Exploring the Role of Occupational Therapy in Australian Cancer Care

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Thesis submitted as a component of the Masters of Occupational Therapy Program
The University of Sydney
2013
Statement of Authenticity

I, NICOLE BUCKLAND, declare that this submission is my own work and contains no material previously published or written by another person except where acknowledged in the text. It does not contain any material which has been accepted for the award of another degree.

Ethical approval was obtained from the University of Sydney Human Ethics Committee prior to undertaking the research in this study. Informed consent was gained from all participants.

Name   NICOLE BUCKLAND
Signed  
Date    6/12/2013
# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TITLE PAGE</td>
<td>i</td>
</tr>
<tr>
<td></td>
<td>STATEMENT OF AUTHENTICITY</td>
<td>ii</td>
</tr>
<tr>
<td></td>
<td>TABLE OF CONTENTS</td>
<td>iii</td>
</tr>
<tr>
<td></td>
<td>LIST OF TABLES</td>
<td>vi</td>
</tr>
<tr>
<td></td>
<td>LIST OF FIGURES</td>
<td>vii</td>
</tr>
<tr>
<td></td>
<td>LIST OF APPENDICES</td>
<td>viii</td>
</tr>
<tr>
<td></td>
<td>THESIS ABSTRACT</td>
<td>ix</td>
</tr>
<tr>
<td></td>
<td>ACKNOWLEDGEMENTS</td>
<td>xi</td>
</tr>
<tr>
<td></td>
<td>SECTION 1: LITERATURE REVIEW</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Introduction</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Purpose of Review</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Search Strategy</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Functional and Psychosocial Implications of Cancer and Cancer Treatment</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Cancer as a Chronic Illness</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Definition of survivorship</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Self-Management and Transitioning into Former Roles</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>Cancer Rehabilitation</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Assessments in Cancer Care</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Current Occupational Therapy Interventions</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Equipment Provision and Assistive Devices</td>
<td>9</td>
</tr>
<tr>
<td></td>
<td>Physical Interventions</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Psychosocial Interventions</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Cognitive Interventions</td>
<td>11</td>
</tr>
<tr>
<td>Section</td>
<td>Page</td>
<td></td>
</tr>
<tr>
<td>------------------------------------------------------------------------</td>
<td>------</td>
<td></td>
</tr>
<tr>
<td>Energy Conservation and Fatigue Management</td>
<td>11</td>
<td></td>
</tr>
<tr>
<td>Education and Problem-Solving</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td><strong>What Else Can Occupational Therapy Do?</strong></td>
<td>13</td>
<td></td>
</tr>
<tr>
<td><strong>Barriers to Best Practice</strong></td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Lack of Referrals/Limited Knowledge of Occupational Therapy Role</td>
<td>14</td>
<td></td>
</tr>
<tr>
<td>Issues with Coordinated Care and the Multidisciplinary Team</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Limited Client Knowledge and Self-Advocacy</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>Evidence Based Practice</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td><strong>Conclusion</strong></td>
<td>17</td>
<td></td>
</tr>
<tr>
<td><strong>References</strong></td>
<td>18</td>
<td></td>
</tr>
<tr>
<td><strong>PART 2: JOURNAL MANUSCRIPT</strong></td>
<td>25</td>
<td></td>
</tr>
<tr>
<td><strong>Title Page</strong></td>
<td>25</td>
<td></td>
</tr>
<tr>
<td><strong>Abstract</strong></td>
<td>26</td>
<td></td>
</tr>
<tr>
<td><strong>Background</strong></td>
<td>27</td>
<td></td>
</tr>
<tr>
<td><strong>Methods</strong></td>
<td>29</td>
<td></td>
</tr>
<tr>
<td>Participants / Recruitment</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Survey</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Data Analysis</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td><strong>Results</strong></td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>Participant Profile</td>
<td>31</td>
<td></td>
</tr>
<tr>
<td>Multidisciplinary Involvement in Cancer Care</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Issues Addressed by Occupational Therapists in Cancer Care</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Preferred Timings for Intervention</td>
<td>33</td>
<td></td>
</tr>
<tr>
<td>Educational Needs of Occupational Therapists</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>Barriers to Best Practice</td>
<td>35</td>
<td></td>
</tr>
</tbody>
</table>
List of Tables

JOURNAL MANUSCRIPT

Table 1: Participant Profile (n = 204) ................................................................. 48

Table 2: Participant Perspectives on Need for Extra Training .............. 50
List of Figures

JOURNAL MANUSCRIPT

Figure 1: State distribution of Occupational Therapy Australia members vs study sample ................................................................. 51

Figure 2: Proportional Representation of Preferred Timings for Occupational Therapy Intervention .................................................. 52
List of Appendices

Appendix 1 - Survey Instrument ........................................................... 53
Appendix 2 – Australian Occupational Therapy Journal Submission Guidelines ............................................................ 58
Appendix 3 – Ethics Approval ............................................................... 67
Thesis Abstract

Background: With cancer survival rates increasing in Australia, survivorship is becoming a valid part of the cancer care continuum. Both cancer and its treatment can result in functional and psychosocial issues which impact on participation in meaningful occupations and life roles, greatly affecting well-being. Occupational therapy is well-positioned to assist people with cancer to transition into survivorship. However, there is little evidence indicating which interventions are effective in addressing cancer-related occupational performance issues, and which, if any, of these interventions are currently being utilised by occupational therapists in Australian cancer care.

Aims: This research asks: What is current occupational therapy practice with people with cancer in Australia? The study aims to identify perceptions of occupational therapists regarding best practice exemplars and perceived barriers to implementing best practice.

Overview of the Thesis: The thesis is divided into two sections. The first section contains an extensive review of the literature. Literature outlining occupational therapy programs and interventions for people with cancer, cancer survivorship, and unmet supportive care needs was consulted. The review explores the implications of cancer survivorship, existing occupational therapy interventions for people with cancer, and barriers to best practice.

The second section contains a journal manuscript based on a cross-sectional survey study. The manuscript has been written with the intention of submission to The Australian Occupational Therapy Journal (see appendix 2). The study outlines the perceptions of Australian occupational therapists regarding the role of occupational therapy in cancer care.

Findings from the project as a whole indicate the need to promote the contribution occupational therapy can make to cancer care. To achieve this,
occupational therapists must participate in both research and educational initiatives that will allow the profession to better define its role and advocate for the necessity of collaborative, multidisciplinary care in improving the experience of survivorship.
Acknowledgements

I would like to thank Dr. Lynette Mackenzie, my supervisor and unit coordinator, for guiding me through the research process with wisdom and enthusiasm.

Special thanks to Katrina Travassaros, Paula Parris, and the occupational therapy team at Royal North Shore Hospital, Sydney for helping to develop and pilot the survey instrument.
SECTION 1: Literature Review

Introduction

Cancer is a term used to describe a diverse collection of diseases in which abnormal cells multiply uncontrollably, damage surrounding tissues and structures and, without successful treatment, eventually metastasise to other parts of the body. Cancer is differentiated by both site of origin and histology. Treatment for cancer is often invasive, involving chemotherapy, radiation, surgery, or a combination of the three and outcomes vary for different diagnoses (AIHW & AACR, 2012).

In 2012, The Australian Institute of Health and Welfare released an overview of the current status of cancer in Australia. The report estimated that one in two Australians will be diagnosed with cancer in their lifetime and that more than 120,000 new cases of cancer would be diagnosed in Australia in 2012 (excluding certain carcinomas of the skin), a number that has more than doubled since 1991. Whilst prevalence of diagnosis increases with age, cancer can affect people at any stage of life (AIHW & AACR, 2012).

Diagnoses of cancer are increasing, but so are survival rates. The Australian Institute of Health and Welfare (2012) reports an increase in survival (from 47% in 1982 - 1987 to 66% in 2006-2010) and a 17% decrease in the age-standardised mortality rate from all cancers combined. Whilst survival gains are not equal for all cancers, Australians with cancer generally have higher chances of survival than people in most other countries (AIHW & AACR, 2012). Survival increases can be attributed to public health campaigns encouraging regular screening, improvements in screening processes allowing earlier detection of illness, and increased treatment options (Corner, 2008). Cancer survival may be the goal of the current healthcare system, yet survivorship has its own distinct challenges. Both the disease and its treatment can result in functional issues and disability which may not be resolved without clinical intervention (Penfold, 1996). Existing systems of care often focus primarily on the disease and its symptoms and do not effectively acknowledge the ongoing impact of cancer on participation in daily
activities and life roles (Jiwa et al., 2008).

**Purpose of Review**
The purpose of this review was to explore the current and prospective role of occupational therapy through the cancer care continuum with a focus on survivorship. The information gained through the literature helped to inform the design and analysis of the study “Exploring the Role of Occupational Therapy in Australian Cancer Care”.

**Search Strategy**
Three online databases: Medline, CINAHL and AMED were searched using the terms “occupational therapy” and “cancer” or “neoplasms”. The three searches produced a high level of repetition. Further sources were obtained using the bibliographies of relevant articles and literature from other disciplines regarding interventions, unmet needs, cancer survivorship, and side effects of treatment was also consulted. Most literature on palliative care interventions was excluded as these are well documented and have a different focus. As this review was conducted to inform a cross-sectional study exploring the role occupational therapy in cancer care, similar studies were sought out. Only one survey study regarding occupational therapy interventions in cancer care was located; it was limited to one specialist cancer centre with an established occupational therapy department (Vockins, 2004).

**Functional and Psychosocial Implications of Cancer and Cancer Treatment**
Whilst an increasing number of people with cancer are transitioning from the role of patient to long-term survivor, prolonged survival does not necessarily equate to well-being (Deimling et al., 2006; Hunter, 1998). Cancer and its treatment may result in short-term functional impairment, long-term disability, or late effects which can significantly impact quality of life (Berg & Hayashi, 2013; Taylor & Currow, 2003). Much research has been done on the functional and psychosocial implications of cancer and cancer treatment including: pain, fatigue, generalised weakness and endurance deficits, balance issues and falls, decreased range of
motion, peripheral neuropathy caused by chemotherapy, lymphoedema, depression and anxiety, and body image issues (Allen, Savadatti, & Levy, 2009; Baize & Serna, 2012; Boland, Sherry, & Polomano, 2010; Bunston & Mings, 1995; Mitchell & Berger, 2006; Silver & Gilchrist, 2011; Visovsky, Collins, Abbott, Aschenbrenner, & Hart, 2007; Vockins, 2004). All of these can hinder participation in meaningful occupations, indicating that occupational therapists should be involved in cancer care. However, current literature suggests that there are limited interactions between health care providers in the fields of oncology and rehabilitation and that cancer survivors may not be receiving allied health interventions that could improve outcomes (Jiwa et al., 2008; Silver & Gilchrist, 2011).

Cancer as a Chronic Illness

It is increasingly argued that survivorship should constitute an additional phase of the cancer care continuum as traditionally defined stages of terminal illness and recovery offer insufficient interventions to address the needs of survivors (Hewitt, Greenfield & Stovall, 2005; Hudson, 2005). As the trajectory of the disease grows longer, its outcomes become increasingly varied and unpredictable (Corner, 2008). Most studies focusing on the needs of people with cancer revolve around the diagnosis and treatment phases, yet most people with cancer continue to need support and information long after treatment (Berg & Hayashi, 2013; Harrison, Young, Price, Butow, & Solomon, 2009; Squiers, Rutten, Treiman, Bright, & Hesse, 2005). Ideally, comprehensive cancer care should involve multidisciplinary assessment throughout the continuum of the disease, from diagnosis through to survivorship or palliation (Taylor & Currow, 2003).

Current literature lacks of a standardised definition of survivorship, a term which is used to describe population groups ranging from immediately post-diagnosis to five years survival and beyond (Aziz, 2002; Corner, 2008). Survivors at all stages face the possibility of recurrence or a second primary diagnoses, and newly developed treatments mean that even those living with active cancer may have their lives prolonged for months or even years (Corner, 2008). Thus, the concept
of survivorship posited by Feurstein (2007), which includes those who have finished primary treatment and have the need and desire to move forward in their lives, but excludes palliative and hospice care, is utilised in this review.

As cancer survival increases, the quality of survivorship must become a primary focus for health practitioners (Cheville, Troxel, Basford, & Kornblith, 2008). Currently, cancer survivors lose most of their medical support after the acute phase of illness, yet even minor side-effects can cluster into debilitation; increasingly, treating cancer as a chronic illness and acknowledging the ongoing effects of the disease and its treatments is recommended in cancer care (Maher & Makin, 2007). It is suggested that cancer survivors, like people with other chronic conditions, must understand their disease and learn to interpret and manage symptoms, become advocates for their own health care and choose appropriate management techniques to minimise future disruptions to function (Berg & Hayashi, 2013). Still, some argue that classification of cancer as a chronic illness may oversimplify the diversity of both its manifestations and treatments and further burden people with cancer with the expectation of self-management (Titter & Calnan, 2002).

**Self-Management and Transitioning into Former Roles**

In the transition to survivorship, stressors associated with diagnosis and treatment are replaced with the concerns of re-entering former roles while still coping with the functional and psychological implications of the disease (Deimling et al., 2006). In one study, breast cancer survivors reported that reduced interaction with healthcare providers equated to a loss in reassurance that their condition was being properly managed and the responsibility for self-monitoring their own health resulted in hyper-vigilance (Allen, Savadatti, & Gurmankin Levy, 2009). Decreased hospital stays and the focus on treatment accessed as outpatients or in the community mean that people with cancer are often responsible for managing their own symptoms and side-effects without appropriate assistance (Maher & Makin, 2007; Titter & Calnan, 2002). Whilst many survivors report success in proactively self-managing issues following
treatment by utilising personal resources and supports, there is still a clearly identified need for improved follow up and after care by health practitioners (Foster & Fenlon, 2011). Jima et al. (2008) propose a person-centred remodeling of health care for people with cancer which includes a designated care coordinator and increased involvement by health professionals in the community.

A goal of cancer care in the future is to direct attention away from acute care, with health professionals collaborating with clients to produce supported self-management plans (Corner, 2008). The holistic, client-centred underpinnings of occupational therapy make the profession well-suited to facilitate care that shifts focus away from the medical model while still operating within it (Oertli, 2007).

Returning to previous life roles after treatment is also considered a significant cause of distress amongst cancer survivors, possibly due to unmet educational and support needs (Costanzo et al., 2007). Researchers working with cancer survivors also highlight a shift in values and priorities intrinsic to the survival process which makes it difficult to simply return to former roles (Lemoignan, Chasen, & Bhargava, 2010). Reintegration into the community may be impacted by survivorship; the disease and its treatment often lead to impairments with community skills such as driving, participation in social roles, and return to work (Yadav, 2007).

One review of return to work literature identified several factors of cancer survivorship that could negatively affect employment outcomes including: fatigue, physical implications, psychosocial and cognitive issues, awkward interactions with colleagues, and a shift in personal priorities (Short, Vasey, & Tunceli, 2005). However, an attempted 2009 systematic review of return to work interventions with breast cancer survivors identified only 4 appropriate studies, 3 of which were over 25 years old and none of which focused primarily on return to work (Hoving, Broekhuizen, & Frings-Dresen, 2009). Whilst return to work is typically ignored during primary treatment, it is suggested that employment-related interventions during this phase may significantly improve long-term outcomes (Kennedy, Haslam, Munir, & Pryce, 2007; Short et al., 2005). Several studies posit that
cancer survivors would benefit from return to work processes similar to those undertaken with injured workers, including suitable duties plans and workplace adjustments (De Boer, Taskila, Ojajärvi, van Dijk, & Verbeek, 2009; Lydon & Hughes, 2012; Pryce, Munir, & Haslam, 2007). Yet it is crucial that interventions do not focus solely on reintegration and return to work as these neglect the estimated 20% of cancer survivors who end up leaving work later into survivorship due to long term disability (Short et al., 2005).

Cancer survivorship is a largely heterogeneous experience, with long-term functional implications dependent on the specific type of cancer, treatments undertaken, and individual attributes (Titter & Calnan, 2002). Successfully addressing these distinct challenges requires a review of current interventions used by occupational therapists, and other allied health professionals, and careful consideration of best practice recommendations for working with people with cancer in the future (Silver & Gilchrist, 2011).

**Cancer Rehabilitation**

As survivorship becomes an accepted stage of cancer care, the literature increasingly focuses on rehabilitation, which supports the transition from medical to self-management of the illness and addresses the needs of people with cancer as they arise (Holm et al., 2012; Hunter, 1998). The wide range of functional impairments experienced by people with cancer indicates that multiple rehabilitation services offered at various times may be necessary for regaining optimal function (Thorsen et al., 2011). Yadav (2007) names four distinct stages of cancer rehabilitation:

Preventative - beginning in acute care before or during treatment to minimise loss of function;

Restorative focusing on returning people with cancer to previous levels of function;

Supportive - aiming to minimise disability;

Palliative - helping people cope with loss of function at end of life.

However, much of the literature documenting current occupational therapy
practice in hospitals focuses on either acute care or late-stage and palliative care (Cooper, 2006; Miller & Hopkinson, 2008; Pearson, Todd, & Futcher, 2007). Little quality evidence exists as to which interventions are currently offered to cancer survivors to assist their transition back to previous life roles and ensure improved quality of life.

Ideally, the scope of cancer rehabilitation should be wide; taking the diverse range of functional, vocational, psychological, social and economic issues experienced by people with cancer into account (Cheville et al., 2008). High quality cancer care is increasingly conceptualised as addressing both medical and supportive care needs (Harrison et al., 2009). A multidisciplinary rehabilitation team improves the overall quality of life of people with cancer in all phases of the cancer care continuum (Yadav, 2007). Internationally, specialist cancer centres use multidisciplinary teams including physiotherapists, speech pathologists, nurses, dieticians and occupational therapists to address the needs of cancer survivors in both acute and outpatient settings (Lemoignan et al., 2010; Yadav, 2007). Much less is known about what kind of support is available outside of specialist centres, although it is suggested that unmet care needs differ greatly between health institutions in Australia (Sanson-Fisher, Girgis, Boyes, Bonevski, Burton, Cook, et al., 2000). Coordination of care needs of Australians with cancer is made difficult due to the mixed private and public health system and the division of responsibility for health care between the federal and state governments (Davis, Williams, Parle, Redman, & Turner, 2004). In Australia, few mechanisms exist to ensure that people with cancer have access to multidisciplinary services outside of the hospital or to allow health professionals to communicate with each other and the patient (Jiwa et al., 2008). Those living in rural or remote communities report an even higher level of unmet need due to having to travel for healthcare services (Harrison et al., 2009).

**Assessments in Cancer Care**

There is a growing consensus that people with cancer should be routinely assessed to determine multidisciplinary care needs (Richardson, Medina, Brown,
& Sitzia, 2007). Needs assessments performed by primary health providers enable early intervention and prioritisation of treatment referrals and indicate necessary improvements to service provision (Harrison et al., 2009; Sanson-Fisher, Girgis, Boyes, Bonevski, Burton, & Cook, 2000). Most of the assessment tools currently available focus on a specific area of practice or point in the treatment continuum (Richardson et al., 2007). Other reported assessments have been developed or modified specifically for research purposes (Harrison et al., 2009; Lyons et al., 2012). Overall, there is a lack of generalisability of available instruments, and advocating for the use of assessments that highlight occupational performance issues is important for occupational therapy to ensure referrals and promote its role in cancer care (Söderback & Paulsson, 1997; Taylor & Currow, 2003).

Once a referral to occupational therapy services has been made, occupational therapists should do a thorough initial interview and further assessments to gain an understanding of life roles and responsibilities, effects of the illness and treatment on physical and cognitive function, and individual life and therapeutic goals (Penfold, 1996). Additionally, it is suggested that occupational therapists, as part of the multidisciplinary team, should assess and evaluate symptoms, as people with cancer can be hesitant to bring up the effects of symptoms to their treating physicians (Jakobsson, Ekman, & Ahlberg, 2008). Formalised measures can be useful to assess symptoms, as well as fatigue, psychosocial adjustment, cognitive and physical function (Baxter, Dulworth, & Smith, 2011; Huang, Wartella, & Kreutzer, 2001; Lemoignan et al., 2010). Still, much occupational therapy assessment in cancer care relies on observation of occupational performance and problem-solving (Lemoignan et al., 2010; Penfold, 1996; Vockins, 2004).

**Current Occupational Therapy interventions**

Functional implications of cancer and cancer treatment which can be addressed by occupational therapy interventions include pain, lymphoedema, chemotherapy-induced peripheral neuropathy (CIPN), cognitive and perceptual deficits, reduced
range of motion, weakness, fatigue, and depression and anxiety (Silver & Gilchrist, 2011; Taylor & Currow, 2003; Vockins, 2004). Several small studies and articles have outlined interventions implemented by occupational therapists within specialised cancer centres and recommendations for improving broader practice (Campbell, 2010; Hunter, 1998; Lemoignan et al., 2010; Penfold, 1996; Robins, 2012; Soderback, Pettersson, Von Essen, & Stein, 2000). Other studies focus on individual interventions targeting specific cancer populations or side-effects of treatment. Most of these are case studies, expert opinion pieces or small studies piloted in individual hospitals and the information may not generalisable to broader practice. Many are published by healthcare disciplines other than occupational therapy, although the interventions could be performed by occupational therapists. The dearth of high level studies into the effectiveness of occupational therapy interventions with people with cancer indicates that the profession must prioritise research efforts in order to play a greater role in cancer care. Interventions suggested for further study include:

**Equipment Provision and Assistive Devices**

Literature regarding the provision of equipment and assistive devices for people with cancer was mostly limited to descriptive accounts of practice in specialist cancer centres. Seating and mobility equipment, such as pressure cushions and wheelchairs, are prescribed by occupational therapists to address concerns surrounding lymphoedema, fatigue, pain and skin integrity (Baize & Serna, 2012; Penfold, 1996). People with CIPN are often referred to occupational therapists for recommendations for protective clothing, assistive devices, splinting and home modifications (Boland et al., 2010; Visovsky et al., 2007). Compression garments and donning / doffing aids may be prescribed by occupational therapists for lymphoedema management (Cheville et al., 2008). Provision of ready-made or custom orthotics may help to promote rest, positioning or pain relief (Yadav, 2007). The occupational therapy department at Memorial Sloan Kettering Cancer Center has documented custom made adaptive and protective equipment for people with a range of treatment side effects (Diaz & Levy, 2005).
**Physical Interventions**

Whilst there has been a lot of interdisciplinary research into the positive effects of exercise for people with cancer, there are few specific intervention standards, especially in the field of occupational therapy (Hatchett & Bellar, 2012). Occupational therapists work with cancer survivors in rehabilitation to develop home and clinical exercise programs which address range of motion issues, dexterity, deconditioning, and contracture in the upper limb resulting from treatment of metastatic disease (Cheville et al., 2008; Yadav, 2007). One randomised control trial suggested an occupational therapy implemented program of exercise and relaxation techniques to have significant treatment effects on the physical and emotional symptoms of lymphoedema; however, the small sample size and lack of experimental control indicate the need for further research (McClure, McClure, Day, & Brufsky, 2010). A qualitative study exploring breast cancer survivors taking part in dragon boat racing concluded that research was inadequate to determine if more strenuous exercise was beneficial or detrimental in lymphoedema care; still, the overall benefits of challenging group exercise on the physical and psychological well-being of cancer survivors were perceived as high (Unruh & Elvin, 2004).

**Psychosocial Interventions**

Whilst incidence of anxiety and depression is elevated in people with cancer, especially those with physical implications, many do not receive any psychosocial intervention (Davis et al., 2004; Newell, Sanson-Fisher, Girgis, & Ackland, 1999). One study of people undergoing treatment in Sydney hospitals determined that 75% of those experiencing clinically significant anxiety or depression had not been referred for treatment (Pascoe, Edelman, & Kidman, 2000). Whilst not necessarily the domain of occupational therapy, it has been suggested that a variety of health professionals, including occupational therapists could be trained to deliver simple psychological assessments and interventions (Turner et al., 2011). In some cancer centres, occupational therapists are involved in delivering interventions to address the impact on participation of body image issues experienced by people who have undergone cancer treatment (Shearsmith-
Farthing, 2001; Vockins, 2004). Occupational therapists may conduct group sessions to support people with cancer and their families with practical coping strategies and relaxation programs can be implemented to address sources of anxiety and panic and teach relaxation and breathing techniques (Vockins, 2004).

**Cognitive Interventions**

People who have undergone chemotherapy frequently complain of mild cognitive impairments such as memory loss and an inability to focus which impact participation in valued occupations and roles (Hess & Insel, 2007). Cognitive interventions used by occupational therapists may involve implementing both coping and compensation strategies to assist people to participate in daily activities (Newman & Campbell, 2013). Baxter et al. (2011) suggest that programs designed for people experiencing mild cognitive impairment in early stage Alzheimer’s, which include interventions such as activity planning, stress management, use of compensatory memory aids, and physical activity, would be transferrable to those experiencing chemotherapy-induced cognitive impairment. In order to plan cognitive interventions, occupational therapists often perform standardised assessments in order to determine which areas of executive functioning are affected. The Montreal Cognitive Assessment (MoCA) has been suggested as a more sensitive tool than the Mini Mental State Exam (MMSE) for identifying mild cognitive impairment resulting from chemotherapy (Baxter et al., 2011). However, as cancer survivors often perform within the normal range of neuropsychological tests, self-reporting questionnaires are recommended to be used in conjunction with standardised tests to determine the impact of perceived cognitive decline (Newman & Campbell, 2013). Further research is required to indicate best practice.

**Energy Conservation and Fatigue Management**

Energy conservation techniques are essential to help cancer survivors manage fatigue which inhibits participation in meaningful productive and leisure activities (Yadav, 2007). An occupational therapy-based framework for addressing the multiple components that may affect and be affected by cancer related fatigue is
Section 1: Literature Review

useful for both assessment and intervention-planning (Purcell, Fleming, Haines, & Bennett, 2009). However, one study showed only one percent of occupational therapy interventions with people with cancer being devoted to fatigue management (Vockins, 2004). A planned RCT to explore the clinical effectiveness of fatigue management and other occupational therapy interventions was not completed due to high attrition rates of participants, a common issue when researching this population (Harrison-Paul & Drummond, 2006). It is suggested that focusing on interventions which promote a holistic concept of well-being may be just as effective as interventions focused solely on fatigue but evidence is mostly anecdotal (Mitchell & Berger, 2006).

**Education and Problem-Solving**

Provision of information and teaching problem-solving skills are important components in many programs for people with cancer. In Vockins’ (2004) survey, occupational therapists working in a specialist cancer care spent a large amount of time devoted to facilitating an educational program exploring coping skills. Occupational therapists help people with cancer-related pain by supporting them with education surrounding how to communicate their symptoms, prevention and problem-solving techniques (Lapointe, 2012). A feasibility study exploring telephone based therapy with women undergoing chemotherapy in rural areas concluded that teaching people how to utilise ergonomic models (such as the Person-Environment-Occupation model) to problem solve their own occupational performance issues may negate the need for more formalised treatment modalities (Hegel et al., 2011; Law et al., 1996).

As there is so little high quality evidence outlining the effectiveness of cancer-specific interventions, the majority of the studies highlighted the need to focus on higher level research to improve evidence based practice. It is unclear how transferrable these interventions are to broader practice and which, if any, are being utilised which of these interventions, if any, are currently used in cancer care in Australian hospitals. The literature suggests that most occupational therapy programs for people with cancer in other countries focus interventions on
basic self-care tasks and activities of daily living, largely ignoring the meaningful leisure and productive occupations which could increase quality of life and general well-being during and after serious illness (Lemoignan et al., 2010; Vockins, 2004). This implies that occupational therapy could play a much larger role in cancer rehabilitation than it currently does.

**What Else Can Occupational Therapy Do?**

Occupational therapists already implement interventions at different stages of the cancer care continuum to assist people with occupational performance issues resulting from both disease and treatment (Penfold, 1996). But occupational therapy is well-suited to take on a much bigger role in survivorship care. Occupational therapists believe that engaging in meaningful occupations through cancer treatment and into survivorship shifts a person’s focus away from life-threatening illness and towards their own strengths and capabilities, fostering a greater sense of hope and well-being (Vrkljan & Miller-Polgar, 2001; Zeitlin, 2011).

The profession’s holistic, person-centred focus may be an ideal approach in managing a disease with widely varying prognoses and treatment outcomes. Traditional treatment modalities are rarely designed to acknowledge the cultural or social contexts of people with cancer, the emotional consequences of illness and the effect of the disease on meaningful occupations of daily living (Jiwa et al., 2008). The Person-Environment-Occupation (PEO) model and other ergonomic models can be utilised by occupational therapists to assess the complex transactions that affect occupational performance (Law et al., 1996). The ability to analyse person-environment-occupation ‘fit’ allows occupational therapists to devise interventions for complex occupational performance issues which may not be addressed by conventional treatment pathways (Strong et al., 1999). Occupational therapists may also be able to teach people with cancer to utilise the PEO model in problem-solving their own self-management strategies (Hegel et al., 2011).
In managing chronic conditions, occupational therapists shift focus away from the disease and towards the person; they address the challenges of treatment and survivorship using interventions which support self-management of health through goal-setting, building coping strategies, modifying tasks and environments, education, and social support (Hand, Law, & McColl, 2011). It has been suggested that interventions with people with cancer must be individually tailored in order to be effective (Sanson-Fisher, Girgis, Boyes, Bonevski, Burton, & Cook, 2000). Occupational therapists can work with clients in different stages of treatment and recovery to identify meaningful roles and occupations, negotiate realistic goals and expectations, optimise occupational performance and adaptation, and predict long-term rehabilitation needs outside of the hospital (Campbell, 2010; Penfold, 1996). However, there are still several identified barriers to implementing occupational therapy best practice with people with cancer.

**Barriers to Best Practice**

*Lack of Referrals/Limited Knowledge of Occupational Therapy Role*

Despite improved survival rates, many healthcare professionals still see cancer as a terminal illness and thus do not see the value of occupational therapy intervention outside of palliative care (Oertli, 2007). Lack of knowledge regarding the possible role of occupational therapy means that health care professionals often do not refer people in need of support (Davis et al., 2004; Soderback et al., 2000). Fifty percent of cancer patients assessed in a Swedish study were perceived as needing some form of occupational therapy intervention, but only seven out of 102 participants had been referred to the occupational therapy service (Soderback et al., 2000). An American study of people with metastatic breast cancer found that while 90% of those studied had impairments which could have been mitigated with physiotherapy or occupational therapy rehabilitation, less than a third had been referred for treatment (Cheville et al., 2008).

In Australia, many people with cancer turn to their general practitioners or oncologists for assistance, but these professionals may have limited knowledge
of services and support available to their patients (Davis et al., 2004; Jiwa et al., 2008). Even a specialist cancer centre with occupational therapists on staff reported that while 19% of patients were being referred to occupational therapists for assessment, 31% of patients identified unmet needs that could have been addressed by occupational therapy (Taylor & Currow, 2003). An increased focus on community-based management suggests heightened unmet needs and functional impairments not being detected early enough to prevent disability (Cheville et al., 2008).

Issues with Coordinated Care and the Multidisciplinary Team

The multidisciplinary team often struggles with incompatible aims and priorities and a lack of clear delineation of roles (Hunter, 1998). A consumer-initiated study of experiences of women with breast cancer in NSW highlighted the coordination of care between health providers as a primary area for improvement (Billett & Crossing, 2003). This, combined with a lack of knowledge about the role of occupational therapy in rehabilitation means that the occupational performance issues of people with cancer are often managed by other professions such as nursing, physiotherapy, and social work (Gautam, Maiya, & Vidyasagar, 2011; Mitchell & Berger, 2006; Ream, Richardson, & Alexander-Dann, 2006).

Education

Currently there are no oncology specific courses offered in university-based occupational therapy programs in Australia (Cancer Australia, 2013). Other health professions have long recognised that working with people with cancer requires a common knowledge base to facilitate communication between disciplines; this includes cancer pathology, treatments and side-effects, symptom control, and emotional reactions and coping strategies of patients and their families (Frymark, 1992; Hunter, 1998). However, cancer care is still largely ignored in occupational therapy professional programs. One small study reported that 89% of new graduate occupational therapists felt they had not received sufficient classroom education for caring for people with cancer (Copp, Caldwell, Atwal, Brett-Richards, & Coleman, 2007). According to Silver & Gilchrist (2011) lack of access
to appropriate education remains one of the largest barriers to best occupational therapy practice with people with cancer. Occupational therapists wishing to develop interventions and programs for cancer survivors may have to rely on their ability to self-teach using information available through other healthcare disciplines and the expertise of members of the oncology team to obtain necessary information (Robins, 2012). Clearly, the shifting outcomes of cancer towards survivorship necessitate ongoing development of educational programs to keep pace with health practices (Copp et al., 2007).

Limited Client Knowledge and Self-advocacy
Many studies indicate a lack of client knowledge regarding occupational therapy interventions. One attempted randomised control trial of the effects of occupational therapy with people with cancer was unsuccessful, partly due to patient perceptions of being either too sick or too well to receive occupational therapy interventions (Harrison-Paul & Drummond, 2006). In a cross-sectional study of people with cancer in Norway, only six percent of the sample declared a perceived need for occupational therapy services, yet return to work and upper limb mobility were listed as primary concerns, suggesting the role of the profession is not well understood (Thorsen et al., 2011). A study of women with breast cancer revealed that patients often have to insist on referrals to both physiotherapy and occupational therapy, thus a lack of medical and patient knowledge of the profession results in a dearth of referrals (Lattanzi et al., 2010).

Evidence Based Practice
Lack of intervention effectiveness studies in most areas of cancer care means that implementing best practice is a challenge for occupational therapists (Lapointe, 2012). Researching cancer populations can be difficult as there are often high rates of attrition in study samples due to unpredictable and progressive illness (Harrison-Paul & Drummond, 2006). The dearth of research is compounded by a lack of effective methods for translating knowledge into practice (Caldwell, Fleming, Purcell, Whitehead, & Cox, 2011). To ensure an expanded future role for the profession in cancer care it is essential to put
systems in place to facilitate both clinic-based research and knowledge translation (Caldwell et al., 2011).

**Conclusion**

Cancer care encompasses a large array of diseases, treatments, side effects and functional implications that result in a multitude of outcomes. As survivorship increases, rehabilitation is becoming an integral aspect of cancer care. Occupational therapists have the opportunity, as part of the multidisciplinary rehabilitation team, to greatly influence the quality of life of people with cancer and cancer survivors by implementing interventions that address both functional and psychosocial implications of the disease. However, occupational therapy services are currently underutilised within cancer care services (Silver & Gilchrist, 2011; Soderback et al., 2000; Taylor & Currow, 2003). Best practice exemplars, unmet needs of people with cancer and barriers to best practice have all been addressed in the literature. Yet there is little indication of what typical practice with people with cancer entails; how individual interventions are utilised by Australian occupational therapists in programs that facilitate participation in meaningful occupations and life roles. In order for occupational therapy to address these issues and improve practice it is necessary to gain a better understanding of how the profession currently engages in practice with people with cancer.
References


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*Section 1: Literature Review*


Title: Exploring the Role of Occupational Therapy in Australian Cancer Care.

Target Journal: The Australian Occupational Therapy Journal (see Author Guidelines, appendix 2).

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Abstract Length: 241 words

Word length: 4999 words (excluding title page and abstract)
Number of tables: 2
Number of figures: 2
Number of references: 34
Abstract

Background / Aim: Increasing rates of cancer survival in Australia indicate that more people are living with long-term side effects of the disease and its treatment, and survivorship is now often considered a distinct phase of cancer care. Whilst occupational therapists play an integral role in multidisciplinary care for many chronic illnesses, there is little evidence documenting the profession’s role in cancer care. This study aimed to explore the views of Australian occupational therapists regarding current and best practice for people with cancer, from diagnosis through to survivorship.

Methods: A cross-sectional online survey was developed and distributed through the Occupational Therapy Australia database to collect responses from occupational therapists in diverse areas of practice around Australia.

Results: A total of 204 completed surveys were returned. More than 85% of respondents worked with people with cancer at least occasionally and 33% of practice occurred in community settings. Participants perceived equipment provision to be the most common intervention (94%), followed by energy conservation (90%) and pressure care (78%). Lack of funding for occupational therapy positions and a lack of recognition of the role of occupational therapy by health professionals and consumers were seen as key barriers to best practice.

Conclusion: This study highlights the need for occupational therapists to commit to research efforts and to work collaboratively with the multidisciplinary team to develop long-term routine treatment pathways that address the needs of cancer survivors.

Key Words: survivorship, oncology, neoplasms, occupational therapy, survey.
Background

The Australian Institute of Health and Welfare (AIHW) estimates that one in two Australians will be diagnosed with cancer in their lifetime. With more than 120,000 new cases diagnosed in Australia in 2012, incidences have more than doubled since 1991 and whilst prevalence of diagnosis increases with age, cancer can affect people at any stage of life (AIHW & AACR, 2012). Diagnoses of cancer are increasing, but the AIHW (2012) also reports an increase in survival rates (from 47% in 1982 - 1987 to 66% in 2006-2010) and a 17% decrease in the age-standardised mortality rate from all cancers combined. Survival increases can be attributed to public health campaigns encouraging regular screening, improved screening processes allowing earlier detection, and increased treatment options (Corner, 2008). Cancer survival may be the goal of the current healthcare system, but survivorship has its own distinct challenges. Treatment for cancer is often invasive, involving chemotherapy, radiation, surgery, or a combination and functional outcomes vary for different diagnoses (AIHW & AACR, 2012). Both the disease and its treatment can lead to long-term functional issues and disability that may not be resolved without clinical intervention (Penfold, 1996).

Survivorship is increasingly conceptualised as a distinct phase in the continuum of care for people with cancer. Survivorship can be defined in various ways: it can start when people are first diagnosed, when people have completed treatment or only refer to people who have lived with a cancer diagnosis for five years or longer (Aziz, 2002; Corner, 2008). This research uses the definition of survivorship posited by Feurstein (2007), including those who have finished primary treatment and have the need and desire to move forward in their lives but excluding palliative and hospice care. Much research already exists on the role of occupational therapy in terminal care. Thus, improving the quality of survival must become a focus for health practitioners (Cheville, Troxel, Basford, & Kornblith, 2008).

Cancer and its treatment may result in short-term impairment or long-term
disability, which significantly impact quality of life (Taylor & Currow, 2003). Functional and psychosocial implications of cancer and cancer treatment include: pain, fatigue, generalised weakness and endurance deficits, balance issues and falls, decreased range of motion, chemotherapy-induced peripheral neuropathy, lymphoedema, depression and anxiety, and body image issues (Silver & Gilchrist, 2011; Vockins, 2004). Over time, multiple secondary issues can compound into disability and cancer survivorship may become similar to living with a chronic illness (Maher & Makin, 2007).

People with cancer experience a wide range of functional and psychosocial impairments, indicating that accessing rehabilitation services at various stages of the disease may be necessary for regaining optimal function (Thorsen et al., 2011). Internationally, specialist cancer centres use multi-disciplinary teams including physiotherapists, speech pathologists, nurses, dieticians and occupational therapists to address the needs of cancer survivors in acute and outpatient settings (Lemoignan, Chasen, & Bhargava, 2010; Yadav, 2007). Several articles outline programs implemented by occupational therapists within these centres and recommendations for improving practice (Campbell, 2010; Lemoignan et al., 2010; Penfold, 1996; Soderback, Pettersson, Von Essen, & Stein, 2000; Yadav, 2007). Yet studies focused on individual interventions targeting specific cancer populations or side-effects of treatment typically have small sample sizes, limitations in research design, and a lack of quantitative evidence resulting in poorly defined evidence-based practice in cancer (Caldwell, Fleming, Purcell, Whitehead, & Cox, 2011; Harrison-Paul & Drummond, 2006). The transferability of these interventions to broader practice and their usage in Australian healthcare is unclear.

In many hospitals, outpatient facilities, and community settings, cancer survivors may not receive interventions that could drastically improve outcomes (Cheville et al., 2008; Silver & Gilchrist, 2011). Occupational therapy interventions for people with cancer are typically limited to basic self-care tasks, ignoring meaningful leisure and productive occupations that might increase quality of life during and
after serious illness (Lemoignan et al., 2010; Yadav, 2007). There is extensive literature cataloguing the unmet information, psychosocial, cognitive, sexual, and daily living needs of cancer survivors (Cheville et al., 2008; Lemoignan et al., 2010; Maher & Makin, 2007; Sanson-Fisher et al., 2000; Soderback et al., 2000). This implies that occupational therapy could play a larger role in cancer rehabilitation. The holistic, person-centred focus of occupational therapy may be a gold standard approach to managing a disease that does not yet have a cohesive treatment pathway. Occupational therapists can work with clients in different stages of treatment and recovery to identify meaningful roles and occupations, negotiate realistic goals and expectations, optimise occupational performance and adaptation, predict long-term rehabilitation needs outside of the hospital and ultimately improve the experience of survivorship (Campbell, 2010; Penfold, 1996).

This research asks: What is current occupational therapy practice with people with cancer and cancer survivors in Australia? The study aims to identify perceptions of occupational therapists regarding best practice exemplars and perceived barriers to implementing best practice. Achieving this aim may contribute to the development of a position statement on the role of occupational therapy for people with cancer, specifically cancer survivors.

**Methods**

A cross-sectional online survey was developed to be easily accessible to a large reference group of occupational therapists and explore their perspectives on current occupational therapy roles in cancer care. This method was chosen as it is considered an effective, inexpensive, and ethical way to collect exploratory data from a large sample size (Sue & Ritter, 2011). Prior to recruitment, ethics approval was obtained from the University of Sydney Human Research Ethics Committee.
Participants / Recruitment

The survey was distributed to all occupational therapists who were members of Occupational Therapy Australia. Any therapist with an interest in cancer care was invited to participate regardless of area of employment. Both the invitation and the participant information statement embedded within the survey explained that the aim of the research was to determine the current role of occupational therapists in cancer care in Australia. As per ethical requirements, potential participants were informed that involvement in the study was completely confidential, anonymous and voluntary. Submission of a completed online survey was taken as evidence of informed consent.

Permission was obtained from Occupational Therapy Australia to recruit participants through their member database. An invitation to participate was emailed directly to all 5090 members across Australia with a link to the online survey. This was followed up with a reminder email two weeks later. Members were encouraged to invite non-member occupational therapists to complete the survey. Thus both anonymous convenience and snowball sampling methods were used (Sue & Ritter, 2011).

Survey

Survey questions were developed by reviewing international and Australian literature on occupational therapy programs and interventions for people with cancer, cancer survivorship, and unmet supportive care needs. The survey was further developed, piloted and reviewed with input from oncology occupational therapy specialists at the Royal North Shore Hospital (RNSH) in Sydney, Australia. The final draft of the survey was then uploaded onto SurveyMonkey for distribution and was accessible for four weeks.

The survey consisted of 31 questions. Whilst the majority of the questions were closed-ended, many offered the opportunity to comment or provide additional examples. The first half of the survey focused on participant demographics, while the second half aimed to ascertain perceptions of current occupational therapy
involvement in cancer care, barriers to best practice, preferred referral times, therapeutic gaps and training needs. The final question asked for further comments regarding the role of occupational therapy in cancer care. A copy of the survey can be found in Appendix 1.

Data Analysis

Survey data were downloaded from SurveyMonkey into SPSS. The dataset was cleaned up and missing variables were identified and excluded. The dataset was analysed as a whole using descriptive statistics, and then different population groups were compared to determine if there were any differences in opinions about cancer care. The data were primarily analysed in terms of frequency of response. One question asked participants to rank eleven strategies for addressing therapeutic gaps in order from most to least important. Each respondent’s top five choices were assigned a score (the item ranked first was scored 5, second scored 4, third scored 3, fourth scored 2, fifth scored 1) and these scores were calculated to determine the overall top five strategies. Qualitative data in the form of free-response answers were separated out for each question. Data were coded and then grouped into themes (Sue & Ritter, 2011).

Results

Participant Profile

Two hundred and thirty occupational therapists returned surveys and the 204 (88.6%) completed surveys were used for analysis. Whilst the response rate was low in relation to Occupational Therapy Australia membership (4%), state distribution of participants was similar to those presented in the Occupational Therapy Australia 2012 annual report and implies a representative sample (Occupational Therapy Australia, 2012) (see figure 1).

(Insert Figure 1 here)

Only 5.4% of respondents (n = 11) reported having experienced a personal
diagnosis of cancer, although 30 people (14.7%) declined to answer the question. A much larger percentage reported having acted in a caring role for someone with cancer (n = 55, 27.0%), while 62.3% (n = 127) of participants had a close family member with a cancer diagnosis. Five participants (2.4%) had experienced a personal diagnosis, caring role and close family member with cancer, while 47 people (23.0%) had experienced none of these.

Forty-nine people reported working with people with cancer in areas other than those listed in the survey, of these twelve worked in acute care, six in palliative or hospice care, four in lymphoedema management, and three in mixed oncology practice. The participant profile further outlines basic demographic information, educational attainment, employment sector, and area of practice (see table 1).

(Insert Table 1 here)

Multidisciplinary Involvement in Cancer Care

The health professionals participants identified as most routinely involved in cancer care were nurses (n = 199, 97.5%), oncologists (n = 198, 97.1%), and GPs (n = 197, 96.6%). Pharmacists (n = 181, 88.7%), social workers (n = 169, 82.8%) and surgeons (n = 169, 82.8%) were also perceived as being frequently involved. Three quarters of participants (n = 154, 75.5%) considered occupational therapists to have routine involvement in cancer care, which was more than physiotherapy (n = 142, 69.6%), psychology (n = 132, 64.7%), and speech pathology (n = 106, 52.0%). Twenty other professions and services involved in cancer care were identified by participants in free responses including dieticians (n = 19, 9.3%), alternative health practitioners (n = 7, 3.4%), music therapists (n = 4, 1.9%), and exercise physiologists (n = 3, 1.4%).

Issues Addressed by Occupational Therapists in Cancer Care

Issues commonly addressed by occupational therapists in cancer care identified in the survey were: equipment needs (n = 192, 94.1%), fatigue and energy conservation (n = 185, 90.7%), pressure area prevention and management (n = 160, 78.4%), return to meaningful activities including leisure (n = 135, 66.2%),
lifestyle adjustment (n = 123, 60.3%), lymphoedema (n = 118, 57.8%), education (n = 114, 55.9%), stress management (n = 99, 48.5%), cognitive changes (n = 97, 47.5%), and pain (n = 97, 47.5%). Issues seen as being less frequently incorporated in occupational therapy programs for people with cancer were: generalised weakness (n = 84, 41.2 %), return to work (n = 80, 39.2%), anxiety and depression (n = 75, 36.8%), decreased range of motion (n = 72, 35.3%), side effects of chemotherapy (n=55 , 27.0%), and joint and bone protection (n = 50, 24.5%).

Participants who reported having a personal cancer diagnosis (n = 11) perceived lymphoedema management (n = 9, 81.8%) to be as frequently addressed by occupational therapists as equipment needs (n = 9, 81.8%) whereas those not reporting a cancer diagnosis (n = 193) saw lymphoedema management as a lower priority for therapists (n = 109, 56.5%) compared to equipment needs (n = 183, 94.8%). Therapists who identified as working with people with cancer in oncology and post-surgically (n = 32) had different perceptions than those working with people with cancer in other areas (n = 140), identifying higher occupational therapy involvement in education (n = 25, 78.1% vs n = 77, 55.0%) and managing cognitive changes (n = 20, 62.5% vs n = 69, 49.3% ).

Thirty five people (17.1%) answered an open-ended follow-up question which asked them to identify issues faced by people with cancer that were not addressed by occupational therapists. Leisure and other meaningful occupations were repeatedly mentioned (n=10) as were return to work (n=7), community follow-up and outpatient services (n=5), survivorship issues (n=4), and sexual function / sexuality (n=3).

**Preferred Timings for Intervention**

Participants had differing ideas on best timings for occupational therapy intervention during the treatment continuum, with those who had experienced a personal diagnosis highlighting different priorities (see figure 2).

*(Insert Figure 2)*
Free text comments provided further elaboration on intervention timing preferences (n = 67, 32.8%). Many of the comments focused on the need for a person-centred approach, cautioning against prescriptive timings (n = 23). Fifteen participants asserted that providing early intervention would allow for appropriate rapport building, education, anxiety management and promotion of occupational participation. However, ten respondents commented that intervening too early could add unnecessary stress when focus is primarily on survival.

**Educational Needs of Occupational Therapists**

More than half of respondents (n = 104, 50.9%) reported completing a range of postgraduate qualifications but only 30 people (14.7%) had engaged in any post-qualification education in cancer care. One person had completed a Masters of Palliative Care with oncology subjects and two others had acquired Specialist Certificates in Palliative Care (12 month program). Thirteen people reported extra training focused on lymphoedema management. The remaining fifteen respondents had participated in conferences, workshops or short courses offered through the Program of Experience in the Palliative Approach (PEPA), Centre for Palliative Care Research and Education (CPCRE), North Eastern Melbourne Integrated Cancer Service (NEMICS), Cancer Nurses Society of Australia (CNSA), and state branches of the Cancer Council.

Participants were asked whether occupational therapists should be required to undertake extra training to work with people with cancer. Only 39.7% (n = 81) answered yes, while 58.8% (n = 120) answered no. Additional free response comments (n = 108) primarily addressed six different themes: necessary technical skills training; general skills and experience transferrable; continuing education and professional development dependent on area of practice; cancer care included in basic OT curriculum; counseling and psychosocial skills; and supervision, mentoring and on the job learning (see table 2).

*(Insert Table 2 here)*

Respondents selected extra training opportunities which would enable
occupational therapists to take a greater role in cancer care. Occupational performance issues associated with the diagnosis were highlighted as the most beneficial educational focus (n = 148, 72.5%) followed by training to address emotional and psychosocial responses to cancer and its treatment (n = 118, 57.8%). The majority of respondents also felt that cancer and treatment side effects (n = 114, 55.9%) and exploring the evidence base on effective treatment (n = 108, 52.9%) warranted educational consideration. Physical treatment (n = 94, 46.1%) and carer and family support needs (n = 72, 35.3%) and communication (n = 68, 33.3%) were seen as lower priorities. Few participants saw the need for extra training in medical management of cancer (n= 46, 22.5%), cancer pathology (n = 36, 17.6%), or return to work processes (n = 31, 15.2%).

**Barriers to Best Practice**

The survey requested that participants select the three most significant barriers to best practice. The barriers seen as top priority were: lack of funding for occupational therapy positions (n = 103, 50.5%); lack of recognition of the occupational therapy role by health professionals (n = 86, 42.2%); dominance of the medical model in oncology management (n = 71, 34.8%); and lack of consumer awareness about the occupational therapy profession and role (n = 69, 33.8%). Rated of less importance were: occupational performance issues (OPIs) managed by other disciplines (n = 50, 24.5%); lack of funding (n = 44, 21.6%); OT best practice not well defined (n = 43, 21.1%); and OPIs arising after discharge (n = 33, 16.2%). Lack of experienced OTs (n = 22, 10.8%); lack of interdisciplinary communication (n = 19, 9.3%); inadequate availability of continuing professional education (n = 18, 8.8%); limited referrals (n = 17, 8.3%); inadequate education in OT professional preparation programs (n = 10, 4.9%), and limited patient self advocacy (n = 7, 3.4%) were of least concern for participants.

Those who had experienced a personal cancer diagnosis selected lack of recognition of the occupational therapy role by health professionals as the top barrier to best practice (n = 8, 72.7%).
Therapeutic Gaps

Eleven strategies for addressing therapeutic gaps were presented and participants were asked to rank them from top to lowest priority. The top scoring strategies are listed below. The number refers to the combined ranking score across respondents, with a maximum possible score of 1020.

Research to identify effective occupational therapy interventions (505);

Promotion of potential occupational therapy role to other disciplines (439);

Developing oncology pathways for occupational therapists (427);

Continuing professional education (416);

Developing an evidence-based protocol (400).

There was a large gap in scores between the top 5 and the remaining strategies. Increasing communications between healthcare professionals scored 243 and was followed by increasing multidisciplinary programs (201), creation of specific cancer care courses in tertiary education (128), working with cancer support groups (99), cancer care related placements (51) and establishment of survivorship clinics (38).

Discussion

This study attempted to explore perceptions of Australian occupational therapists regarding the role of the profession in cancer care. The prevalence of cancer suggests that occupational therapists may work with people with cancer in a wide variety of contexts, many of them non-cancer specific such as aged care or mental health. For this reason the study sought the opinion of occupational therapists in any area of practice. Most respondents reported personal experiences with cancer and only a small minority claimed to never work with people with the disease. Defining areas of practice with people with cancer is an issue for occupational therapy as cancer can be both a primary and secondary
diagnosis across specialties. The majority of therapists who worked with people with cancer reported doing so in the community rather than in hospital or rehabilitation services. Whilst this is predictable, cancer treatment (apart from surgery) is typically accessed through outpatient services, it is consistent with the assertion that many people with cancer are not assessed as part of a formalised cancer care pathway and may have unmet needs (Taylor & Currow, 2003).

**Current Interventions and Priorities for Future Practice**

Fulfilling equipment needs, teaching energy conservation and fatigue management, and addressing pressure concerns were perceived as the most routine components of the role of occupational therapy in Australian cancer care. Lymphoedema care, while not as routine, was highlighted in survey responses about education and training as an integral part of occupational therapy practice. Participants reporting a personal diagnosis of cancer (all female) identified lymphoedema to be as common a focus as equipment needs. This is likely because it is a side effect of treatment for both breast and gynaecological cancers, and typically addressed with women who have these diagnoses (Cancer Australia, 2012).

Survey responses indicated that long-term implications of survivorship are not a priority in treatment plans and interventions utilised by occupational therapists with people with cancer. Whilst many respondents saw participation in meaningful activities as adequately facilitated by occupational therapists, answers to open-ended questions revealed concerns about neglect of areas beyond self-care. These conflicting perspectives may be due to differing understandings of the course and nature of cancer care. Whilst occupational therapists are often involved in facilitating leisure activities in palliative and hospice care, interventions in other phases of treatment focus primarily on self-care and physical function, largely overlooking leisure and productive occupations (Lemoignan et al., 2010).

Return to work interventions for people with cancer were not seen as routine, and return to work processes not prioritised as a focus for continuing education. However, as returning to productive occupations is integral to regaining health
and well-being, many cancer survivors may benefit from engaging in return to work processes similar to those for injured workers (Lydon & Hughes, 2012). Occupational therapists could address functional implications specific to the workplace, liaise with employers, implement suitable duties and workplace adaptations and teach coping strategies (Kennedy, Haslam, Munir, & Pryce, 2007).

The psychosocial needs of people with cancer are frequently highlighted in the literature as going unmet (Pascoe, Edelman, & Kidman, 2000; Turner et al., 2011). Respondents backed up this assertion. Stress management, cognitive changes, and anxiety and depression were not considered routinely incorporated into occupational therapy programs for people with cancer. Furthermore, high priority was given to developing education to address emotional responses and needs of people with cancer. Training occupational therapists to participate in screening for psychosocial needs and delivery of tailored interventions could both enhance the role of the profession and bridge therapeutic gaps within the health system (Turner et al., 2011).

**Timing Intervention in the Cancer Care Continuum**

There was little consensus on appropriate timings for intervention. Many participants stated a preference for delaying occupational therapy referrals until clients identified functional implications. However, postponing intervention until functional decline may result in overlooked occupational performance issues, reduction in participation and disability that early intervention could prevent (Cheville et al., 2008; Penfold, 1996). Thus, several participants felt referral to occupational therapy services as early as diagnosis would allow for rapport-building, planning, and support throughout treatment and into survivorship. Those who identified as having a personal cancer diagnosis were overwhelmingly in favour of intervention during treatment and following surgical discharge compared to other participants. Possible reasons for these preferences include personal experience with reduced functional independence and feelings of vulnerability following primary treatment and a recognition of downtime during treatment as
being an ideal opportunity to build therapeutic relationships which extend into survivorship (Allen, Savadatti, & Levy, 2009; Foster & Fenlon, 2011).

**Addressing Barriers and Therapeutic Gaps**

Participants highlighted the dominance of the medical model in cancer care as a substantial barrier to implementing best practice. Interventions selected as routine support the idea that much occupational therapy practice in cancer care is still dictated by a focus on symptom control, rather than a holistic view of the client (Oertli, 2007). This may have contributed to the finding that nurses, oncologists and general practitioners were seen to have almost universal involvement in cancer care; while allied health professions were considered less frequently engaged. With increasing survivorship there is a need to reconsider the way cancer care is approached, with non-primary health providers such as occupational therapists providing ongoing support and services throughout the disease trajectory (Corner, 2008; Jiwa et al., 2008). Occupational therapists have the opportunity to create an indispensible role for the profession in cancer care by developing interventions that utilise foresight to improve survivorship.

Other significant barriers to best practice chosen by participants focused on a perceived lack of recognition and respect for occupational therapy in the field of cancer care. Surveys exploring therapeutic gaps in cancer care frequently do not acknowledge occupational therapy as a treatment option, although survey respondants often report unmet needs that could be fulfilled by referrals to occupational therapy services (Davis, Williams, Parle, Redman, & Turner, 2004; Taylor & Currow, 2003). Limited referrals were not considered a substantial barrier, yet lack of recognition presumably affects referrals to occupational therapy services from other disciplines, potentially resulting in unnecessary functional implications for survivors (Cheville et al., 2008; Soderback et al., 2000). The paucity of funding for occupational therapy positions, identified by participants as the top barrier to best practice, is likely tied to lack of recognition of the profession and its potential role in cancer care.
Educational Considerations for Increased Involvement in Cancer Care

Inadequate continuing professional education options and education in professional preparation programs were not implicated as underlying barriers to best practice. Still, few participants had engaged in any post-graduate education in cancer care. Lymphoedema management was the only specific rehabilitation intervention training participants reported undertaking. Reported workshops and short courses were mainly offered through palliative care agencies such as PEPA and CPCRE. This educational focus on end of life care rather than survivorship is consistent with the idea that many healthcare professionals, including occupational therapists, still frame cancer as a terminal illness (Oertli, 2007). The widely held opinion of participants that occupational therapy skills used for addressing chronic illness should be generalisable across conditions may limit engagement in continuing education. However, the lack of oncology-specific rehabilitation training for occupational therapists has been suggested as one of the biggest barriers to occupational therapy involvement in cancer care (Silver & Gilchrist, 2011). Whilst existing interventions may be transferable to cancer care, a knowledge of the implications of the disease and its treatment may be required to successfully select and tailor these to the individual.

Overall, participants were divided on whether extra training should be a requirement for working with people with cancer. Several participants suggested that inclusion of cancer-specific education within the basic occupational therapy curriculum would address the need for basic knowledge without requiring additional training. Many felt that the reality of working with people with cancer requires a certain level of emotional maturity and on the job learning which cannot be taught in formal education. Ideally, classroom learning, appropriate supervision and mentorship and the opportunity to gain relevant experience would all contribute to developing proficient practitioners in this area of practice (Copp, Caldwell, Atwal, Brett-Richards, & Coleman, 2007).
Priorities for Improving Practice

Participants highlighted research to identify effective occupational therapy interventions and developing an evidence-based protocol and specific oncology pathways as essential strategies to overcome barriers and gaps in practice in cancer care. Successfully addressing these requires clinicians to implement structures, which facilitate both clinical-based studies and translation of existing evidence into practice (Caldwell et al., 2011). Whilst this is recognised in specialised cancer centres and large hospitals, Australian cancer care is complex. It involves people undergoing treatment in both the public and private systems, in urban, rural and remote areas (Armstrong, Gillespie, Leeder, Rubin, & Russell, 2007). It is essential to consider how to facilitate occupational therapy involvement in cancer care across the system, not just in publicly-funded urban healthcare. Developing simple screening tools that assist health professionals to identify occupational needs may increase awareness of occupational therapy, promote referrals, and give insight into necessary intervention research (Taylor & Currow, 2003). In addition, further research into innovative methods of engagement, such as telephone-based therapy and survivorship clinics, could increase occupational therapy interventions for survivors with unmet needs (Berg & Hayashi, 2013; Hegel et al., 2011).

Limitations and Considerations for Future Research

There were issues using the Occupational Therapy Australia population to sample. Not every occupational therapist is a member, therefore some key informants may have been excluded. It is not possible to identify if this sample is similar to the Occupational Therapy Australia membership in terms of rural and urban distribution of members, representation across employment sectors and areas of practice. As AHPRA is the only inclusive source of registered occupational therapists in Australia, it may be necessary to use this sample for future research to ensure more generalisable results.

In the interest of anonymity, the survey didn’t ask participants to identify if they were employed at specific cancer centres, thus it is impossible to form any
comparisons between cancer specialty centres and occupational therapy roles. Looking at the role of occupational therapists in specific cancer centres is a recommended focus for future research.

Some aspects of the survey design may have affected the reliability of the results. Some survey options may have required further definition to be correctly interpreted by occupational therapists not familiar with cancer care and survivorship terminology. The focus of the research on survivorship could have been more clearly defined in the initial survey instrument. In attempting to design a comprehensive survey, it is acknowledged that there may have been too many options offered in multiple choice answers to some questions, making them difficult to answer and interpret. Additionally, the ranking question was not answerable from mobile devices, a problem not anticipated when piloting the survey.

For economic and convenience reasons, the survey was only available online and invitations were sent by email. The initial invitation to participate was sent outside of office hours, which may have limited response (Sue & Ritter, 2011). Providing alternative methods of participation, such as mailed paper surveys, may also have yielded a higher response rate.

Whilst the research aimed to gain the perspective of a wide range of occupational therapists, it is likely that the results were affected by respondent bias as those with an interest in occupational therapy in cancer care may have been more likely to answer the survey.

**Conclusion**

With cancer survival rates increasing, healthcare providers must determine how to best provide ongoing support and services throughout the disease trajectory and to develop plans and interventions that will improve the quality of survivorship (Corner, 2008). Occupational therapists need to further define the role of the profession in cancer care. Developing a position statement that draws clear distinctions between survivorship and palliative care is a good starting point.
Facilitating greater involvement of the profession in cancer care requires occupational therapists to build recognition of their unique role within the multidisciplinary team. Developing interventions that acknowledge the likelihood of survivorship and its associated complexities may allow the profession to differentiate itself from other disciplines. Universities need to commit to higher-level research that demonstrates the effectiveness of interventions which decrease the chance of disability. As new research emerges, clinicians should focus on developing systems of implementation and knowledge translation across areas of practice. Developing educational opportunities that address working in different phases of the cancer care continuum, especially into survivorship, should become a focus for both universities and Occupational Therapy Australia professional development courses. Finally, occupational therapists need to engage with other disciplines to advocate for multidisciplinary, collaborative care that values the unique interventions, knowledge and perspective of occupational therapy.

**Acknowledgements**

The authors would like to thank all participants in the study. Special thanks to the occupational therapy team at Royal North Shore Hospital, Sydney for helping to develop the survey instrument.
References


### Table 1: Participant Profile (n = 204)

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<tr>
<th>Characteristic</th>
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</tr>
<tr>
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<td>39 (19.1)</td>
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<td>38 (18.6)</td>
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<tr>
<td>11 - 20</td>
<td>48 (23.5)</td>
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<tr>
<td>21 - 30</td>
<td>47 (23.0)</td>
</tr>
<tr>
<td>&gt; 30</td>
<td>41 (20.0)</td>
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<td>Regional Centre</td>
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<td>Mental Health</td>
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<td>OH&amp;S / Ergonomics / Environmental Modifications</td>
<td>9  (4.4)</td>
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<td>-----------------------------------------------</td>
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<td>Oncology</td>
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<td>Research / Academia</td>
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<tr>
<td>Not Currently in OT Role</td>
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<tr>
<td>Other</td>
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<tr>
<th>Currently Work with People with Cancer</th>
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</thead>
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<tr>
<td>Everyday</td>
<td>26 (12.7)</td>
</tr>
<tr>
<td>Frequently</td>
<td>46 (22.5)</td>
</tr>
<tr>
<td>Sometimes</td>
<td>71 (34.8)</td>
</tr>
<tr>
<td>Rarely</td>
<td>33 (16.2)</td>
</tr>
<tr>
<td>Never</td>
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</table>

<table>
<thead>
<tr>
<th>Setting of Work with People with Cancer</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Oncology Ward of Hospital</td>
<td>20 (9.8)</td>
</tr>
<tr>
<td>Dedicated Oncology Centre / Clinic</td>
<td>6  (2.9)</td>
</tr>
<tr>
<td>Post-surgical Care</td>
<td>6  (2.9)</td>
</tr>
<tr>
<td>Community</td>
<td>69 (33.8)</td>
</tr>
<tr>
<td>Rehabilitation</td>
<td>16 (7.8)</td>
</tr>
<tr>
<td>Other</td>
<td>49 (24.0)</td>
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<tr>
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### Table 2: Participant Perspectives on Need for Extra Training (n = 108)

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<tr>
<th>Themes Addressed (number of participants)</th>
<th>Sample Quotes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some Necessary Technical Skills Training (n = 8)</td>
<td>Apart from the 'technical' skills related to lymphoedema/scar/pressure management, I think OTs are well-placed to assist people with cancer.</td>
</tr>
<tr>
<td>General Skills and Experience Transferable (n = 31)</td>
<td>We don't need to train specifically in every single diagnosis - we need better training in the fundamentals of occupation, environment and person; how to assess meaningful life roles for the individual and applying OT skills.</td>
</tr>
<tr>
<td></td>
<td>All OTs will come into contact with clients who have or have had cancer, and to restrict practice by imposing compulsory training would mean that clients would not receive a service.</td>
</tr>
<tr>
<td></td>
<td>Too little credit is given to OTs as it is as far as their clinical judgment and their self-awareness/ self evaluation.</td>
</tr>
<tr>
<td></td>
<td>Training of OTs should prepare them for management of people with life limiting illness whether they have a cancer diagnosis or not. Developing skills for managing the sensitive issues surrounding loss of function should be an integral part of OT training.</td>
</tr>
<tr>
<td>Continuing Professional Education / Development dependent on area of practice (n = 33)</td>
<td>In view of extensive changes in medicine, research and pharmacotherapy there is an ongoing need to stay abreast of the changes in the area of OT intervention for individuals with cancer.</td>
</tr>
<tr>
<td></td>
<td>It would help to define the scope of the OT role in this specialty area.</td>
</tr>
<tr>
<td>Cancer Care included in Basic OT Curriculum (n = 11)</td>
<td>Cancer has become a 'chronic illness', therefore it needs to be addressed in the same way as we study other systemic and chronic illnesses such as MS, COPD, psych illness etc....</td>
</tr>
<tr>
<td></td>
<td>Working with cancer patients should be included in initial qualifications.</td>
</tr>
<tr>
<td>Counseling / Psychosocial Skills (n = 9)</td>
<td>There is way too much focus on physical impairment and a lack of insight and awareness of the stressors such as work, finances and roles in life</td>
</tr>
<tr>
<td></td>
<td>Grief counseling and advice and end of life issues are important for OTs as they deal not only with the patient but also with the family.</td>
</tr>
<tr>
<td>Supervision, Mentoring and On the Job Learning (n = 11)</td>
<td>As in any field, an OT with no/limited clinical experience in an area should ideally be supervised or work alongside more senior therapists/MDT.</td>
</tr>
</tbody>
</table>

* Other (n = 5)
Figures

**Figure 1:** State distribution of *Occupational Therapy Australia* members vs study sample

![Bar chart showing state distribution of OT Australia membership and study sample](chart.png)

*Legend:*
- **OT Australia Membership**
- **Study Sample**
Figure 2: Proportional Representation of Preferred Timings for Occupational Therapy Intervention

People with Personal Diagnosis (n=11)  Remaining Sample (n=193)
Appendix 1: Survey Instrument

Defining the Role of Occupational Therapy in Cancer Care
* Skip logic represented in text

1. What state or territory do you live in?

2. Which option best describes your geographical location?
   a. Capital City
   b. Regional Centre
   c. Rural
   d. Remote

3. Which option best describes your current work arrangement?
   a. Full time
   b. Part time
   c. Not working at present

4. If you are working do you:
   a. Work in permanent position
   b. Work in contract position

5. Which category best describes your primary work setting?
   a. State Public
   b. Commonwealth
   c. Private Service
   d. Education Institution
   e. NGO

6. Please indicate below the year of graduation from your OT qualifying program:

7. What type of OT qualification do you have?
   a. Undergraduate
   b. Master's Entry
   c. Other (please specify)

8. How many total years would you estimate you have spent in an OT role since graduation (excluding gaps in service)?

9. Do you have any post graduate qualifications? If so, please specify below:

10. Have you undertaken any post qualification education in cancer care?
    a. Yes
    b. No
11. If yes, please specify topic, length of program and who presented it:

12. Please indicate your gender
   a. Male
   b. Female

13. Please indicate your age below:

14. Which option best describes your current area of OT practice? (Please choose one)
   a. Acute Care
   b. Administration / Management
   c. Aged Care
   d. Assistive Technology
   e. Community
   f. Disability
   g. Environmental Modifications / Access
   h. General
   i. Health Promotion
   j. Medical / Surgical
   k. Mental Health
   l. OH&S / Ergonomics
   m. Oncology
   n. Outpatients
   o. Paediatrics
   p. Palliative Care
   q. Private Practice
   r. Rehabilitation
   s. Research
   t. Not currently practicing in an OT role
   u. Academia/ Teaching (University based)
   v. Other (please specify)

15. Do you currently work with people with cancer?
   a. Every day
   b. Frequently
   c. Sometimes
   d. Rarely
   e. Never

16. If you currently work with people with cancer, what setting do you work in? THEN GO TO Q20
   a. Oncology ward of a hospital
   b. Dedicated oncology centre / clinic
   c. Post-surgical care
   d. In the community
   e. Rehabilitation
   f. Other (please specify)
17. If in Q16 you indicated you never work with people with cancer, have you done so in the past?
   a. Yes
   b. No

18. If you have worked with people with cancer in the past, what setting was it in?
   a. Dedicated oncology centre / clinic
   b. Post-surgical care
   c. In the community
   d. Rehabilitation
   e. Other (please specify)

19. Have you personally had a cancer diagnosis?
   a. Yes
   b. No

20. Have any members of your close family had a cancer diagnosis?
   a. Yes
   b. No

21. Have you ever acted in a caring role for someone with cancer
   a. Yes
   b. No

22. Which health professionals do you think currently are involved routinely in assisting people with cancer? Please select all which apply:
   a. General Practitioners (GPs)
   b. Nurses
   c. Occupational Therapists
   d. Oncologists
   e. Pharmacists
   f. Physiotherapists
   g. Psychologists
   h. Social Workers
   i. Speech Pathologists
   j. Surgeons
   k. Other (please specify) and add any comments

23. Which cancer or treatment related occupational performance issues do you think are most commonly addressed by OTs? Please choose as many as you feel are routinely incorporated into OT programs for people with cancer:
   a. Anxiety & Depression
   b. Cognitive changes
   c. Decreased range of motion
   d. Education
   e. Equipment needs
f. Fatigue / Energy Conservation
g. Generalised Weakness
h. Joint & bone protection
i. Lifestyle Adjustment
j. Lymphoedema
k. Pain
l. Pressure areas prevention & management
m. Return to meaningful activities including leisure
n. Return to work
o. Side effects of chemotherapy
p. Stress Management
q. Other (please specify) and add any comments

24. Whilst all these barriers are recognised, which do you prioritise as the most important current barriers in providing occupational therapy to people with cancer? Please choose three:
   a. Lack of funding
   b. Lack of interdisciplinary communication
c. Limited referrals
d. Lack of funding for OT positions
e. Lack of recognition of the OT role by health professionals
f. Lack of experienced OTs
g. Occupational performance issues may arise after discharge
h. Lack of consumer awareness of the OT profession and what OT can offer
   i. Dominance of the medical model in oncology management
   j. Limited patient self-advocacy
   k. OT best practice not well defined
   l. Occupational performance issues may be managed by other disciplines (e.g. nurses)
m. Inadequate education in OT professional preparation programs
   n. Inadequate availability of appropriate continuing professional education
   o. Other (please specify) and add any comments

25. Do you think there any other issues faced by people with cancer that are currently not being addressed by occupational therapy and should be? Please specify:

26. When should people with cancer be referred to occupational therapy? Please answer at least one option
   a. Immediately following diagnosis
   b. Upon commencement of treatment (e.g. chemotherapy, radiation)
c. During treatment (e.g. chemotherapy, radiation)
d. Upon discharge from treatment such as chemotherapy & radiation (e.g. when attending follow-up appointments)
e. Following surgical discharge from hospital
   f. When functional issues identified by the person with cancer arise
g. In particularly complex cases

27. How would you prioritise ALL the following solutions to address any existing therapeutic gaps? Please rank the following in order of importance (1 = most important)
   a. Continued professional education
   b. Oncology pathways for OTs
   c. Research to identify effective OT interventions
   d. Promotion of potential role of OT to other disciplines
   e. Development of an evidence based protocol
   f. Increased communication between health professionals
   g. Creation of specific cancer care courses in tertiary education
   h. Offering more cancer care related placements for students
   i. Increased multidisciplinary programs
   j. Establishment of survivorship clinics
   k. Working with cancer support groups

28. Please add any comments about what needs to be done to address therapeutic gaps

29. Should there be a requirement for OTs to undertake extra training to work with people with cancer?
   a. Yes
   b. No
   c. Comments?

30. To enable OTs to undertake a greater role in cancer treatment what extra training and education would you prioritise as being the most beneficial? Please select at least one
   a. Medical management of cancer
   b. Physical treatment (e.g. lymphoedema care)
   c. Evidence base on effective treatment
   d. Cancer and treatment side-effects, experience of medical interventions for people with cancer, symptom control
   e. How to address emotional/psycho-social responses to cancer and its management
   f. Cancer pathology
   g. Communication with carers and family
   h. Support needs of carers and family
   i. Occupational performance issues associated with the diagnosis
   j. Return to work processes
   k. Other (please specify)

31. Thank you for taking the time to complete this survey. Do you have any further comments about occupational therapy's role in cancer treatment?
Appendix 2 – Australian Occupational Therapy
Journal Submission Guidelines

Author Guidelines: The Australian Occupational Therapy Journal

The *Australian Occupational Therapy Journal* is the official journal of Occupational Therapy Australia. The journal publishes original articles dealing with theory, research, practice and education in occupational therapy. Papers in any of the following forms will be considered: Feature Articles, Research Articles, Reviews, Viewpoints, Critically Appraised Papers, and Letters to the Editor.

**ARTICLE TYPES**

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<thead>
<tr>
<th>Type of Article</th>
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<th>Number of references</th>
<th>Figure files</th>
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<td>Feature Articles</td>
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<td>250</td>
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<tr>
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<td>Letters to the Editor</td>
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**Feature Articles** Feature Articles can be in the form of research studies, theoretical papers, case reports or descriptive articles. Descriptive articles involve descriptions of interesting clinical, administrative, educational or technological innovations in occupational therapy. Single or multiple case reports may be used to illustrate the application of such innovations. Feature articles should contain the following: *Structured abstract*: 250 word limit. *Introduction*: The aims of the article should be clearly stated and a theoretical framework (if applicable) should be presented with reference to established theoretical model(s) and background literature. A succinct review of current literature should set the work in context. The introduction should not contain findings or conclusions. *Methods*: This should provide a description of the method (including subjects, procedures and data...
analysis) in sufficient detail to allow the work to be repeated by others. **Results:** Results should be presented in a logical sequence in the text, tables and figures. The same data should not be presented repetitively in different forms. **Conclusion:** The discussion should consider the results in relation to the purpose of the article advanced in the introduction. The relationship of your results to the work of others and relevant methodological points could also be discussed. Implications for future research and practice should be considered. The conclusion section of your structured abstract should contain the key messages/take home points of your article. Feature Article manuscripts should not exceed 5000 words, and have no more than 35 references.

**Research Articles** Research Articles should contain the following: **Structured abstract:** 250 word limit. **Introduction:** The aims of the article should be clearly stated and a theoretical framework (if applicable) should be presented with reference to established theoretical model(s) and background literature. A succinct review of current literature should set the work in context. The introduction should not contain findings or conclusions. **Methods:** This should provide a description of the method (including subjects, procedures and data analysis) in sufficient detail to allow the work to be repeated by others. **Results:** Results should be presented in a logical sequence in the text, tables and figures. The same data should not be presented repetitively in different forms. **Conclusion:** The conclusion should consider the results in relation to the purpose of the article advanced in the introduction. The relationship of your results to the work of others and relevant methodological points could also be discussed. Implications for future research and practice should be considered. The conclusion section of your structured abstract should contain the key messages/take home points of your article. Research Article manuscripts should not exceed 5000 words, and have no more than 35 references. For manuscripts that report on randomised controlled trials, please include all the information required by the CONSORT checklist. All manuscripts must include a flow chart showing the progress of participants during the trial. Where applicable, reference should be made to the extension to the CONSORT statement for non-pharmacological treatment and the CLEAR NPT. When restrictions on word length make this difficult, this information may be provided in a separate document submitted with the manuscript.

**Reviews** Narrative reviews, systematic reviews and meta-analyses are included in this category. Recommendations for clinical practice and further research should be included. A structured abstract is required of 250 words. Manuscripts should not exceed 5,000 words (not including references).

**Viewpoints** Viewpoints provide a forum for the debate and discussion of occupational therapy issues and related concerns. The discussion should highlight the author’s opinion and the views presented should be linked, where possible, with an established literature base. Authors are encouraged to discuss topical and controversial issues, and to do so in a manner that sheds light on or challenges established practices and beliefs. In many cases, discussion will require attention to varying opinions. Viewpoint may be an appropriate avenue for readers to debate the content of previous Viewpoints or other articles that have appeared in the Journal. Authors of articles commented on will be invited to respond in a Letter to the Editor which, where possible, will be published in the same issue as the Viewpoint. Viewpoint manuscripts should not exceed 2000 words, include a 150 word abstract and have no more than 15 references. A title page, abstract, keywords and references should be included. A Viewpoint abstract should, in 150 words, clearly articulate the significance of the professional/practice/theoretical issue you will address, your proposition/contention and an overview of how you
Letters to the Editor The Journal welcomes letters from readers who wish to comment on previous articles in the Journal or on any topic relating to occupational therapy theory, research, practice or education. Letters should not exceed 500 words. A longer letter may be considered as a Commentary if it is a comment on a specific article; however, it should not exceed 800 words. The author(s) of the original article will be given a right of reply to the Commentary. The reply should also not exceed 800 words.

Critically Appraised Papers Critically Appraised Papers are usually solicited by the Editorial Office. If a submission is planned, please contact the Editorial Office for specific guidelines.

EDITORIAL REVIEW AND ACCEPTANCE The acceptance criteria for all papers are quality, originality and significance to our readership. Except where otherwise stated, Feature Articles, Research Articles, Reviews and Viewpoint manuscripts are blind peer reviewed by two anonymous reviewers. Final acceptance or rejection rests with the Editorial Board or the editor, who reserves the right to refuse any material for publication. Manuscripts should be written so that they are intelligible to the professional reader who is not a specialist in the particular field. They should be written in a clear, concise, direct style. Where contributions are judged as acceptable for publication on the basis of scientific content, the Editor and the Publisher reserve the right to modify typescripts to eliminate ambiguity and repetition and improve communication between author and reader. If extensive alterations are required, the manuscript will be returned to the author for revision.

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Appendices 63
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Appendix 3 – Ethics Approval

Research Integrity
Human Research Ethics Committee

Friday, 30 August 2013

Assoc Prof Lynette Mackenzie
Ageing Work and Health Unit; Faculty of Health Sciences
Email: lynette.mackenzie@sydney.edu.au

Dear Assoc Prof Lynette Mackenzie,

I am pleased to inform you that the Health Low Risk Subcommittee of the University of Sydney Human Research Ethics Committee (HREC) has approved your project entitled "Defining the Role of Occupational Therapy in Cancer Care".

Details of the approval are as follows:

Project No.: 2013/099
Approval Date: 29 August 2013
First Annual Report Due: 30 August 2014
Authorised Personnel: Mackenzie Lynette; Buckland Nicole;

Documents Approved:

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<tr>
<th>Date Uploaded</th>
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<td>Survey</td>
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<td>Recruitment Letter/Email</td>
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<td>26/08/2013</td>
<td>Participant Info Statement</td>
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HREC approval is valid for four (4) years from the approval date stated in this letter and is granted pending the following conditions being met:

**Condition/s of Approval**

- Continuing compliance with the National Statement on Ethical Conduct in Research Involving Humans.
- Provision of an annual report on this research to the Human Research Ethics Committee from the approval date and at the completion of the study. Failure to submit reports will result in withdrawal of ethics approval for the project.
- All serious and unexpected adverse events should be reported to the HREC within 72 hours.
- All unforeseen events that might affect continued ethical acceptability of the project should be reported to the HREC as soon as possible.
- Any changes to the project including changes to research personnel must be approved by the HREC before the research project can proceed.