



INCREASING THE IMPLEMENTATION OF EVIDENCE BASED CARE FOR HEAD AND NECK CANCER PATIENTS

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BPsyc (Hons I)

**Submitted for the Degree of Doctor of Philosophy
(Clinical Psychology)**

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Statement of Originality

I hereby certify that to the best of my knowledge and belief this thesis is my own work and contains no material previously published or written by another person except where due references and acknowledgements are made. It contains no material which has been previously submitted by me for the award of any other degree or diploma in any university or other tertiary institution. I give consent to the final version of my thesis being made available worldwide when deposited in the University's Digital Repository**, subject to the provisions of the Copyright Act 1968.

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LIST OF PAPERS INCLUDED AS PART OF THIS THESIS

Paper One: McCarter, K., Baker, A. L., Britton, B., Wolfenden, L., Wratten, C., Bauer, J., Halpin, S., Beck, A., Carter, G., Leigh, L., Oldmeadow, C. Smoking, drinking and depression: Comorbidity in head and neck cancer patients undergoing radiotherapy. *Under Review.*

Paper Two: McCarter, K., Britton, B., Baker, A. L., Halpin, S., Beck, A., Carter, G., Wratten, C., Bauer, J., Booth, D., Forbes, E., Wolfenden, L. Interventions to improve screening and appropriate referral of patients with cancer for distress: Systematic review protocol. *BMJ Open*, 2015;5:e008277. doi: 10.1136/bmjopen-2015-008277.

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Paper Four: Britton, B., McCarter, K., Baker, A., Wolfenden, L., Wratten, C., Bauer, J., Beck, A., McElduff, P., Halpin, S., Carter, G. Eating As Treatment (EAT) study protocol: A stepped-wedge, randomised controlled trial of a health behaviour change intervention provided by dietitians to improve nutrition in patients with head and neck cancer undergoing radiotherapy. *BMJ Open*, 2015;5:e008921. doi: 10.1136/bmjopen-2015-008921.

Paper Five: McCarter, K., Baker, A., Britton, B., Beck, A. K., Carter, G., Bauer, J., Wratten, C., Halpin, S., Holliday, E., Oldmeadow, C., Wolfenden, L. Effectiveness of clinical practice change strategies in improving dietitian care for head and neck cancer patients according to evidence based clinical guidelines: A stepped wedge randomised controlled trial. *Under Review.*

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McCarter K, Halpin S, Baker A, Kay Lambkin F, Lewin T, Thornton L, Kavanagh D, Kelly B. Associations between personality disorder characteristics and treatment outcomes in people with co-occurring alcohol misuse and depression. *BMC Psychiatry*. 2016;7;16:210.10.1186/s12888-016-0937-z.

Conference presentations:

British Association for Behavioural and Cognitive Psychotherapies, Manchester. 25-28 July 2017.

Baker, A., Britton. B., **McCarter, K.**, Wolfenden, L., Wratten, C., Bauer, J., Carter, G. Eating As Treatment (EAT): A Health Behaviour Change Intervention to Improve Treatment Outcomes for Head and Neck Cancer Patients Undergoing Radiotherapy.

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2016 Annual Hunter Cancer Research Symposium, Newcastle. 25 November, 2016.

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LIST OF ABBREVIATIONS

HNC	head and neck cancer
RCT	randomised controlled trial
SCC	squamous cell carcinoma
US	United States
HPV	human papilloma virus
RT	radiotherapy
QoL	quality of life
HRQoL	health related quality of life
NCCN	National Comprehensive Cancer Network
CO	carbon monoxide
AUDIT	Alcohol Use Disorders Identification Test
PHQ	Patient Health Questionnaire
MDE	major depressive episode
HREC	Human Research Ethics Committee
ATSI	Aboriginal and Torres Strait Islander
PEG	prophylactic percutaneous endoscopic gastrostomy
NGT	nasogastric tube
PPM	parts per million
FTND	Fagerstrom Test for Nicotine Dependence
WHO	World Health Organisation
SD	standard deviation
CBT	Cognitive Behaviour Therapy
MI	Motivational Interviewing

ABBREVIATIONS

PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analysis
DT	Distress Thermometer
CENTRAL	Cochrane Central Register of Controlled Trials
HADS	Hospital Anxiety and Depression Scale
GRADE	Grades of Recommendation, Assessment, Development and Evaluation
EPOC	Effective Practice and Organisation of Care
EPHPP	Effective Public Health Practice Project Quality Assessment Tool
DB	Distress Barometer
SIPP	Screening Inventory Psychosocial Problems
DIT	Distress and Impact Thermometer
EAT	Eating As Treatment
PG-SGA	Patient-Generated—Subjective Global Assessment
TROG	Trans-Tasman Radiation Oncology Group
EORTC QLQ-C30	The European Organisation for Research and Treatment of Cancer Core Quality of Life Questionnaire
ARM-5	Agnew Relationship Measure—Five Item Version—Patient Rated
NRT	nicotine replacement therapy
CER	comparative effectiveness research
OMSC	Ottawa Model of Smoking Cessation

Note. This list represents the abbreviations used in the main text of the thesis.

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**INCREASING THE
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SYNOPSIS

Patients with head and neck cancer (HNC) have a significant mortality rate and unique challenges associated with the malignancy and its treatment. One component of this disease burden is the prevalence of modifiable health risk behaviours and affect, in particular, tobacco smoking, harmful alcohol consumption and depression.

Additionally, the provision of evidence based care for HNC patients by clinicians is an important priority. Despite this, there are existing gaps regarding the occurrence and comorbidity of health risk behaviours and affect components in HNC and effective approaches to increase the provision of evidence based care for HNC patients in cancer settings. To address these evidence gaps, the aims of this thesis were to:

1. Describe the rates and co-occurrence of tobacco smoking, alcohol use and depressive symptoms in a sample of HNC patients undergoing radiotherapy;
2. Systematically review the literature to determine the impact of interventions to improve clinician provision of screening and appropriate referral of patients with cancer for distress;
3. Assess the effectiveness of clinical practice change strategies in improving dietitian implementation of best practice guideline recommendations for HNC patients;
4. Systematically review the literature to examine the effectiveness of smoking cessation interventions on smoking cessation rates in adult HNC patients.

These four aims have been addressed in a series of studies that includes: a cross-sectional study of 307 HNC patients' baseline assessments from an intervention trial involving four hospitals across Australia; a systematic review describing the results of

five studies aimed at improving the rates of distress screening and/or referral in cancer patients; a multi-site stepped-wedge randomised controlled trial (RCT) including clinical practice change strategies; and a systematic review that presents the current evidence for smoking cessation interventions in HNC patients.

The work included in this thesis has contributed to addressing evidence gaps and advancing research in the field in a number of ways. Firstly, the findings include current rates of co-occurring health risk behaviours and affect factors in HNC as well as some of the first evidence for the prevalence of co-occurrence of these problems in this population. Secondly, despite the high prevalence of these issues in HNC, my systematic review findings highlight the sub-optimal level of evidence based care delivery for distress in oncology and the astounding lack of evidence based treatments for smoking cessation in this cancer subgroup. Finally, the clinical practice change strategies employed in the multi-site stepped-wedge RCT is the first known effective HNC implementation intervention for improving care according to dietetic guidelines.

Overall, this thesis has identified a need to increase the provision of evidence based care to address high prevalence health risk behaviours and depression in patients with HNC and has trialled an effective approach to improving best practice care within oncology dietetic services. Future research considerations include identification of the specific support strategies that increase the provision of best practice care for HNC patients, implementation of multiple guidelines corresponding to co-occurring issues and sustainability of such approaches.