

Rural Research Capacity Building Program

Complementary and Alternative Therapy Use in a rural Radiation Oncology Department: Increasing staff knowledge, confidence, discussion and documentation.



FINAL REPORT

Principal Investigator

Ms Lisa Delaney
Radiation Therapist

Radiation Oncology
NCCI - Lismore
70-72 Hunter St, Lismore, NSW, 2480
(P) 02 6620 2416
(E) Lisa.Delaney@ncahs.health.nsw.gov.au

Acknowledgements

The principal investigator would like to take this opportunity to thank all of the multidisciplinary staff at the Lismore Radiation Oncology Unit. Not only for their participation but for their enthusiasm and support which both validated this project and inspired me to keep on going with what was for the most part an independent venture. Thank you also to management for allowing me to participate and facilitating my research days.

Several people were integral to get this project up and running including Professor Michael McKay who encouraged me to pursue the project and assisted in project development. To Dr Megan Passey who brought this program to my attention and Professor Tom Shakespeare who supported the project and its concepts. Many thanks to Stephen Manley who supported me, provided solutions and made things happen when they needed to. Dr Margaret Rolfe for her biostatistician expertise and extrapolation of statistics from my data and to Andriana Ford for her valued report editing skills.

Thanks to the Health Education & Training Institute Rural Research Capacity Building Program itself and all involved for their expertise and openness to share and help including Emma Webster for her encouragement, belief and confirmation of the value of this project. My fellow researchers in the 2013 cohort who shared concerns, joys and the intensity of being a novice researcher.

The principal investigator cannot express enough thanks to David Schmidt for his understanding, crisis aversion, encouragement and innate ability to make clarity from jumbled thoughts often at desperate times. The opportunity to participate in this program will not soon be forgotten.

Abbreviations

CAT	Complementary and Alternative Therapy
EMR	Electronic Medical Record
H&N	Head and neck
LHD	Local Health District
MDT	Multi-Disciplinary Team
MOSAIQ	EMR system used in Lismore department
NCCI	North Coast Cancer Institute
RN	Registered Nurse
RO	Radiation Oncologist
RT	Radiation Therapist

Contents

Acknowledgements	2
Abbreviations	2
Abstract	4
Keywords	4
Executive summary	5
Introduction	7
Background	7
Study objectives	9
Study design	10
Ethics	10
Study outline	10
Results	13
Discussion	19
Strengths and limitations	22
Conclusion	23
Recommendations	23
References	24
Appendices	
1 Baseline Questionnaire	25
2 Post Intervention Questionnaire	28
3 Follow-Up Questionnaire	31
4 CAT Screening Tool	34

Abstract

Aim:

To ascertain if implementing a screening tool and staff education increases Complementary and Alternative Therapy (CAT) documentation, staff knowledge and staff confidence in discussing CAT use with patients receiving care at a rural Radiation Oncology Unit in Lismore.

Method:

Staff completed a baseline questionnaire regarding their knowledge, views and confidence relating to CAT use by patients alongside a baseline audit of patient records for CAT documentation. Participants attended an intervention session and completed a post intervention questionnaire. A post intervention audit of patient records was conducted alongside a follow up questionnaire 6 months post intervention.

Results:

From baseline to post intervention there was a statistically significant increased shift in staff knowledge and confidence ($p=0.001-0.01$). However participants perceived views of CATs did not change as a result of the intervention ($p=0.261-1.000$) nor did some aspects of CAT documentation ($p = 0.135 - 0.392$).

The observed shift was sustained over a 6 month period, as there was no significant difference between the post intervention and the follow up results in knowledge, views and confidence categories ($p = 0.058 -1.00$).

The baseline audit compared to the post intervention audit yielded a statistically significant increase in documentation. There was an increase of CAT use mentioned in patient records from 14% (15/108) to 40% (35/88) ($p < 0.001$). Post intervention 50% of records (44 /88) had the screening tool present ($p < 0.001$).

Conclusions:

The implementation of a screening tool and staff education increased CAT documentation, staff knowledge and confidence when discussing CAT use with patients at the Lismore Radiation Oncology department and could be implemented by other departments.

KEYWORDS: Radiotherapy, complementary and alternative therapy (or medicine), education

Executive Summary

Implications

Thirty eight to 83% of patients undergoing radiotherapy in rural settings are at risk of potentially adverse interaction effects and reduced effectiveness of conventional treatments because there is no standardised screening system for the complementary and alternative therapies (CATs) they use (1-3). The CATs utilised by this proportion of rural patients are often done so without medical record documentation nor clinician awareness or input. Moreover, little is known about the knowledge and confidence of staff to discuss these therapies with patients. A change in practise is essential in order to reduce this risk and ensure the best standard of care is provided to patients undergoing treatment at Lismore's Radiation Oncology department

The successfully implemented CATs intervention validated in this study is low cost and will reduce the level of risk currently experienced by patients undergoing radiotherapy treatment by ensuring consistency in screening, documentation and information provided to patients. This intervention incorporates an education session and the introduction of a screening tool and is easily adapted to radiation therapy departments in other local health districts (LHDs).

Recommendations

1. Short term:
 - a. Provide the education session locally on slideshow share-point for easy accessibility to enable staff to keep up-to-date and to orientate new staff.
 - b. Commence rollout across the Mid North Coast LHD radiation therapy departments as planned.
 - c. Offer the intervention to other oncology departments such as chemotherapy units.Long term:
 - d. Investigate the viability of a HETI online learning module to aid awareness of CAT use for other departments within NSW health.
 - e. Investigate logistics of rolling out the intervention across other LHDs.
2. Submit this first of its kind study to a peer review journal for potential publication to add to the body of literature surrounding CAT use in radiation therapy.
3. Conduct prospective research to enhance this study , such as
 - a. Determine if Northern River's radiation therapy patients have a higher incidence of CAT use than other radiation therapy patients in Australia due to the regions known alternative lifestyle.
 - b. Quantify if patient outcome has been improved via effective documentation and disclosure such as preventing an adverse interaction with CAT use and radiotherapy treatment.

Context

CAT utilisation is higher in Australian rural communities compared to their metropolitan counterparts (4, 5). The Northern Rivers is known for its alternative lifestyle and has the highest number of CAT practitioners of any New South Wales region, outnumbering General Practitioners by almost double (4). Clinicians are strongly encouraged to routinely ask patients about CAT use due to potential risks, however most patients (33-77%) do not disclose their CAT use (2, 6-9). Patients understand health professionals may lack the necessary knowledge but still seek their advice and valued when their CAT use was taken as part of their history (10). It is advocated that oncology staff become familiar with reputable evidence based resources and clinicians desire access to such resources in order to increase communication with patients (2, 7, 8, 11).

Approach:

This quantitative intervention study used several data collection methods.

- Staff in the multi-disciplinary team completed a baseline questionnaire regarding their perceived knowledge, views and confidence relating to CAT use by patients.
- Participants attended an intervention education session and completed a post intervention questionnaire immediately.
- Participants completed a third questionnaire six months post intervention attendance.
- A patient record audit was also undertaken pre and post intervention to detect documentation changes.

Statistical analysis was undertaken utilising Fishers Exact and McNemar-Bowker Tests.

Findings:

This intervention improved the service Lismore Radiation Oncology department provides its patients. The education component provided an effective solution for increasing staff's perceived knowledge, confidence and documentation when dealing with patient's CAT use in a rural Radiation Oncology department. The screening tool ensured all patients received a standardised service regarding CAT use. Standardisation ensured consistency in screening, documentation and information provided to patients. CAT documentation in Lismore is now better than some studies report (2, 6-8).

- All participants completing the intervention knew the difference between a complementary and an alternative therapy, an increase of 39% from baseline ($p = 0.001$) and sustained at follow-up ($p = 1.00$).
- There was significant increase of perceived knowledge of CATs, why they are commonly used by patients and what evidence based literature suggests ($p < 0.000 - 0.006$).
- There was a significant increase in staff knowledge of evidence-based resources ($p = 0.001$).
- The CAT screening tool was effective in initiating discussion with patients ($p = 0.001$).
- Post intervention showed 50% of records (44 /88) had the screening tool present.
- There was an increase of CAT use mentioned in patient records from 14% (15/108) to 40% (35/88) ($p < 0.001$).

INTRODUCTION

The North Coast Cancer Institute in Lismore services patients requiring radiotherapy in Northern NSW. An anecdotal increase in the number and frequency of patients initiating discussions regarding complementary and alternative therapies (CATs) was observed during 2012-2013. Discussions amongst staff indicated that awareness and knowledge of complementary therapies and their interaction with radiation therapy were low. It was not clear where health professionals could find evidence-based information on this topic.

It was also not clear if this increase in discussion was due to a rise of CAT use in general or if it was specific to the community which the department services. Northern New South Wales (Northern Rivers) is also known as 'The Rainbow Region' and anecdotally has a high population living an alternative lifestyle. There was no clarity around what discussions were happening within the department, what advice patients were given and whether every patient got the same opportunity to have this discussion. Staff confidence in such discussions was unknown and this raised the issue of whether this is why staff are perhaps not discussing CAT uses as often as they should.

The number of unknown factors in this field prompted a research project investigating a strategy designed and implemented to improve how the Lismore Radiation Therapy department improved its management of CAT use by patients. This report details the outcomes of that research project.

BACKGROUND

Complementary and alternative therapies are frequently utilised by patients undergoing radiation therapy treatment however little is known about the documentation, patterns of discussion and confidence levels of staff within radiation therapy departments to discuss these therapies. Complementary and alternative therapies are defined as medicines, practices and products not considered part of evidence based, conventional medicine, however what therapies are included can be ill defined (3, 7, 9, 12). Publications have shown a rise in the use of CATs over the years and usage has almost doubled since the 1970's (6, 11, 13). The percentage of oncology patients who use CATs in Australia range from 17-87% (8, 9, 14). There have been several studies in Australian and New Zealand rural RT (radiation therapy) departments specifically looking at what CATs their RT patients are using whereby Toowoomba reported 38%, Palmerston North 49%, Coffs Harbour 83% of their patients utilising CATs (1-3).

Why patients use these CATs has also been well investigated and include reducing side effects of conventional treatment, to assist treatment, improve symptoms, increase quality of life, improve emotional and physical wellbeing, to have a sense of control and less frequently to prevent recurrence, cancer control and boost immunity (8, 11, 15). There are benefits from patients utilising CATs that can contribute to potential positive outcomes including the psychological benefit due to an improvement of outlook and optimism (3).

Whilst most CATs, particularly psychosocial therapies, tend not to interfere with radiation therapy, some systematically administered or ingested therapies such as herbal or dietary therapies may have risks of adverse effects (6, 16).

Whilst CATs are widely used often they are utilised without a physician's knowledge and subsequently are not always discussed (2, 6, 11, 13). It is important to have open communication in discussing CAT use as this affects the doctor-patient relationship as well as helping to make a decision regarding therapies (10). Gillet et al (2012) suggests only 40% of patients discussed CAT use with physicians whilst Pirri et al (2011), reported that 33-77% of patients did not disclose their CAT use (2, 8). This disclosure rate is less than patients known use of CAT's as previously mentioned. Reasons for non-disclosure have found to be that patients were not asked, patients think they are safe hence not necessary to discuss, patients are dissatisfied with conventional treatment, concerns of oncologist disapproval, concerns of taking up time and concerns for radiation oncologists lack of knowledge (2, 10, 12). Some reasons why clinicians are hesitant to discuss CAT use include lack of education, lack of evidence surrounding CATs and potential litigation issues (8).

It has been acknowledged that there is a need to understand efficacy and interaction with conventional treatments and that there needs to be a greater awareness of the use of CATs in radiation therapy patients (17). Health professionals need to be informed and refer to current evidence, in order to assist patients with an informed judgment on CAT options (2, 11, 13, 16). However there is a need to assist health professionals in providing this information through education (13). Lack of knowledge is one barrier however there is no easy solution as there is a gap in the quality and rigor of evidence (17, 18). Despite the high use of CATs there are relatively few high quality clinical trials completed and it is challenging to apply current research methodology to CATs (16). However, Mok et al (2008) suggests doctors do not have to advocate CAT's use due to questionability in efficacy but do have a responsibility to help maintain patient safety (19).

With greater knowledge of evidence comes increased opportunity to avoid potential risks. However if a professional is not aware of what CATs patients are taking potential interactions cannot be discussed and therefore avoided (1). Poor communication about CAT use may prevent identification of potential harm to patients (1). Such harm can manifest as risks due to adverse interactions with prescribed cancer treatments or medications and possibly reducing efficacy of conventional treatments. Moreover, the chosen CAT may not work as it may be unproven in trials which is a problem if patients seek these treatments only and abandon or delay conventional treatment (17). Other concerns include excessive costs of CAT and psychological harm due to false hope (17). However patients will use CATs regardless if doctors like them or believe in them. The use of CATs should not be ignored and due to the risks involved health professionals are encouraged to ask patients about their CAT use (19).

In turn, if patients are not disclosing hence discussing CAT use, then clinicians are not able to document such. The importance of documenting CAT use is widely published and recommended (2, 9). A study recommendation from Gillet et al (2012) suggests at initial consult CAT use should be inquired and documented (2). A 2007

study of Australian radiation therapy departments found that only 44% departments obtain details of CAT use (16). A study involving CAT use by cancer patients found that only 14% (8/59) of patients use of CATs was recorded by the treating medical oncologist (14).

It has been indicated clinicians want to communicate with patients regarding CAT use and desire greater access to evidence-based information (8). *What* our patients are taking and *why* has been explored but not *how* to educate and increase staff knowledge which has been so strongly suggested (6, 13). A study by Edwards et al, 2014 introduced a self-reported screening tool to identify CAT use in a rural setting and evaluate CAT use of their patients (3).

The aim of this study was to address some of the issues and recommendations raised in the literature regarding how a RT department can effectively promote discussion and document CAT use systematically, in order to provide a better service for rural RT patients. This study is addressing persons who are using such CATs following a cancer diagnosis and who are receiving conventional radiation therapy treatment and using these as an adjunct not in place of conventional treatment (9).

STUDY OBJECTIVES

Study Question

Does the introduction of a CAT screening tool and staff education increase documentation, staff confidence in discussion, staff views and knowledge of CAT use by patients in the Lismore radiation therapy department?

Primary objective

To assess the effect of staff education, staff confidence in discussion, staff views, knowledge and the documentation of CAT use by patients in the Lismore radiation therapy department by an intervention consisting of education and the introduction of a screening tool.

Secondary objectives

To standardised CAT documentation, information and discussion in the Lismore radiation therapy department system.

To provide patients with evidence based information to aid their ability to make informed decisions regarding their treatment.

STUDY DESIGN

Setting:

Research was conducted at the Lismore Radiation Oncology department located at Lismore base hospital as part of the haematology oncology unit. The department is part of the North Coast Cancer Institute (NCCI) which encompasses two other sites in NSW.

Inclusion criteria

All staff members of Lismore Radiation Therapy department MDT:

Radiation Therapists

Radiation Oncologists and Registrars

Radiation Oncology Nurses

Allied Health staff (including dietician, social worker and speech pathologist).

Exclusion criteria

Those who did not wish to partake.

Participants who failed to complete any aspect of data collection were treated as withdrawals.

Enrolment procedure

Prospective participants were emailed informing them of the study via their managers.

Consent was signed by participants when they received information about the study and what involvement entailed.

ETHICS:

RISKS, BENEFITS and ETHICAL CONSIDERATIONS

The questionnaires were de-identified with a participant number used to track stages of completion. No identifiable patient information was collected during the audit process.

ETHICS APPROVAL

Ethics approval 20140516 LNR081 was granted on 16/05/2014.

SSA approval 20140604 G231 was granted on 04/06/2014.

STUDY OUTLINE

Study Methods and Procedure:

1. Baseline questionnaire and audit of patient records for CAT documentation.
2. Participants attended intervention education session at the Lismore Radiation Oncology department.
A post intervention questionnaire was completed immediately after the intervention.
3. Follow up questionnaire six months post the intervention was completed as well as a post intervention audit of patient records.

Questionnaires

There was no existing tool so questionnaires were custom built by the principal investigator after an extensive literature search. The likert scale responses were selected from established responses (20). The questionnaires were scrutinised by two experienced people in managerial roles in RT and piloted to a non-participant within the RT field. See appendix 1-3 for baseline, post intervention and follow-up questionnaires.

Education Session

The education session was constructed by the principal investigator using an extensive list of resources (7, 9, 12, 21-23). The session was repeated several times in order to accommodate participant's attendance.

One hour education session included:

- Overview of what CATs are, why this is an issue in RT and what the national recommendations are in regard to documentation and discussion of CATs.
- A process for how the MDT members can go about discussing CAT use effectively.
- Evidence based literature summary of some popular CATs
- List of resources that can assist staff with the discussion of CATs with patients and to further advise patients so they are better informed.
- Opportunity to ask any questions.

Screening tool

The CAT screening tool was used with permission from a prior study from Edwards, 2014. This was based on a previously validated survey, see appendix 4.

An overview of the CAT screening tool and information regarding its implementation into the department formed part of the education session. This included the addition of a new item in the initial nursing psychosocial assessment. The person completing this assessment would check that the CAT screening tool had been scanned into MOSAIQ EMR and further discuss items with the patient that may require discussion. If the CAT form was not present it needs to be resolved at this point.

Audit:

One day per month for three consecutive months was selected to audit patient records. The three months pre intervention were well before the projects initial stages in order to avoid bias due to increased awareness of CATs due to the projects profile. Three months were selected post intervention. A random number generator tool was used to select dates within these months.

If a patient's course continued across a second randomly generated date they were not recounted thus only allowing a patient to be audited once. Patient's prior treatment history (if applicable) was taken into account and all sites and intent were included as there was no patient screening. However patients were separated into two categories according to site. These categories were 'head and neck' (H&N) patients and 'other'. This is because all H&N patients in the department are routinely reviewed by allied health staff (whereas others on a priority and need basis). This mean allied health had access to these staff and other patients did not which was a variable in the audit. Creating two categories was an attempt to counter this variable.

The patients Radiation Oncology notes in MOSAIQ (EMR) were thoroughly examined and a CAT listed on the screening tool, or a known CAT or a CAT noted as patient using mentioned therapy in the patient's notes as counted as a 'CAT mention'.

Also audited in the patient record:

- If the introduced screening tool was present
- Y/N component in MOSAIQ patient assessment for presence of screening tool was answered
- Anything written in the CAT use component in MOSAIQ patient assessment.

Analysis

Questionnaire responses and audit results were entered into an Excel spreadsheet by the principal investigator. These were sent to a biostatistician who worked with SPSS to provide statistical analysis. Fishers Exact Tests and McNemar-Bowker Tests were used where appropriate in analysing the data. The significance threshold was set at 0.05.

All questions had different responses according to the questions (see appendices 1-3). For the purpose of analysis likert responses were categorised into five categories – very low, low, medium, high and very high. To ensure a robust analysis these five categories were further condensed into three: low, medium and high.

When two responses were selected the score was consistently shifted in the same direction, down, across all time points and if half box was ticked the response was recorded as a shift in the same direction also.

Some questions were not answered and it is unknown if these were intentionally or accidentally left blank. Blank responses were recorded but not tabulated in the analysis but were factored into percentages when talking about total participant responses so the tally was always out of 100%.

Whilst the order of the questions in the questionnaire was logical for ease of response the questions have been grouped into themes for analysis purposes. These themes were titled: Knowledge, views, confidence and documentation.

RESULTS

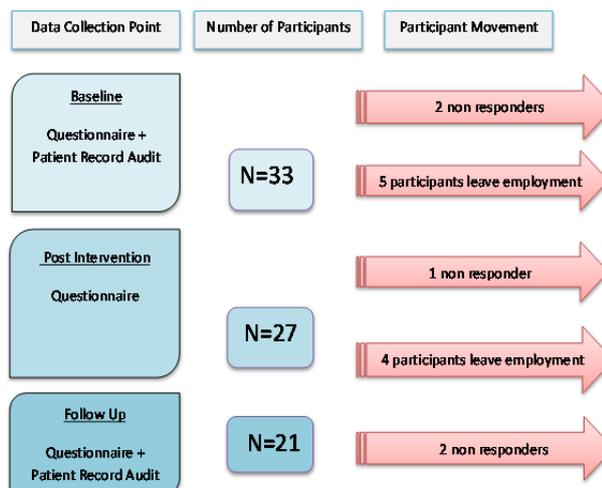
Participant Flow

There were 33 participants at baseline from a potential pool of 35 yielding a 94% baseline response rate, see Figure 1.

For the post intervention questionnaire there were 5 staff members no longer in the department as well as 1 participant unable to attend the intervention. This resulted in 27 participants yielding a 96% response rate from the eligible 28 remaining participants.

At the 6 month follow up an additional 4 members had left the department leaving a max participant count of 23 due to the exclusion of a participant who did not attend the intervention. Twenty one were completed from 23 giving 91% response rate of eligible participants, see Figure 1.

Figure 1 Participant Flow



Sample Profile

The profile of respondents can be seen in Table 1.

Table 1 Participants at each stage

	Baseline	Post Intervention	Follow-Up
Allied Health	4	4	3
Nurse	5	3	1
Radiation Oncologist/ Registrar	4	3	3
Radiation Therapist	20	17	14
Total	33	27	21

Overview

From baseline to post intervention there was a statistically significant shift in knowledge, confidence and documentation categories with p-values ranging from p=0.001-0.01 (McNemar and Fishers Exact Tests). However participants views did not change as a result of the intervention (p = 0.261 - 1.000, McNemar Test) nor did some aspects of CAT documentation (p = 0.135 and p = 0.392), see table 2

These shifts were sustained over a six month period where it can be seen there was no significant difference between post intervention and follow up results in knowledge, views and confidence categories (p = 0.058 – 1.00). However one aspect of CAT documentation did yield a statistically significant result (p = 0.008) when analysing the effectiveness of the CAT screening tool to initiate discussion with patients, see Table 2.

Table 2 Questionnaire results

	Baseline n = 33			Post Intervention n = 27			6 Month Follow-up n = 21			P Value	P Value
	Low	Medium	High	Low	Medium	High	Low	Medium	High	Baseline Vs	Post Intervention Vs
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	Post Intervention	Follow Up
KNOWLEDGE											
Alternative Vs Complem. CAT information sources	3 (9)	8 (24)	20 (61)	0 (0)	0 (0)	21 (100)	0 (0)	0 (0)	21 (100)	$p = 0.001^{\wedge}$ (2-sided)	$p = 1.000^{\wedge}$
	23 (70)	7 (21)	3 (9)	2 (7)	8 (30)	17 (63)	1 (5)	9 (43)	11 (52)	$p = 0.001^*$ df=3	$p = 0.453$ (2-sided)
VIEWS											
Why CATs are used	2 (6)	3 (9)	28 (85)	1 (4)	1 (4)	25 (93)	1 (5)	1 (5)	19 (90)	$p = 0.261$ df = 3	$p = 1.000$ df = 1
What CATs are used	0 (0)	0 (0)	33 (100)	0 (0)	2 (7)	25 (93)	0 (0)	2 (10)	19 (90)	$p = 1.000$	$p = 1.000$ (2-sided)
CONFIDENCE											
CATs used	24 (73)	4 (12)	4 (12)	4 (15)	11 (40)	12 (46)	1 (5)	9 (43)	11 (52)	$p = 0.001^*$ df=3	$p = 1.000$ df = 2
Advantages/disadvantages	25 (76)	4 (12)	4 (12)	6 (22)	11 (40)	10 (37)	3 (14)	7 (33)	11 (52)	$p = 0.005^*$ df = 3	$p = 0.572$ df = 3
Initiating discussion	21 (64)	5 (15)	7 (21)	1 (4)	13 (48)	13 (48)	3 (14)	5 (24)	13 (62)	$p = 0.010^*$ df = 3	$p = 0.774$ (2-sided)
Talking about	20 (61)	6 (18)	7 (21)	2 (7)	10 (37)	15 (56)	4 (19)	3 (14)	14 (67)	$p = 0.002^*$ df=3	$p = 1.000$ (2-sided)
DOCUMENTATION											
CAT in appt. / tool initiate	20 (61)	4 (12)	9 (27)	2 (7)	1 (4)	24 (89)	3 (14)	6 (32)	10 (51)	$p = 0.002^*$ df=3	$p = 0.008^*$ (2-sided)
Screening tool to address				2 (7)	4 (15)	21 (78)	2 (10)	3 (14)	15 (75)		$p = 0.607$ df = 2
Routinely address CAT				2 (7)	1 (4)	24 (89)	2 (10)	8 (42)	9 (47)		$p = 1.000$
Record in MOSAIQ	7 (23)	3 (9)	21 (68)	2 (7)	1 (4)	23 (89)	1 (5)	0 (0)	19 (90)	$p = 0.135$ df=2	$p = 0.625$ (2-sided)
Effectiveness of tool	27(87)	3 (9)	1 (3)	1 (4)	0 (0)	26 (96)	1 (5)	3 (14)	17 (81)	$p = 0.000^*$ (2-sided)	$p = 0.250$ (2-sided)
Dept. documentation	24(77)	6 (18)	1(3)	18 (67)	4 (15)	5(19)	4 (19)	10 (51)	7 (33)	$p = 0.392$ df = 3	$p = 0.058$ (2-sided)

McNemar Test unless stated otherwise

\wedge Fishers Exact Test *Significant Value $p < 0.05$

Perceived Knowledge

Participants who completed the intervention improved and retained their perceived knowledge surrounding CATs. At post intervention stage and follow-up stage all participants knew the difference between a complementary and an alternative therapy, an increase of 39% from baseline ($p = 0.001$, McNemar Test). This was significant at post intervention stage and not significant in the follow up demonstrating no change hence sustained improvement ($p = 1.00$).

A significant change was measured pertaining to staff knowledge of appropriate resources to help in discussion of CAT use. At baseline 18 of the 27 respondents (67%) had very little awareness or were not at all aware of resources available which post intervention shifted to only 2 (13%) with the same response and 17 (63%) with high awareness of appropriate sources, this was statistically significant, ($p = 0.001$). In the 6 month follow up only one remained in the low category however there was some change from the high group falling back to mid yet overall there was no significant difference equating to sustained change in knowledge of information sources, see Table 2.

Participants perceived knowledge about specific CAT's patients utilise, why patients utilise it and what the evidence-based literature suggests about the specific CAT was measured. It was shown that there was a significant difference (p values < 0.001 , Fisher's exact test) in the change from baseline to post intervention on all CAT's except one aspect of high dose antioxidants ($p = 0.194$), as can be seen in Table 3.

Table 3 Questionnaire results Staff knowledge regarding specific CATs

	Baseline n = 33			Post n = 27			Follow Up n = 21			P Value p =
	N	U	Y	N	U	Y	N	U	Y	
	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	n (%)	
Black Cohosh										
Heard of it	15 (46)	1 (3)	17 (52)	3 (11)	0 (0)	24 (89)	0 (0)	0 (0)	21 (100)	<0.001*
Patient may utilise	18 (55)	5 (15)	10 (30)	1 (4)	2 (7)	22 (81)	0 (0)	6 (29)	13 (62)	<0.001*
Literature suggests	25 (76)	3 (9)	5 (15)	2 (7)	7 (26)	16 (59)	4 (19)	7 (33)	8 (38)	<0.001*
High Dose Anti-oxidants										
Heard of it	1 (3)	3 (9)	29 (88)	0 (0)	0 (0)	27 (100)	0 (0)	0 (0)	21 (100)	0.194
Patient may utilise	8 (24)	3 (9)	22 (67)	0 (0)	1 (4)	24 (89)	0 (0)	1 (5)	18 (86)	0.006*
Literature suggests	13 (39)	10 (30)	10 (30)	0 (0)	5 (19)	20 (74)	1 (5)	3 (14)	15 (71)	<0.001*
Essiac										
Heard of it	29 (88)	1 (3)	3 (9)	4 (15)	1 (4)	22 (81)	2 (10)	2 (10)	17 (81)	<0.001*
Patient may utilise	30 (91)	2 (6)	1 (3)	3 (11)	7 (26)	15 (56)	3 (14)	14 (67)	2 (10)	<0.001*
Literature suggests	30 (91)	3 (9)	0 (0)	4 (15)	9 (33)	12 (44)	5 (24)	11 (52)	3 (14)	<0.001*
Selenium										
Heard of it	11 (33)	2 (6)	20 (61)	1 (4)	0 (0)	26 (96)	0 (0)	0 (0)	21 (100)	<0.001*
Patient may utilise	21 (64)	4 (12)	8 (24)	2 (7)	3 (11)	20 (74)	0 (0)	7 (33)	12 (57)	<0.001*
Literature suggests	24 (72)	6 (18)	3 (9)	4 (15)	4 (15)	17 (63)	2 (10)	10 (48)	7 (33)	<0.001*
Soy/Isoflavin										
Heard of it	8 (24)	6 (18)	18 (55)	0 (0)	1 (4)	26 (96)	0 (0)	1 (5)	20 (95)	<0.001*
Patient may utilise	17 (52)	8 (24)	7 (21)	0 (0)	3 (11)	22 (81)	2 (10)	7 (33)	10 (48)	<0.001*
Literature suggests	23 (70)	6 (18)	3 (9)	2 (7)	6 (22)	17 (63)	4 (19)	7 (33)	8 (38)	<0.001*

Fishers Exact Test

*Statistically Significant

Views

Participant's views on issues regarding CAT use did not change after the intervention. Majority of participants (100%) at baseline thought it is of high importance to know what CATs our patients are using and this sustained post intervention and at 6 month follow up, (p values = 1.000, McNemar Test). Interestingly some did shift down into the medium category from baseline. When evaluating importance of understanding why patients are using these CATs, 85% (28/33) fell in to the high category at baseline which increased to 93% (25/27) and 90% (19/21) respectively however whilst there was a slight increase the change was not significant ($p = 0.261-1.000$), refer to Table 2.

Table 4 Questionnaire results Who should address CAT use?

There was no significant change on participants views regarding what discipline should address CAT use with patients ($p = 0.377 - 1.00$, Fishers Exact Test). Radiation oncologist consistently scored the highest at 96-97% across the three time points, see Table 4.

	Pre n = 33 n (%)	Post n = 27 n (%)	Followup n = 21 n (%)	P Value Fishers exact
AH	23 (70)	23 (85)	16 (73)	0.377
RN	26 (79)	23 (85)	18 (82)	0.934
RO	32 (97)	26 (96)	21 (96)	1
RT	20 (61)	20 (74)	16 (73)	0.524

* $p < 0.05$

Confidence

All aspects of staff confidence pertaining to CATs measured showed significant change between baseline and post intervention ($p = 0.001 - 0.010$, McNemars test). This change was sustained across all measures of confidence as the 6 months follow up results show no significant difference from the post intervention results ($p = 0.572 - 1.000$).

Participant's confidence in their understanding of what CATs patients utilise increased post intervention. Nineteen participants had low confidence prior to the intervention however only 4 participants remained low. Twenty two of the 27 were in the high category of confidence post intervention and of the 4 who score high at pre only one reduced their score to mid, this was statistically significant ($p = 0.001$). When comparing the post intervention to the follow up, there was no significant difference indicating there was no change between these two time points indicating that confidence remained similar and did not diminish over the 6 months ($p = 1.00$).

Confidence in initiating discussion about CAT use with patients was shown to improve after the intervention. At baseline 16 participants who completed the intervention responded in the low category with little confidence initiating discussion and only one remained in this category post intervention. Remainder of participants were spread equally in the remainder categories with 13 in each totalling 96% (26/27) of participants in mid and high categories post intervention ($p = 0.001$). The follow up indicated no significant change ($p = 0.774$) hence confidence in initiating sustained.

Prior to the intervention 15 participants were in the low category of confidence regarding talking to patients about their CAT use, with only 2 remaining in this category after the intervention. Ninety three percent of participants were of mid to high confidence post intervention ($p = 0.002$). This change was sustained at the

follow up ($p = 1.000$). Interestingly one participant dropped from high to mid post intervention.

Seven respondents of 27, (26%) rated in the in the mid and high with their confidence in understanding the advantages and disadvantages of CATs patients utilise pre intervention. This increased significantly to 78% when 21 of the 27 felt they were in the mid-high confidence level ($p = 0.005$). No change was detected at follow up stage ($p = 0.572$).

Documentation

Results pertaining to documentation were mixed with two aspects measured in the questionnaire delivering a positively statistical result.

At baseline 61% of respondents responded low to a routinely addressing CAT use in an appointment. This question then led onto discovering how effective staff thought the screening tool would be and at follow up if they thought it indeed was effective. After the intervention whereby the proposed screening tool was launched 89% of respondents scored in the high category, thinking it would ensure CAT use would be routinely addressed for all patients. Eighty three percent of respondents at 6 month follow up fell into mid to high categories regarding how the intervention amendments like the screening tool have worked to improve routinely addressing CAT use in the department. This was statistically significant at both time points ($p = 0.002 - 0.008$).

When launched at the intervention 96% of respondents fell in to the high category regarding how effective the tool would be in documenting CATs. This dropped to 80% at 6 month follow up but was not statistically significant indicating no change ($p = 0.058$).

There was no change regarding recording of CATs in MOSAIQ with the majority of people responding in the high category across all three time points (68%, 89%, 90%) although there was an increase from the lower to higher categories. This was not statistically significant ($p = 0.153$). It remained relatively steady after 6 months whereby no significant difference detected ($p = 0.625$). This was similar regarding the effectiveness of the screening tool to address CAT use with 78% believing it would be effective to drop slightly to 75% responding its effectiveness after 6 months ($p = 0.607$).

When asked if participants were satisfied with the way the department currently documents CAT use amongst patients there was little change pre and post intervention with 24 responses falling into the low category and 18 remaining there after the intervention ($p = 0.392$). 6 months on there was not a significant change ($p = 0.58$) in staff satisfaction of CAT documentation. However there were far less low responses, only 4 (19%), and more mid & high 17 (84%).

AUDIT RESULTS

Table 5 Audit results Mentions in Oncology History Notes

Mentions	Pre Intervention n = 108						Post Intervention n = 88					
	% of n (non H&N)		% of n (H&N)		% of n		% of n (non H&N)		% of n (H&N)		% of n	
0	75	92	18	69	93	86	46	61	7	58	53	60
1	3	4	4	15	7	7	22	29	5	42	27	31
2	4	5	4	15	8	7	4	5	0	0	4	5
3							2	3	0	0	2	2
4							1	1	0	0	1	1
5							1	1	0	0	1	1
Total	82		26		108		76		12		88	

In total 196 patient records were audited of which 19% (38/196) were H&N patients and the remaining 81% (158/196) were non H&N (other) patients.

Pre intervention 108 patient records were audited of which 24% (26/108) were H&N.

Post intervention 88 patient records were audited of which 14% (12/88) were H&N.

Mentions in Oncology History

Prior to the intervention 86% of patients (93 of 108) had no mention of CATs in their oncology history.

This was more so in non-head and neck patients (92% had no mentions) and less so in head and neck clients (69% no mentions) (Table 5).

Post intervention the number of patients with no mentions dropped to 60% (53 of 88), with head and neck patients (7 of 12, 58%) and non-H&N patients (46 of 76, 61%) showing similar presentations. The change in documentation was significant overall (p=0.001, Fisher's Exact test). Post intervention there was an increase of multiple entries for the same patient record with the maximum being five whereas pre intervention the maximum was only two entries.

CAT Document (screening tool)

Post intervention 44 patients from 88 did have the document = 50%. See table 6

Table 6 Audit results CAT screening tool & Patient Self-Assessment items

POST n = 88		
<i>CAT Document</i>		
	<i>Count</i>	<i>% of n</i>
Yes	44	50
No	44	50
Patient Self Assessment Items		
<i>Count</i> <i>% of n</i>		
<i>CAT Form completed</i>		
Yes	37	42
Blank	34	39
No	17	19
<i>Patient using CATs</i>		
Yes	32	36
Blank	17	19
No	39	44
<i>Comp Therapy Details</i>		
Yes	32	36
Blank	56	64

Patient Self-Assessment Items

CAT form present? (Y,N, blank options)

Post intervention 34 records (39%) had no response while 37 records said form in (42%) and 17 records (19%) recorded the form was not in.

Patient using CATS? (Y,N, blank options) Post intervention from 88 patients 17 (19%) were blank, 39 (44%) were answered N patients are not using CAT's and 32 (36%) were answered Y to using CAT's.

This equates to a total of 71 patients, 81% of patient records were completed whether yes or no that the patient is using CATs as being recorded if patients are using cats.

CAT details

Post intervention 32 patients (36%) had mentions of specific CATs used in the global patient assessment as filled in by an RN.

Discussion

The need for increasing staff awareness, knowledge and discussion of CAT use with patients has been highlighted however there is little evidence to support how a department can improve these aspects (7). This intervention study has shown a marked increase in staff's knowledge, confidence and documentation when dealing with patients complementary and alternative therapy use in a rural Radiation Oncology department.

Population Demographics

There has been reported incidence of higher CAT consumption and CAT practitioner use in Australian rural communities compared to their metropolitan counterparts (4, 5). The Northern Rivers is a rural region known for its alternative lifestyle and 'treechange' communities (4). A study by Wardle et al, 2011, found that CAT practitioners outnumbered General Practitioners by almost double in the Northern Rivers and had the lowest ratio of these services of any region in New South Wales (0.6) (4). It was also found that although the Northern Rivers did not have the highest regional population; it had the highest number of CAT practitioners as well as Acupuncture/Traditional Chinese Medicine, Chiropractor, Homeopath and Naturopath providers of any rural NSW region (4). This indicates that the Northern Rivers population may well have a higher incidence of CAT use due to the very high proportion of CAT practitioners. In turn this infers Northern Rivers radiation oncology patients may have higher incidence of CAT use compared with radiation oncology patients located elsewhere however this would require further research to categorically state as there is no supporting data. This further supports the need for staff in the Lismore Radiation Oncology unit, which services the Northern Rivers, to be well versed in CAT use. The changes this study implemented has addressed recommendations from government publications, organizing bodies and literature regarding CATs and has provided an effective way a department can help address such issues (7).

Education and knowledge

There is a need for staff to have a greater awareness of the use of CATS and clinicians want access to evidence- based information and want to communicate with patients more (2, 8). Haseed et al, 2011, feels CAT knowledge is a part of a well-rounded practitioner but practitioners are not likely to know the answers to patients CAT questions without education (13). A qualitative study focusing on oncology patients views of CATs found that patients understood health professionals may lack the necessary knowledge however also feel they are the best source of advice (9). It is also difficult to determine exactly what a health professional needs to know so this study intervention was designed to give an overview of the issues surrounding CAT use as well as useful education resources in an accessible format to assist staff members ability to satisfy patients expectations (10). By no means is this study suggesting radiation oncology staff are expected to be experts on CATs, rather this study has provided an effective solution on how to increase baseline knowledge amongst staff members in a sustainable way.

There was demonstrated significant increase of perceived knowledge in the difference between alternative and complementary therapies as well as increased familiarity and knowledge with specific CATs commonly used by patients. There was

an increase in all aspects of perceived knowledge regarding specific CATs that were measured; however a non-statistical significant result pertained to awareness of high dose antioxidants. This did not change post intervention indicating this therapy was already known to staff, though there was significant increase in why a patient may utilise it and what the literature suggested (9, 21, 22). This indicates not only learning of new CATs that patients are using but increased depth of learning of those already known to staff. It is this kind of learning and knowledge suggested and recommended in published literature that this study has achieved (2, 8).

Providing Resources

The Clinical Oncological Society of Australia has requested oncology staff become familiar with and provide reputable evidence based resources and Oh et al, 2010, suggested that assistance is required to provide updated evidence-based information (7, 11). Oncology patients get their information from friends and family, cancer survivors, CAT practitioners, General Practitioners, books, medical journals, magazines and online media, however literature emphasises the importance of providing patients with evidence based and informed views of CATs (8, 11, 16). This study demonstrated a significant increase in staff knowledge about such resources as they were provided with links to reputable evidence based databases that allow for easy access. Some of these provided resources can be accessed publicly by patients who want to do further investigation independently knowing that the information is evidence based. Also this study has demonstrated that participants are now aware of CAT information and sources for them to use to discuss with patients and for their own knowledge as recommended (7). This aids in CAT discussion with patients and can help contribute to staff confidence in such discussion.

Discussion

This study provided a solution to aid discussion and open communication with patients which is paramount (7, 11, 12). As a result of implementing the screening tool there is now a standard document available for each patient, from which discussion on pertinent therapies can begin. The screening tool gives staff a starting point to initiate such discussion and gather further information. This study demonstrates that six months after its implementation, the CAT screening tool was effective to initiate discussion with patients. Increasing staff confidence of CAT discussion with patients was achieved in this study after intervention and was sustained in follow up. Increased staff confidence helps to build a good rapport to open communication between patients and practitioners which facilitates their ability to gain more information and ultimately advise patients. Utilizing the screening tool in this way allows for clinicians to further discuss possible interactions with treatment if known or at least provide information to patients about the literature in an effort to reduce indirect harm to patients (8, 17). Discussion of CAT use also enhances the relationship with patients and hence provide a better overall service to our patients (10).

Disclosure

It has been well established that clinicians are strongly encouraged to routinely ask patients about CAT use due to the potential risks, however most patients (33-77%) do not disclose their CAT use (2, 6-8). A study involving CAT use by cancer patients found that only 14% (8/59) patients use of CATs was recorded by the medical

oncologist (not specifically radiation oncologists) (14). Furthermore a 2007 study of Australian radiation therapy departments stated only 44% departments obtain details of CAT use (16). By introducing a screening tool and raising awareness via an education session there was a dramatic increase in Lismore Radiation Oncology department's documentation of CAT use. Whilst the ideas and thoughts surrounding documentation by staff were measured in the form of questionnaires, actual behaviour was measured in the form of an audit to quantitatively measure improvements. Most participants felt they documented effectively and the questionnaire responses indicated no change post intervention regarding documentation. However the audit demonstrates there was a highly significant improvement. This study indicates a better rate of documentation than previous published results and falls in line or higher in some cases than others rates of disclosure and documentation published (1, 2, 14).

It has been suggested that CAT use should ideally be inquired and documented at initial consult (2). Patients have expressed that they would prefer to discuss CAT use with their oncologist and valued when their CAT use was taken as part of their history however understood that they did not have time to discuss CAT use in depth (10). This study addresses that need whereby oncologists can see what CATs patients are using hence addressing the patients need but only discuss CATs that are noteworthy hence not utilising precious time on unnecessary matters. Electronically filing the screening tool allows access at any point throughout the patient's journey but also allows for facilitation at initial consult by RO's as suggested by literature (10).

Views

Due to the prevalence of CAT use by patients the need for health professionals to develop balanced attitudes and knowledge is paramount (13). Staff responses were consistently in the high categories when asked if they felt it was important to understand what CATs patients are utilizing and why. These views did not change throughout education and intervention process and remained consistently high (see Table 2). Staff appeared to already have balanced attitudes towards CAT use by patients which did not alter though the education process.

Documentation

In RT departments CATs may be suggested more often by nurses and RTs than ROs (16). This is why it was necessary for the document being present not simply for initial radiation oncologist appointment but for initial nursing assessment. This is an ideal time for CAT use to be discovered rather than half way through the course of treatment. The nursing staff played an important role in this study's intervention as it was at the initial nursing consult the form was checked and then on first day of treatment appointment cross-checked as part of the nursing assessment to ensure its completion. It was found interestingly at this point that items in the nursing assessment were being utilised in a different way to that intended. An item in the patient self-assessment regarding if the patients were using CATs was being used to list specific CATs a patient was taking. This may account for fewer notes in MOSAIQs Oncology History as they were listed here instead. Combined there will be greater overall documentation.

After the introduction of the screening tool in the patient self-assessment, 34 records (39%) had no response while 37 records said form was present (42%) and the remaining 17 records (19%) recorded the tool was not present. At this point the tool

should be given to patients which portrays a lack in the process. However, whilst the post audit of the patient assessment found that 42% indicated the screening tool was present, it was actually present in 50% of patient records audited. This could be due to document being put in after like protocol suggests, or that it was not understood to check the record to see if it's in and the section was left blank (no response).

Different roles of staff disciplines equate to different levels of access to patients. Dietetics and speech pathologist see all H&N patients as per their work practice and others by priority and need basis. Hence these services have more interactions with some patients than others. This was taken into account for the patient notes audit where records have been put into two categories for H&N and other patients.

In just the patient records alone documentation had increased from 9% to 40% in other patients and from 31% to 42% in H&N patients. It is reasonable to assume this small increase in H&N can be as patients are routinely asked by a dietician about CAT use in an initial history assessment and as part of their standard procedure. Head and neck patients were looked at separately as different staff are routinely involved in their care, however there is no literature looking into the role dieticians play in CAT documentation and boosting CAT screening.

Strengths and limitations

Strengths

This study intended to address a gap in the literature and aimed to address such gaps in a practical way. This was the first study to do so and hence will enable other departments to learn and build on this study.

This study had a high engagement rate from participants.

Although there was a small subject size significant change was detected which can only occur when the change is large.

Limitations

More participants than expected left the department over the course of the study. Some participants were only able to complete the baseline questionnaires; some were unable to attend the intervention. Although somewhat limiting this represented a real world situation with dynamic movement of staff in and out of a department.

Small subject size meant it was not beneficial to split the MDT into separate disciplines and hence take into account different roles, knowledge and practices by each discipline.

One of the risks with a custom designed questionnaire is the wording of the questions limits responses. However there was no existing validated tool and the developed questionnaire was piloted for consistency.

Recall bias may have played a part as knowledge recall from 6 months ago was tested.

At post intervention participants had not yet had experience with the screening tool and may have underestimated the power of it.

The patient self-assessment in MOSAIQ had the ability for some options to be left blank. In hindsight if the CAT form present item was mandatory and unable to be left blank it may have increased form completion and not be skipped as 19% were blank.

Conclusion:

This study has demonstrated that the implementation of a screening tool and staff education increased CAT documentation, staff knowledge and confidence discussing CAT use with patients in a rural Radiation Oncology department in Lismore.

The study also ensured all patients receive a standardised service regarding CAT use and ensures consistency with screening, documentation and staff advice. These enhancements can help to assist patients in making better informed decisions and have improved the service the Lismore Radiation Oncology department provides.

This study addressed the need to provide education to increase and encourage open communication between clinicians and patients and is the first study to provide a solution to this issue.

Additional to recording patients CAT use this study provided a solution to gathering information about CAT use from patients and documentation by having a standard document that could aid discussion and open communication with patients.

Recommendations:

This study demonstrated the intervention incorporating the education session and screening tool introduction was successful and therefore by this study can be adapted and utilised in other radiation therapy departments in other local health districts (LHD). It is low cost and will raise CAT awareness in other departments, improve documentation and up skill staff in the area of CATs hence increasing patient care.

- Mid North Coast LHD will be implementing this intervention shortly (The MOSAIQ assessment should be changed to avoid blank responses to increase rates of the screening tools presence for future implementations).
- Other oncology departments such as chemotherapy units may also benefit.
- There is potential for a HETI online learning module to be developed in order to aid awareness of CAT use for other departments within NSW health.
- Provide the presentation locally on slideshow share-point for easy accessibility and repeat refresher sessions to enable staff to keep up-to-date and to orientate new staff.

As this study is the first of its kind it will be submitted to a peer review journal for potential publication to add to the body of literature surrounding CAT use in radiation therapy. Further research to enhance this study include:

- Quantify if patient outcome has been improved via effective documentation and disclosure hence preventing an adverse interaction with CAT use and radiotherapy treatment.
- Determine if Northern Rivers Radiation Oncology patients have a higher incidence of CAT use than other radiation oncology patients in Australia.

REFERENCES

1. Chrystal K, Allan S, Forgeson G, Isaacs R. The use of complementary/alternative medicine by cancer patients in a New Zealand regional cancer treatment centre. *The New Zealand Medical Journal*. 2003; 116.
2. Gillett J, Ientile C, Hiscock J, Plank A, Martin J. Complementary and Alternative Medicine Use in Radiotherapy: What Are Patients Using? *The Journal of Alternative and Complementary Medicine*. 2012; 18(11): 1014-20.
3. Edwards GV, Aherne NJ, Horsley PJ, Benjamin LC, McLachlan CS, McKay MJ, et al. Prevalence of complementary and alternative therapy use by cancer patients undergoing radiation therapy. *Asia-Pacific Journal of Clinical Oncology*. 2014; 10(4): 346-53.
4. Wardle J, Adams J, Magalhaes RJ, Sibbritt D. Distribution of complementary and alternative medicine (CAM) providers in rural New South Wales, Australia: a step towards explaining high CAM use in rural health? *Australian Journal of Rural Health*. 2011; 19(4): 197-204.
5. Adams J, Sibbritt D, Lui CW. The urban-rural divide in complementary and alternative medicine use: a longitudinal study of 10,638 women. *BMC Complementary and Alternative Medicine*. 2011; 11: 2.
6. Clarke S, McLachlan A. Interaction between complementary and alternative medicine with conventional anti-cancer medicine. *Cancer Forum*. 2011; 35(1).
7. Braun L, Harris J, Katris P, Cain M, Dhillon H, Koczwara B, et al. Clinical Oncology Society of Australia position statement on the use of complementary and alternative medicine by cancer patients. *Asia-Pacific Journal of Clinical Oncology*. 2014; 10(4): 289-96.
8. Pirri C. Integrating Complementary and Conventional Medicine. *Cancer Forum*. 2011; 35(1): 31-9.
9. Cancer Council Australia. Position Statement - Complementary and alternative therapies. 2013.
10. Savas P, Robertson A, Beatty L, Hookings E, McGee M, Marker J, et al. Patient preferences on the integration of complementary therapy with conventional cancer care: 29. *Asia-Pacific Journal of Clinical Oncology*. 2011; 7 Supplement(3): 62.
11. Oh B, Butow P, Mullan B, Beale P, Pavlakis N, Rosenthal D, et al. The use and perceived benefits resulting from the use of complementary and alternative medicine by cancer patients in Australia. *Asia-Pacific Journal of Clinical Oncology*. 2010; 6(4): 342-9.
12. National Health and Medical Research Council. Talking with your patients about Complementary Medicine - a Resource for Clinicians. In: National Health and Medical Research Council, editor. 2014.
13. Hasted C. Educating about complementary and alternative medicine. *Cancer Forum*. 2011; 35(1).
14. Pirri C, Katris P, Trotter J, Bayliss E, Bennett R, Drummond P. Use of complementary and alternative therapies by Western Australian cancer patients. *Asia-Pacific Journal of Clinical Oncology*. 2008; 4(3): 161-9.
15. O'Callaghan V. Patients' Perceptions of Complementary and Alternative Medicine. *Cancer Forum*. 2011; 35(1): 44-7.
16. Wheat J, Currie G. The use of complementary therapies in radiation therapy departments throughout Australia. *Australian Journal of Medical Herbalism*. 2007; 19(3): 101-6.
17. Dhillon H. Researching Complementary and Alternative Therapies: Frameworks for CAM Evaluation. *Cancer Forum*. 2011; 35(1): 23-6.
18. Newell S, Sanson-Fisher RW. Australian oncologists' self-reported knowledge and attitudes about non-traditional therapies used by cancer patients. *Medical Journal of Australia*. 2000; 172(3): 110-3.
19. Mok TSKMDF. Complementary and Alternative Medicine: Believe it or not? *Asia-Pacific Journal of Clinical Oncology*. 2008; 4(3): 123-4.
20. Brown S. Likert Scale Examples for Surveys Iowa: Iowa State University Extension; 2010 [cited 2015]. Available from: <http://www.extension.iastate.edu/ag/staff/info/ikertscaleexamples.pdf>.
21. Memorial Sloan Kettering Cancer Center. About Herbs, Botanicals & Other Products New York, USA 2015. Available from: <https://www.mskcc.org/cancer-care/treatments/symptom-management/integrative-medicine/herbs>.
22. Cancer Council NSW. Fact sheets and position statements NSW 2015. Available from: <http://www.cancercouncil.com.au/cancer-information/fact-sheets-and-position-statements/>.
23. Lawenda BD, Kelly KM, Ladas EJ, Sagar SM, Vickers A, Blumberg JB. Should supplemental antioxidant administration be avoided during chemotherapy and radiation therapy? *Journal of the National Cancer Institute*. 2008; 100(11): 773-83.



Complementary and Alternative Therapy (CAT) Use @ North Coast Cancer Institute Lismore, Radiation Oncology Unit.

Baseline Pre Intervention Questionnaire

NAME: _____

Please circle one answer per question

1. Discipline in the department

Radiation Therapist	Nurse	Radiation Oncologist/ RO Registrar	Allied Health (Dietician, Social Worker, Speech Pathologist)
---------------------	-------	---------------------------------------	---

2. Do you know the difference between a complementary and an alternative therapy?

Yes	Unsure	No
-----	--------	----

3. How important is it to understand why patients are using these CATS?

Very Important	Important	Moderately Important	Of Little Importance	Unimportant
----------------	-----------	----------------------	----------------------	-------------

4. How important is it to understand what CATS patients are using?

Very Important	Important	Moderately Important	Of Little Importance	Unimportant
----------------	-----------	----------------------	----------------------	-------------

5. How confident are you in your understanding of what CATS your patients utilize?

Very Confident	Somewhat Confident	Confident	Barely Confident	Not Confident
----------------	--------------------	-----------	------------------	---------------

6. How confident are you in your understanding of what the advantages/disadvantages of such CATS your patients utilize?

Very Confident	Somewhat Confident	Confident	Barely Confident	Not Confident
----------------	--------------------	-----------	------------------	---------------

7. The table below provides a list of commonly used CATS provided by a literature search.

Please circle Y (Yes), U (unsure) or N (No) in each of the columns for each CAT

	Have You Heard of this CAT?			Do you know why a patient may utilise it?			Do you know what the literature suggests?		
Black Cohosh (eg Remifemin)	Y	U	N	Y	U	N	Y	U	N
High dose Antioxidants	Y	U	N	Y	U	N	Y	U	N
Essiac	Y	U	N	Y	U	N	Y	U	N
Selenium	Y	U	N	Y	U	N	Y	U	N
Soy/isoflavin	Y	U	N	Y	U	N	Y	U	N

In your experience what is a commonly ingested CAT used by patients not already mentioned on this list? _____

8. Are you aware of appropriate information sources available to help you when discussing CAT use with patients?

To a Great Extent	Above Adequate	Somewhat	Very Little	Not at All
-------------------	----------------	----------	-------------	------------

9. How confident are you in initiating discussion about CAT use with patients?

Very Confident	Somewhat Confident	Confident	Barely Confident	Not Confident
----------------	--------------------	-----------	------------------	---------------

10. How confident are you in talking with patients about their CAT use?

Very Confident	Somewhat Confident	Confident	Barely Confident	Not Confident
----------------	--------------------	-----------	------------------	---------------

11. How often do you address the use of CATs with patients as part of an appointment?

Always	Usually	About Half the Time	Seldom	Never
--------	---------	---------------------	--------	-------

12. Who should discuss CAT use with patients? (Circle multiple answers if necessary)

Radiation Therapist	Nurse	Radiation Oncologist/ RO Registrar	Allied Health (Dietician, Social Worker, Speech Pathologist)	Other
---------------------	-------	---------------------------------------	---	-------

13. When patients discuss their CAT use do you record it in their Electronic Medical Record (MOSAIQ)?

Always	Usually	About Half the Time	Seldom	Never
--------	---------	---------------------	--------	-------

14. Are you satisfied with the way your department currently addresses CAT use amongst patients?

Extremely satisfied	Very satisfied	Satisfied	Somewhat satisfied	Not satisfied
---------------------	----------------	-----------	--------------------	---------------

15. Are you satisfied with the way your department currently documents CAT use amongst patients?

Extremely satisfied	Very satisfied	Satisfied	Somewhat satisfied	Not satisfied
---------------------	----------------	-----------	--------------------	---------------

Please add comments you wish to make pertaining to any of the above questions or general comments regarding Complementary and Alternative Therapies in your Radiation Oncology Unit.

Appendix 2



Complementary and Alternative Therapy (CAT) Use @ North Coast Cancer Institute Lismore, Radiation Oncology Unit.

Post Intervention Questionnaire

NAME: _____

Please circle one answer per question

1. Discipline in the department

Radiation Therapist	Nurse	Radiation Oncologist/ RO Registrar	Allied Health (Dietician, Social Worker, Speech Pathologist)
---------------------	-------	---------------------------------------	---

2. Do you know the difference between a complementary and an alternative therapy?

Yes	Unsure	No
-----	--------	----

3. Do you think it's important to understand why patients are using these CATS?

Very Important	Important	Moderately Important	Of Little Importance	Unimportant
----------------	-----------	----------------------	----------------------	-------------

4. Do you think it's important to understand what CATS patients are using?

Very Important	Important	Moderately Important	Of Little Importance	Unimportant
----------------	-----------	----------------------	----------------------	-------------

5. How confident are you in your understanding of what CATS your patients utilize?

Very Confident	Somewhat Confident	Confident	Barely Confident	Not Confident
----------------	--------------------	-----------	------------------	---------------

6. How confident are you in your understanding of what the advantages/disadvantages of such CATS your patients utilize?

Very Confident	Somewhat Confident	Confident	Barely Confident	Not Confident
----------------	--------------------	-----------	------------------	---------------

7. The table below provides a list of commonly used CATS provided by a literature search.

Please circle Y (Yes), U (unsure) or N (No) in each of the columns for each CAT

	Have You Heard of this CAT?	Do you know why a patient may utilise it?	Do you know what the literature suggests?
Black Cohosh (eg Remifemin)	Y U N	Y U N	Y U N
High dose Antioxidants	Y U N	Y U N	Y U N
Essiac	Y U N	Y U N	Y U N
Selenium	Y U N	Y U N	Y U N
Soy/isoflavin	Y U N	Y U N	Y U N

In your experience what is a commonly ingested CAT used by patients not already

Mentioned on this list? _____

8. Are you aware of appropriate information sources available to help you when discussing CAT use with patients?

To a Great Extent	Above Adequate	Somewhat	Very Little	Not at All
-------------------	----------------	----------	-------------	------------

9. How confident are you in initiating discussion about CAT use with patients?

Very Confident	Somewhat Confident	Confident	Barely Confident	Not Confident
----------------	--------------------	-----------	------------------	---------------

10. How confident are you in talking with patients about their CAT use?

Very Confident	Somewhat Confident	Confident	Barely Confident	Not Confident
----------------	--------------------	-----------	------------------	---------------

11. How effective will the screening tool be in initiating discussion with patients about their CAT use?

Extremely Effective	Very Effective	Adequate	Possibly Effective	Not Effective
---------------------	----------------	----------	--------------------	---------------

12. Do you think the screening tool will help the way your department addresses CAT use with your patients?

Definitely	Very Probable	Probably	Possibly	Probably Not
------------	---------------	----------	----------	--------------

13. Will the implementation of the screening tool and the update to the Electronic Medical Record (MOSAIQ) ensure that CAT use will be routinely addressed for all patients?

Definitely	Very Probable	Probably	Possibly	Probably Not
------------	---------------	----------	----------	--------------

14. Who should discuss CAT use with patients? (Circle multiple answers if necessary)

Radiation Therapist	Nurse	Radiation Oncologist/ RO Registrar	Allied Health (Dietician, Social Worker, Speech Pathologist)	Other
---------------------	-------	---------------------------------------	--	-------

15. When patients discuss their CAT use do you record it in their Electronic Medical Record (MOSAIQ)?

Always	Usually	About Half the Time	Seldom	Never
--------	---------	---------------------	--------	-------

16. Do you think the screening tool will be an effective way of documenting CAT use in the department?

Definitely	Very Probable	Probably	Possibly	Probably Not
------------	---------------	----------	----------	--------------

17. Are you satisfied with the way your department currently documents CAT use amongst patients?

Extremely satisfied	Very satisfied	Satisfied	Somewhat satisfied	Not satisfied
---------------------	----------------	-----------	--------------------	---------------

Please add comments you wish to make pertaining to any of the above questions or general comments regarding Complementary and Alternative Therapies in your Radiation Oncology Unit.

Appendix 3



Complementary and Alternative Therapy (CAT) Use @ North Coast Cancer Institute Lismore, Radiation Oncology Unit.

6 Months Post Intervention Questionnaire

NAME: _____

Please circle one answer per question

1. Discipline in the department

Radiation Therapist	Nurse	Radiation Oncologist/ RO Registrar	Allied Health (Dietician, Social Worker, Speech Pathologist)
---------------------	-------	---------------------------------------	---

2. Do you know the difference between a complementary and an alternative therapy?

Yes	Unsure	No
-----	--------	----

3. Do you think it's important to understand why patients are using these CATS?

Very Important	Important	Moderately Important	Of Little Importance	Unimportant
----------------	-----------	----------------------	----------------------	-------------

4. Do you think it's important to understand what CATS patients are using?

Very Important	Important	Moderately Important	Of Little Importance	Unimportant
----------------	-----------	----------------------	----------------------	-------------

5. How confident are you in your understanding of what CATS your patients utilize?

Very Confident	Somewhat Confident	Confident	Barely Confident	Not Confident
----------------	--------------------	-----------	------------------	---------------

6. How confident are you in your understanding of what the advantages/disadvantages of such CATS your patients utilize?

Very Confident	Somewhat Confident	Confident	Barely Confident	Not Confident
----------------	--------------------	-----------	------------------	---------------

7. The table below provides a list of commonly used CATS provided by a literature search.

Please circle Y (Yes), U (unsure) or N (No) in each of the columns for each CAT

	Have You Heard of this CAT?	Do you know why a patient may utilise it?	Do you know what the literature suggests?
Black Cohosh (eg Remifemin)	Y U N	Y U N	Y U N
High dose Antioxidants	Y U N	Y U N	Y U N
Essiac	Y U N	Y U N	Y U N
Selenium	Y U N	Y U N	Y U N
Soy/isoflavin	Y U N	Y U N	Y U N

In your experience what is a commonly ingested CAT used by patients not already

Mentioned on this list? _____

8. Are you aware of appropriate information sources available to help you when discussing CAT use with patients?

To a Great Extent	Above Adequate	Somewhat	Very Little	Not at All
-------------------	----------------	----------	-------------	------------

9. How confident are you in initiating discussion about CAT use with patients?

Very Confident	Somewhat Confident	Confident	Barely Confident	Not Confident
----------------	--------------------	-----------	------------------	---------------

10. How confident are you in talking with patients about their CAT use?

Very Confident	Somewhat Confident	Confident	Barely Confident	Not Confident
----------------	--------------------	-----------	------------------	---------------

11. Has the screening tool helped to initiate discussion with patients about their CAT use?

Definitely	Very Probable	Probably	Possibly	Probably Not
------------	---------------	----------	----------	--------------

12. Has the screening tool will helped the way your department addresses CAT use with your patients?

Definitely	Very Probable	Probably	Possibly	Probably Not
------------	---------------	----------	----------	--------------

13. Are you satisfied that with the implementation of the screening tool and the update to the Electronic Medical Record (MOSAIQ) that CAT use is routinely addressed for all patients?

Extremely satisfied	Very satisfied	Satisfied	Somewhat satisfied	Not satisfied
---------------------	----------------	-----------	--------------------	---------------

14. Who should discuss CAT use with patients? (Circle multiple answers if necessary)

Radiation Therapist	Nurse	Radiation Oncologist/ RO Registrar	Allied Health (Dietician, Social Worker, Speech Pathologist)	Other
---------------------	-------	---------------------------------------	---	-------

15. When patients discuss their CAT use do you record it in their Electronic Medical Record (MOSAIQ)?

Always	Usually	About Half the Time	Seldom	Never
--------	---------	---------------------	--------	-------

16. Is the screening tool an effective way of documenting CAT use in the department?

Definitely	Very Probable	Probably	Possibly	Probably Not
------------	---------------	----------	----------	--------------

17. Are you satisfied with the way your department currently documents CAT use amongst patients?

Extremely satisfied	Very satisfied	Satisfied	Somewhat satisfied	Not satisfied
---------------------	----------------	-----------	--------------------	---------------

Please add comments you wish to make pertaining to any of the above questions or general comments regarding Complementary and Alternative Therapies in your Radiation Oncology Unit.

Thank you for your time and participation.

Appendix 4

The North Coast Cancer Institute routinely collects information about complementary and alternative therapies you might be using, in order to help support their patients in all areas. This survey does not imply that the Local Health District endorse complementary and alternative therapy use.

For each therapy below, please let us know if you have used it during your cancer journey.

	Type of Therapy	Tick if you have used it in the last month	Tick if you have ever used it for your cancer	If you stopped it, why did you stop?
1	Diet or special food or drink			
	Vegetarian, avoid red meat, or vegan			
	Macrobiotic diet			
	Special teas or drinks eg green tea, ginger, pawpaw			
	Soy or isoflavin products			
	Other (please specify)			
2	Vitamins, minerals, oils or herbs			
	Vitamin A			
	Vitamin C			
	Vitamin D and/or calcium			
	Vitamin E			
	Zinc or copper			
	Selenium			
	Other vitamins or supplements including multivitamins and megavitamins			
	Antioxidants			
	Cranberry tablet/juice			
	Ginger			
	Fish oil			
	Other oil (eg Flaxseed, evening primrose etc)			
	Black cohosh (eg Remifemin)			
	Shark cartilage or other cartilage			
	Glucosamine			
	Melatonin			
	Charcoal			
	Mistletoe, Laetril, or essiac			
	Special preparations (eg prostate supplements etc)			
	Other herbal medicine (please specify)			
3	Spiritual			
	Prayer (by you)			
	Prayer or spiritual healing (by others)			
4	Psychological therapy with:			
	Social worker			
	Psychologist or psychiatrist			
	Support group			
	Other psychological (please specify)			

	Type of Therapy	Tick if you have used it in the last month	Tick if you have ever used it for your cancer	If you stopped it, why did you stop?
		Yes	Yes	
5	Movement/physical therapies			
	Exercise			
	Yoga or pilates			
	Chiropractor or osteopath			
	Acupuncture			
	Tai chi, chi gong or others			
	Massage			
	Enemas			
	Thermal, magnetic, electrical or microwave			
6	Mind and body			
	Hypnosis			
	Meditation			
	Biofeedback			
	Reiki, energy healing, therapeutic touch			
	Aura therapy			
	Music therapy			
	Writing about it /keeping a diary			
7	Other type of therapy (please specify)			

What were the reasons for taking the above therapies? Tick all that apply.

Tick	Reason
	To live longer
	To help cure my cancer
	To help prevent or reduce cancer symptoms
	To help prevent or reduce treatment side-effects
	To boost my energy levels
	To boost my immune system and general health
	To improve my quality of life
	To feel like I have more control
	To give me extra hope
	So that I feel that I am doing everything possible to beat my cancer
	Because my family or friends say I should do it
	Other: please specify:

Have you ever felt hesitant to discuss your use of any of these therapies with any of your doctors? Yes No

If you have felt hesitant, what was your reason? _____