $\alpha = 0.865$ ; knowledge/attitude  $\alpha = 0.835$ ; confidence  $\alpha = 0.793$ ; and role  $\alpha = 0.822$ .

## Data analysis

Given the small sample, response options were dichotomised and combined into 'positive' versus 'negative/neutral', as follows: not at all/a little (hasn't made it difficult); to some extent/very much/neutral (has made it difficult); agree/strongly agree (agree); disagree/strongly disagree/neutral (disagree); somewhat confident/extremely confident (confident); not at all confident/not confident/neutral (not confident).

Statistical analysis was completed using IBM SPSS version 26 software. Categorical measures were summarised with counts and percentages. Simple frequencies were used to describe the perception of barriers, knowledge, attitude, confidence and opinion of the RTs' role. Fisher's exact test was used to examine any differences between the demographic and workplace characteristics of participants in each of the two departments. Significance set at ( $P < 0.05$ ). The small number of missing responses was excluded from the analysis without affecting the robustness of the data. Qualitative data (free-text response items) were analysed thematically.

## Results

### Participation rate

Of the 39 RTs approached, 37 (95%) participated; one nonconsenter had not attended the workplace during the

recruitment period, and the other did not respond to the invitation or reminder emails. Of the 37 participants, three (8%) had not administered the PROMPT-Care screening tool to patients yet, so were directed to skip the questions specifically about use of PROMPT-Care during presimulation education.

### Participant characteristics

There were no significant differences in the demographic or workplace characteristics of RTs recruited from each of the two departments; hence, subsequent results are reported for the combined sample.

As summarised in Table 1, most RTs were female, had worked 1–10 years clinically, worked full-time and held a university degree. When asked if they had attended training in psychosocial patient care, less than half the sample reported they had attended communication skills training, and less than a quarter had attended emotional cues or psychosocial training.

### Barriers to administering the PROMPT-Care tool

As detailed in Table 2, RTs indicated that each of the listed barriers made it difficult to administer the PROMPT-Care tool, with 'lack of education of psychosocial issues' the most frequently endorsed. Most RTs (>50%) endorsed all factors within this section, indicating multiple barriers in delivering the tool.

RTs ( $n = 29$ ) listed additional barriers, which grouped into five main themes (see Table 3), with the following RT quote reflecting how the PROMPT-Care tool administration process itself is a barrier:

*RTs complete the tool, but have no further involvement in it. Perception is that nursing are not using the information from the tool which impacts on the motivation for RTs to take the time with the patients to complete it.*

ID209 "

### RTs' knowledge and attitude of the PROMPT-Care tool

As detailed in Table 2, while 82% of RTs agreed that they knew why screening is recommended for all people attending for cancer care, they lacked knowledge of the tool itself: were not familiar with its content (41%) and did not understand the purpose of the tool components (38%). Most thought the tool was beneficial (68%) and important (65%).

**Table 3.** Additional barriers nominated by RTs ( $n = 29$ ) when using PROMPT-Care tool with radiotherapy patients

Category (number of responses <sup>a</sup> )	Examples of responses
Information Technology (17)	'tablet not working', 'not charged', 'patient not able to use tablet', patient 'age', 'font size'
Lack of understanding (10)	'patient understanding the questions', 'language', 'responses influenced by staff/carers when explaining the questions'
Departmental process (5)	'information provided not being acted on', 'don't see the outcome'
Compliance (4)	'patient declined', 'disinterested', 'unwilling'
Role (1)	'out of job description'

<sup>a</sup>Participants may have responded with more than one barrier.

### RTs confidence in skills when using the PROMPT-Care tool

Compared with 100% of RTs feeling confident educating patients on the radiation therapy process, 73% were confident delivering the screening tool to patients and only 56% confident describing the tool. RTs were most confident dealing with patients showing signs of distress (84%) and least confident with those patients showing signs of depression (54%) (refer to Table 2).

### RTs' role in the care of patients

RTs perceived they had a role to educate patients on the radiation therapy process (100%) and side effects (92%), and to refer patients to a psychosocial team (89%) more so than to discuss psychosocial issues with patients themselves (65%). Only 38% of RTs perceived that administering the PROMPT-Care screening tool to patients was part of their role (refer to Table 2).

### RTs role in addressing the outcomes provided by the PROMPT-Care tool

Over 50% of RTs thought it 'maybe' their role to address the outcomes provided by the PROMPT-Care screening tool, with 15% believing it is their role and the remaining 30% responding it is not their role. RTs ( $n = 30$ ) specified reasons for these answers and were grouped into 8 main themes (see Table 4).

## Discussion

Overall, our results identify numerous factors that make it challenging for RTs to deliver the PROMPT-Care tool to patients. These factors are physical (environment, time

to deliver, time point for delivery), subjective (beliefs, attitudes, role) and educational, and all combined may influence the beliefs, knowledge, attitudes, confidence and therefore the role of the RT<sup>17,18</sup> when delivering the screening tool.

RTs in this study have identified numerous barriers when administering PROMPT-Care, possibly resulting in just over a third of RTs perceiving that screening patients was their role. Previous studies have highlighted the importance of addressing several areas when implementing interventions: staff commitment and attitudes, understanding and awareness, role, skills and abilities, and confidence, reinforcing that staff who lacked the skills and training also felt ill-equipped to deliver an intervention.<sup>16</sup> Conflicting responses were noted across survey sections. RTs identified 'belief in the need for this change' and 'understanding the benefit of the tool' to be barriers in delivering PROMPT-Care, yet they also agreed they knew 'the tool was useful in identifying psychological problems'. A further example is RTs identified lack of education about psychosocial concerns as a significant barrier, yet over two-thirds still felt confident discussing psychological concerns. However, some RTs' responses to the barrier items may reflect the lack of engagement with them prior to PROMPT-Care implementation, rather than their knowledge and patient care skills to perform this role. The importance of addressing barriers at a system, staff and intervention level is well recognised in supporting effective implementation of interventions.<sup>16</sup> Our results provide further evidence that RTs may be more well placed to perform this role than they realise.

RTs' opinion of their role may be affected by the second-highest ranked barrier identified, 'the amount of time to deliver the tool'. RTs largely felt referring to social work or psychology was more their role than taking the time to discuss the psychosocial issues with patients themselves. RTs indicated they were unsure whether nursing staff reviewed the screening results or discussed the information with patients after the planning appointment. This uncertainty is critical to address, as implementation research<sup>19</sup> confirms staff hesitate to administer PROs if responses are not reviewed. RTs need some confidence that screening results are being acted on, particularly when the time taken to administer the tool is a concern.

RTs disagreed that their role is to only administer PROMPT-Care to patients, free-text responses suggest RTs feel like they 'pass the buck' by having the patient complete screening, and leaving it to nursing staff to review with the patient. These results indicate a level of discontent with the current process, along with a lack of agreed roles within the department.<sup>18</sup>

**Table 4.** Free-text responses (n = 30) to the perceived role of an RT addressing outcomes provided by the PROMPT-Care tool

Category (number of responses <sup>a</sup> )	Examples of responses
Provide referral (10)	'We can provide referrals and patients often talk about concerns in pre-sim education they didn't identify in PROMPT.' ID202
Education required (7)	'can answer, address some concerns and also action/refer to appropriate MDT' ID122 'We see patients regularly but don't necessarily feel we are equipped to provide specific recommendations based on the PROMPT results.' ID18 'I do not have the knowledge and skill, training or degree to support the idea of dealing with patients psychological or social issues, isn't this the role of a multidisciplinary approach.' ID5 'As an RT - we have no formal training in addressing these issues, over confidence in one's abilities to do so can be detrimental to the patient.' ID203 'It depends on the patient's needs and whether we have had enough training to deal with them' ID212 'Would require specific training, maybe a group of RTs who have a specific interest, don't think it would work as a general task for RT's.' ID2
Trained professional's responsibility (6)	'I feel the PROMPT tool should be actioned by someone qualified in the field - psychology/social work' ID111
Inadequate departmental process (5)	'the tool itself can be addressed by only capable inhouse staff.' ID101 'We just seem to do it, then never hear anything about it again.' ID17 'feels like we administer the tool but have to 'pass the buck' as we are not seen as qualified to help the patient' ID34 'To make sure it is done and so we know what to expect at treatment.' ID3
Time (time point, time to deliver) (5)	'PROMPT is delivered at our first point of contact. I feel it would be more effective if PROMPT data was collected prior to their first contact with RT's - more time to organise appropriate and effective care.' ID21 'If we are given the right education and have the time to do it' ID211
Address some of the recommendations (5)	'It depends what the recommendations are. Some are out of our scope of practice and need someone trained in that area ie mental health issues' ID19
Important for patient care (3)	'Patient care core of role, RT consistent in patient journey.' ID4 'We see the patient daily and get to know so much about them, to provide best patient care we absolutely need to provide these.' ID201
Specialised RT (2)	'Perhaps a specialised RT could take this on, RT's could rotate for exposure' ID14

<sup>a</sup>Participants responses may have been themed into multiple categories.

In our study, just over two-thirds of RTs were confident in tasks associated with more psychosocial aspects of care, suggesting significant room for improvement. Knowledge of the PROMPT-Care tool itself was low, with less than 50% of RTs reporting they knew its content or understood the purpose of the tools it included. These results impacted confidence of RTs when describing the tool to patients, with just over half feeling confident to do so.

Our sample included RTs with a range of experience and RTs who had a large number of hours of direct face-to-face patient contact. Results of two separate studies that surveyed Canadian RTs identify these as important variables related to confidence, with one study finding that RTs with previous experience in dealing with emotions had increased confidence,<sup>20</sup> and the other that confidence in various aspects of patient care increased with years of experience.<sup>21</sup>

Similar to findings of Lavergne *et al.*,<sup>20</sup> RTs in this study were most confident in dealing with signs of distress and anxiety, with depression the emotion they

were least confident to manage. RTs are more confident dealing with anxiety because its more commonly experienced by patients during treatment with depression occurring afterwards.<sup>22</sup>

Our results show that RTs are most confident discussing treatment processes and side effects. Others have reported this focus of RT-patient discussions, with RTs expressing greater confidence discussing physical symptoms than emotional concerns.<sup>18,23</sup>

In our study, while a large proportion of RTs had not attended emotional cues or psychosocial training, 68% felt confident discussing psychosocial concerns and recognising signs of anxiety and depression, and 65% agreed that their role included discussing psychosocial concerns with patients. According to ASMIRT practice standards, assessing patients, 'including psychosocial issues',<sup>3</sup> is part of RTs' role. Therefore, it is important to understand RTs' education, confidence and role perceptions in performing this task. These results highlight a discrepancy between professional standards

and RTs' views and skills, and the need for opportunities to engage in appropriate and targeted education to build skills in psychosocial care. Furthermore, it is important for radiation therapy departments to provide support and clarity on expectations of performing this role beyond the required daily technical tasks.

Surveys of RTs in Canada have identified psychosocial care as an essential RT practice for providing quality care to patients.<sup>21,24</sup> Our participants' qualitative responses mirror this research. However, lack of time,<sup>25,26</sup> education,<sup>18,27</sup> clarity of role,<sup>27</sup> being given the authority to do so,<sup>21</sup> along with the role traditionally thought to be the responsibility of the practitioner or nurse,<sup>25</sup> makes this challenging for RTs to achieve.

RTs in this study identified the lack of education on psychosocial concerns as the most significant barrier to delivering the screening tool to patients, with three-quarters of RTs responding that this lack of education made it difficult. This finding is consistent with research reporting that lack of education is a barrier to oncology staff delivering supportive care<sup>21,24,28</sup> and that educational interventions are effective in increasing staff confidence and knowledge regarding psychosocial care of patients.<sup>28–30</sup> As communication skills and emotional cues training has been demonstrated to improve the confidence and knowledge of oncology staff, a communication skills program (RT Prepare) developed specifically for RTs is worthy of consideration for addressing the needs of this healthcare provider group.<sup>31</sup>

## Limitations

First, the small sample size and number of hospitals makes it difficult to generalise results to RTs across other departments. Second, while the introduction of the PROMPT-Care tool was intended to be consistent across the two participating departments (e.g. at the same time point of the radiation therapy pathway), environmental differences and variations between departments may have contributed to differences in identified barriers. However, since RTs' demographic and work characteristics were similar across departments, this limitation may be unfounded. Finally, the questionnaire was not validated; and the use of a 5-point Likert response scale with this small sample size produced a small spread of responses across the scale for each variable, leading the researchers to dichotomise the data. There is a risk in doing this as informative data could be lost or obscured.<sup>32</sup>

## Conclusion

This study found numerous barriers exist for RTs when performing routine symptom and distress screening in

practice impacting their ability to perform this role. The perceptions of RTs are encouraging, indicating support for a role in patient psychosocial support. However, the ability to provide this care was hindered due to a lack of knowledge and confidence when administering PROMPT-Care. Addressing current barriers is required to enable RTs to fulfil this role and align to their scope of practice. Lack of education is the greatest barrier for RTs in providing psychosocial care, and understanding the impact education may have on the knowledge, attitude, confidence and role of RTs performing routine symptom and distress screening is required.

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## Conflict of Interest

The authors declare no conflict of interest.

## Data Availability Statement

Research data are stored in an institutional repository and will be shared upon request.

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