DEPRESSION SCREENING AND MANAGEMENT PRACTICES AT A TERTIARY CARE CANCER CENTRE

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In partial fulfillment
of the requirements for the degree
Master of Arts

Dalhousie University
Halifax, Nova Scotia

March 2011

DALHOUSIE UNIVERSITY

SCHOOL OF HEALTH AND HUMAN PERFORMANCE

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Dated: 21 March, 2011

Supervisor: _____

Readers: _____

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DALHOUSIE UNIVERSITY

DATE: March 21, 2011

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TITLE: Depression Screening and Management Practices at a Tertiary Care Cancer Centre

DEPARTMENT OR SCHOOL: School of Health and Human Performance

DEGREE: MA CONVOCATION: October YEAR: 2011

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Abstract

Depression is a serious problem affecting cancer patients. The current study examined depression screening and management behaviour at a tertiary care cancer centre. Ten oncologists and ten nurses took part in this study, and were interviewed. The interview covered clinician's current depression screening and management practices, and the Theory of Planned Behaviour was applied to better understand screening behaviour. The Theory of Planned Behaviour was used in this study because it is useful in conceptualizing individual's behaviour. Results indicated clinicians screened for depressed mood. Participants also reported managing depressed patients by indicating they referred patients to other clinicians. Finally, within the Theory of Planned Behaviour, subjective norms were related to past intention to screen for depression, and past intention to screen was related to past screening behaviour. In summary, this study found that depression is screened for, depression is managed appropriately in patients, and some components of the Theory of Planned Behaviour are useful in understanding screening behaviour.

LIST OF ABBREVIATIONS USED

DSM-IV-TR: Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition Text Revision (American Psychiatric Association, 2000)

EAPC: European Association for Palliative Care

EORTC QLQ-C30: European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire-Core 30 (Aaronson et al., 1993).

HADS: Hospital Anxiety and Depression Scale (Zigmond & Snaith, 1983)

NCCN: National Comprehensive Cancer Network

PHQ-9: Patient Health Questionnaire-9 (Spitzer, Kroenke, & Williams, 1999).

TPB: Theory of Planned Behaviour (Ajzen, 1991)

Chapter 1: Introduction

Depression is a serious problem affecting cancer patients. Rates of depression in cancer patients vary, according to Massie (2004), with between 0% and 58% of cancer patients exhibiting clinically significant depression. The rate of depression varies based on the gender, age, and type of cancer of the patients being studied. Depressed cancer patients whose depression goes undiagnosed and untreated have significantly shorter survival times, compared to non-depressed patients (Onitilo, Nietert, & Egede, 2006). Therefore, it is important for clinicians to recognize depression, as it can be successfully treated, both with psychotherapy (Jacobsen & Jim, 2008) and with anti-depressant medication (Williams & Dale, 2006).

Cancer patients at risk for a depressive illness can be identified through a routine depression screening program. This can consist of administering a short depression inventory (Sellick & Edwardson, 2007). Clinicians can also ask one or two questions about depressive symptoms, either asking patients if they are depressed (Skoogh et al., 2010) or asking patients if they have depressed mood and whether they still enjoy previously enjoyable activities (Hoffman & Weiner, 2007). Despite the growing recognition in the psychosocial oncology published research of the need for screening, there is limited research on how often this occurs. One study, at a Veterans Administration hospital in the United States, found that only 81% of cancer patients were screened (Jones & Doebbeling, 2007).

While it is recommended that patients with cancer be screened by having clinicians ask about depressed mood and lack of enjoyment in formerly enjoyable activities (Hoffman & Weiner, 2007), there is little published research examining which

depressive symptoms clinicians discuss as part of routine practices, as the majority of studies investigating screening had implemented screening as part of a research study. There is a paucity of published reports of screening protocols being implemented in cancer centres, suggesting that screening may not be standardized or consistent.

Theoretical Framework for This Study

Screening for depression is a behaviour, and like all behaviours, clinicians'opinions influence whether they perform the behaviour. A behaviour can often be better understood by applying a theory or model (Nutbeam & Harris, 2004). One such theory is Ajzen's (1991) Theory of Planned Behaviour (TPB). According to Ajzen, there are three factors that contribute to an individual's intention to perform behaviour. The three factors that contribute to intention are: (1) the individual's positive or negative attitude, or evaluation, of the behaviour; (2) the individual's perceived subjective norms, that is, the individual's perception of what he or she thinks that other people feel he or she should do; and finally, (3) the perceived behavioural control, barriers and self-efficacy that the individual perceives to have over his, or her, behaviour.

Ajzen (1991) originally conceived his theory to describe behaviour that is under volitional control, that is, the individual is free to make a conscious choice to perform or not perform the behaviour. However, the TPB has been used to understand behaviour by clinicians in situations where they may not have complete control over whether or not they may perform the behaviour. For example, Hart and Morris (2008) used the TPB to understand how clinicians screen for depression in stroke patients. Nash, Edwards, and Nebauer (1993) used the TPB to understand how nurses assess pain in their patients. Finally, Puffer and Rashidian (2004) used the TPB to understand nurses' intentions to

offer smoking cessation advice to patients. All three studies used the original definition of the TPB by Ajzen despite the fact that in most clinical settings, clinicians may not have complete control over their choice to perform a behaviour related to patient care because of environmental factors such as time, clinic policies or resources (such as the availability of screening tools).

No study to date has used the TPB to understand how clinicians screen for depression in cancer patients. However, it is important to consider Hart and Morris' (2008) study. Hart and Morris (2008) applied the TPB to better understand clinicians' screening for depression in stroke patients, and found that the TPB was useful in predicting clinicians' intention to screen. Because of this study, it was hypothesized that the TPB would be useful in understanding depression screening in cancer patients.

Research Questions and Hypotheses

The present study investigated clinicians' depression screening and management behaviours at a tertiary care cancer centre without a screening protocol in place. The primary research questions were: (1) "What are the depression screening practices of oncologists and nurses at a tertiary care cancer centre, including screening frequency?", and (2) "Do the three components of the TPB (attitudes, subjective norms, and perceived behavioural control) help explain past intention to perform depression screening behaviour, and is this then related to past behaviour?" The secondary research questions were: (1) "How do clinicians manage depression in patients, either by treating it or referring patients to other clinicians?"; (2) "Is profession related to depression screening and management behaviour?"; and (3) "What are clinicians' opinions about depression screening in cancer patients?"

It was expected that the majority of clinicians would report they have not routinely screened for depression. Participants' profession was expected to influence depression screening and management behaviour, because of the different roles for oncologists and nurses in clinical settings. It was also thought that the TPB would explain screening behaviour. It was expected that those who reported screening would have positive attitudes towards screening, would perceive that the choice to screen for depression would be viewed positively by other members of the centre, and would report that they had control over their choice to screen for depression.

Significance of the Study

Significance for Clinical Practice.

Currently, while there are many published reports of depression screening occurring as part of a research study, there is only one study examining depression screening as part of a mandatory depression screening protocol, and this study did not take place in Canada (Jones & Doebbeling, 2007). In addition, the TPB has never been used before to explore the factors influencing clinicians' depression screening practices for cancer patients. Using this theory to investigate screening behaviour may provide insights into why clinicians screen, or do not screen, that may not be apparent using a purely experimental design. Finally, there is limited research investigating how depression is routinely managed in cancer patients. Thus, it was thought that this study's findings, while exploratory, could contribute insight into how clinicians manage depression. Because this is a first study in the Canadian healthcare system and novel in the application of the TPB, the results could be useful for both policy makers and

researchers in generating and studying policies and guidelines for depression screening, and in exploring compliance with those policies and guidelines.

It was also expected that this study would have immediate local impact. A summary of the findings will be given to the centre at which the study was conducted. This information will be particularly useful because the centre has plans to adopt a distress screening protocol in the near future. Therefore, this study will be a baseline measure of how frequently depression screening occurred before distress or depression screening was implemented. Finally, on a broader level, the results may also guide other centres in effectively implementing new depression screening protocols.

Significance for Health Promotion.

The field of health promotion is concerned with disease prevention, and includes all health-promoting behaviours and activities that improve the quality of life and well-being of individuals, even in those with pre-existing disease (Canadian Public Health Association, Health and Welfare Canada, & the World Health Organization, 1986). This study is an example of secondary prevention, which is defined as when a disease is identified by screening for the disease before its symptoms become more overt (Cottrell, Girvan, & McKenzie, 2006). The present study investigated depression screening practices at a tertiary care cancer centre, making it is an example of secondary prevention, because this study investigated depression screening in cancer patients before depressive symptoms were reported by the patients themselves. The study investigated the performance of a health promoting behaviour by clinicians, as well as cancer screening and treatment, and may provide information that could assist in improving the frequency or quality of that behaviour. The results may reveal a role for health promoters

in improving depression care for patients with cancer through education of clinicians or patients themselves, or through development of policies or guidelines that encourage routine and effective depression screening behaviours by clinicians. These results offer the potential to improve patient well-being by improving the detection and management of depression, so that patients with cancer may have a better quality of life.

Definition of Terms

Anhedonia: One of the key symptoms of depression, according to the DSM-IV-TR (American Psychiatric Association, 2000). A patient experiencing anhedonia has a loss of enjoyment of formerly enjoyable activities.

Attitude: The degree to which a person has a favorable or unfavorable evaluation or appraisal of the behaviour in question (Ajzen, 1991).

Clinicians: Refers to both oncologists (medical and radiation) and oncology nurses, unless otherwise specified.

Depression: Refers to a set of certain symptoms that in its more severe form is known as major depressive disorder, According to the DSM-IV-TR (American Psychiatric Association, 2000) in order to be diagnosed with depression, an individual must have either depressed mood or anhedonia, and these symptoms must last at least two weeks. In addition, this diagnosis requires that these symptoms must be accompanied by at least four symptoms such as changes in sleep, appetite, or weight; changes in psychomotor activity; decreased energy; feelings of worthlessness or guilt, difficulty thinking, concentrating, or making decisions; or recurrent thoughts of death or suicidal ideation, plans, or attempts.

Health Promotion: The process of enabling individuals to increase their control over, and to improve, their health (Canadian Public Health Association, Health and Welfare Canada, & the World Health Organization, 1986).

Oncologists: Refers to both medical and radiation oncologists, unless otherwise specified.

Perceived Behavioural Control: This component of the Theory of Planned Behaviour (Ajzen, 1991) includes the control an individual thinks he or she has over a behaviour, and the power he or she perceives to have in a given situation.

Screening: Asking patients about depressive symptoms. This is not necessarily a formal diagnosis of depression: instead, it is meant to identify individuals who are at risk of being depressed.

Subjective Norms: An individual's beliefs about what other people think he or she should do (normative beliefs) and an individual's desire to comply with other people's wishes (Ajzen, 1991).

Tertiary care cancer centre: A centre that provides treatment to cancer patients from a large geographic area.

Chapter 2: Literature Review

Cancer is a chronic illness, in which patients may experience a relief of symptoms, but still require ongoing medical treatment (Institute of Medicine, 2008). Because the emotional symptoms that patients experience can be debilitating, clinicians increasingly consider these symptoms during treatment (Holland, 1992). Although often considered a symptom of cancer, severe depressive symptoms may also be considered a separate, co-morbid disorder (American Psychiatric Association, 2000). The exact rate of depression in cancer patients is unknown, and many factors influence the depression rates reported by researchers (Massie, 2004). Despite this lack of consensus, depressive symptoms in cancer patients are a serious problem, and studies have reported that depressed patients have significantly shorter survival times following a cancer diagnosis relative to cancer patients who are not depressed (Onitilo et al., 2006). Reviews have found that once identified, depression can be successfully treated in cancer patients (Jacobsen & Jim, 2008; Williams & Dale, 2006). Clinicians may themselves treat the depression, or refer patients to other clinicians for treatment.

Despite the importance of recognizing depression in cancer patients so that it can be treated, few cancer centres have routine screening protocols in place, such as the screening protocol implemented at the Cancer Centre in Thunder Bay, Ontario, Canada (Sellick & Edwardson, 2007). In cases where there is no screening protocol, clinicians' opinions about depression and depression screening can influence whether screening behaviour occurs. Ajzen's (1991) Theory of Planned Behaviour is a useful model in understanding whether screening behaviour occurs. However, before the reasons for screening are explored, an understanding of depression is required.

Depression

Depression is a symptom of many psychiatric disorders that may affect cancer patients. It is important to differentiate these disorders from feelings of distress. Distress in cancer patients may include depressive symptoms. However, generally, distress is less severe, and can be considered as a normal reaction to a cancer diagnosis (National Comprehensive Cancer Network [NCCN] 2008). Yet, if this distress persists, or is accompanied by severe depressive symptoms, the patient may be diagnosed with a major depressive disorder.

The most severe form of depression is "major depressive disorder". The American Psychiatric Association's (2000) Diagnostic and Statistical Manual of Mental Disorders-Fourth Edition-Text Revision (DSM-IV-TR) describes major depressive disorder as being characterized by one or more depressive episodes. A depressive episode occurs when an individual has either depressed mood and/or loss of interest or pleasure in formerly enjoyable activities, also known as "anhedonia", for at least two weeks. A diagnosis of major depressive disorder requires that these symptoms must be accompanied by at least four symptoms such as: changes in sleep, appetite, or weight; changes in psychomotor activity; decreased energy; feelings of worthlessness or guilt; difficulty thinking, concentrating, or making decisions; recurrent thoughts of death or suicidal ideation, plans, or attempts (American Psychiatric Association, 2000). When making a diagnosis of major depressive disorder in individuals with a chronic illness such as cancer, clinicians must make sure that the symptoms are not the result of the physical illness or its treatment (Jacobsen & Jim, 2008).

Other DSM-IV-TR diagnoses (American Psychiatric Association, 2000) also have criteria that include depressive symptoms or a depressive episode. Individuals with cancer, or any chronic illness, may have adjustment disorder with depressed mood, which is distinct from major depressive disorder (American Psychiatric Association, 2000). This diagnosis requires that the individual exhibit depressed mood or sadness within three months of a stressor, such as a cancer diagnosis. The individual must display marked distress that is in excess of what would be expected from exposure to the stressor, or significant impairment in social or occupational functioning. Unlike major depressive disorder, adjustment disorder is triggered by an external event. However, a diagnosis of adjustment disorder with depressed mood should be treated, because if untreated, adjustment disorder can progress into a more serious disorder, such as major depressive disorder (American Psychiatric Association, 2000).

An individual may also exhibit depressive symptoms without being diagnosed with either a major depressive disorder or an adjustment disorder. When an individual has two to four depressive symptoms, including either depressed mood or anhedonia, and these symptoms persist for at least two weeks, this individual may be diagnosed with minor depressive disorder (American Psychiatric Association, 2000). In these cases, patients may have some, but not all, of the symptoms required for both, or either, disorders, and these symptoms may not have lasted as long as those in major depressive disorder, or adjustment disorder (Massie, 2004). Patients may also experience chronically depressed mood that occurs for most of the day, and more days than not, for at least two years, in which case they may meet the criteria for Dysthymic Disorder (American Psychiatric Association, 2000). Finally, patients who have episodes of depression that

alternate with periods of mania may qualify for the diagnosis of Bipolar Mood Disorder (American Psychiatric Association, 2000). Mania, or more specifically a manic episode, is defined by a distinct period during which there is an abnormally and persistently elevated, expansive, or irritable mood lasting at least one week, and is accompanied by inflated self-esteem or grandiosity, decreased need for sleep, pressure of speech, flight of ideas, distractibility, increased involvement in goal-directed activities or psychomotor agitation, and excessive involvement in pleasurable activities with a high potential for painful consequences (American Psychiatric Association, 2000). Therefore, there are many psychiatric disorders that include depressive symptoms as part of their criteria for diagnosis. Regardless of the disorder an individual is diagnosed with, it is important to recognize the disorder so that the individual can be treated appropriately.

In addition to primary psychiatric disorders that can be found in those with, or without, medical problems, there are a number of DSM-IV-TR (American Psychiatric Association, 2000) disorders that are more specific to people with a medical condition, or who are using pharmacological substances. Cancer patients with depressive symptoms may receive a diagnosis of Mood Disorder secondary to a General Medical Condition (American Psychiatric Association, 2000). This diagnosis is frequently applied in chronically ill populations such as cancer and stroke patients. In order to receive this diagnosis, the diagnosing clinician must first establish that the individual has a general medical condition, and there must be a temporal association between the medical condition and the depressive symptoms. In addition, for this diagnosis, it is not necessary that the individual meets all of the criteria for the mood disorder, and some of the features of the mood disorder may be atypical, such as an unusual age of onset of symptoms.

Finally, cancer patients receiving chemotherapy or other hormonal therapies with potentially mood-altering effects, warrant a separate diagnosis. These patients with depressive symptoms, or a depressive episode, may be diagnosed with Substance Induced Mood Disorder (American Psychiatric Association, 2000). For this diagnosis, not all criteria for a mood disorder must be met, and it is distinguished from a primary mood disorder by considering the onset, course, and other factors such as onset of the substance use.

In summary, there are many clinical diagnoses that include depressive symptoms as part of their criteria. In addition, there are many tools available, which will be discussed later in this chapter, that use different criteria. Authors who are studying patients with different sets of symptoms may refer to all of these patients as having "depression" regardless of the severity of these symptoms. The purpose of this thesis was to examine screening for depressive symptoms, regardless of diagnosis, based on the premise that any depressive symptom warrants further assessment for a potential diagnosis. In order to avoid clouding this primary goal, due to the multitude of different forms of depressive disorders and criteria that exist, the term "depression" will refer to all depressive symptoms that cancer patients may experience, regardless of which psychiatric diagnosis the patient is given.

Difficulties in Diagnosing Depression in the Chronically Ill

In patients with chronic illness, some symptoms, including difficulty concentrating, fatigue, sleep disturbances, and lack of appetite, may be the result of their illness, and not depression. There are four approaches to diagnosing depression in chronically ill patients, including cancer patients. These are the inclusive approach, the

exclusive approach, the substitutive approach, and the etiological approach. The inclusive approach involves including all symptoms towards a depressive diagnosis, even if they could be caused by the physical illness. This is the approach outlined in the DSM-IV-TR (American Psychiatric Association, 2000). The problem with using this approach is that it will classify most patients with an underlying illness as depressed, even if they are not, in fact, depressed. Thus, this approach is very sensitive, but insufficiently specific. The second is the exclusive approach, in which symptoms caused by cancer, such as fatigue, are not included in the diagnosis of depression (Bukberg, Penman, & Holland, 1984). This approach results in fewer patients who do not have depression being identified as being at risk for being depressed, but also identifies fewer patients who are depressed. The exclusive approach is more specific but less sensitive than the inclusive approach. The third approach is the substitutive approach, in which the physical symptoms of depression are not included in the diagnostic criteria. Instead, clinicians screen patients for additional psychological symptoms such as hopelessness, pessimism, and social withdrawal, and count these substituted symptoms towards a depression diagnosis (Endicott, 1984). This approach is most commonly used in clinical practice. Chochinov, Wilson, Enns, and Lander (1994) conducted a study to compare rates of depression diagnoses using the inclusive and substitutive approaches. The diagnostic criteria for the inclusive approach was based on administering the Schedule for Affective Disorders (Endicott & Spitzer, 1978). For this criteria, a high threshold for diagnosis was used, which the authors state corresponds to Diagnostic and Statistical Manual-IIIR criteria (American Psychiatric Association, 1987). For the Endicott (1984) criteria, physical symptoms were substituted with non-physical symptoms. The four physical symptoms

were weight or appetite change, sleep disturbance, loss of energy or fatigue, and difficulty in thinking or concentrating. These alternative symptoms, that replaced the physical symptoms, included depressed appearance, social withdrawal or decreased talkativeness, brooding, self-pity, or pessimism, and lack of reaction to normally pleasurable situations. The study by Chochinov et al. indicates that clinicians may use the substitutive approach in lieu of the inclusive approach in patients with underlying illness, as the rates for both approaches were quite similar.

A final approach to diagnosing depression in physically ill patients is the etiological approach. Using the etiological approach requires a clinician to rate a somatic symptom as absent, only if it is judged to be clearly secondary to the underlying physical illness (Rapp & Vrana, 1989). Rapp and Vrana (1989) interviewed patients according to the Schedule for Affective Disorders and Schizophrenia interview (Endicott & Spitzer, 1978), and found that the sensitivity and specificity for major depressive disorders using the etiological approach was similar to diagnoses made using Endicott's (1984) substitutive approach. However, when the somatic symptoms were removed without substitution, using the exclusive approach, the sensitivity and specificity of the diagnoses were lower.

An added difficulty is that cancer patients receiving chemotherapy may experience mild cognitive impairment known as "chemobrain." Chemobrain includes symptoms of fatigue, feelings of confusion or mental fogginess, forgetfulness, decreased attention span, and inability to focus or concentrate (Taillibert, Voillery, & Bernard-Marty, 2007). These symptoms may overlap with some of the cognitive symptoms of depression. Thus, it may be difficult for clinicians to differentiate which cognitive

symptoms are caused by depression and which cognitive symptoms are caused by chemotherapy treatment.

The phenomenon of chemobrain is explored further in a study of breast cancer patients conducted by Hermelink et al. (2007). The authors administered a battery of neuropsychological tests to 101 breast cancer patients, both at the beginning, and at the end, of chemotherapy. Hermelink et al. (2007) found that while 28% of patients experienced an improvement in cognitive functioning, 27% of patients reported a decline in cognitive functioning which was independent of anxiety and depression. In a second study, Mehnert et al. (2007) administered questionnaires to 23 breast cancer patients undergoing adjuvant chemotherapy, 24 breast cancer patients receiving high-dose chemotherapy, and 29 breast cancer patients who did not receive any chemotherapy. In total, 13% of patients who received adjuvant therapy reported cognitive deficits, compared to 8% of patients who received high-dose chemotherapy, and 3% of patients who received no chemotherapy. This highlights the need to screen for depressive symptoms, so that a diagnosis can be made. While an individual with cancer and depressive symptoms may be diagnosed with a mood disorder secondary to a general medical condition or substance use, it is important to recognize and diagnose the disorder so that appropriate treatment can be implemented. Despite the recognition that depressive symptoms are not necessarily a part of a cancer diagnosis, there is no consensus on how common these symptoms are in cancer patients (Massie, 2004).

Rates of Depression in Cancer Patients

As described earlier, cancer patients can suffer from depressive symptoms severe enough to warrant a psychiatric diagnosis. Despite this recognition, there is uncertainty regarding how common depressive disorders are in cancer patients. Massie (2004) conducted a narrative review in which she examined previously published studies investigating the rates of depressive symptoms in cancer patients. Rates of depression in cancer patients reported by Massie appear to vary widely, ranging from 0% up to 58%. Thus, the rate of depression in the general population (4.8%; Public Health Agency of Canada, 2002) is lower than the highest rates given by Massie (2004).

In her review, Massie reported that many factors influence the rates of depression in cancer patients, including the criteria used to assess depression, length of time over which patients are followed, the gender and age of the patients being assessed, and the type of cancer in the population being studied. Donovan and Jacobsen (2007) discuss three common ways of assessing depression: single-item assessments (asking patients if they are depressed), multi-item assessments (self-rating questionnaires) and clinical interviews based on DSM-IV-TR (American Psychiatric Association, 2000) criteria. Another important factor is whether the patient judged as depressed was screened for depression with a self-rating instrument, or was diagnosed as depressed by a clinician, as a diagnosis by a clinician is more stringent than a self-rating questionnaire (e.g. Chang Orav, McNamara, Tong, and Antin, 2004; Prieto et al., 2005).

Different assessment methods have different specificities, i.e. the proportion of people without the diagnosis with a negative result, and sensitivities, i.e. the proportion of people with the mental illness with a positive result on the measurement in question

(Centre for Evidence-Based Medicine, 2004). Clinical interviews tend to have higher specificity and sensitivity, as they are more comprehensive. Because they take longer to administer, many studies use self-rating questionnaires. Self-rating questionnaires take less time to administer, however they have lower sensitivities.

Self-rating questionnaires are useful in screening large numbers of cancer patients, as they can be administered before an appointment, thus saving clinicians' time. Self-rating depression questionnaires are frequently used in oncology research and practice. The Hospital Anxiety and Depression Scale (HADS, Zigmond & Snaith, 1983) is a 14-item questionnaire, with seven depression items and seven anxiety items. This questionnaire was developed for use in chronically ill populations, thus physical symptoms of depression that may overlap with illness, such as fatigue and changes in appetite, are not included in the questionnaire.

The Beck Depression Inventory (BDI) is also frequently used in oncology research and practice. It contains 20 items and was developed by Beck, Ward, Mendelson, Mock, and Erbaugh (1961). A revised version was published by Beck et al. in 1996. This questionnaire was developed to identify depressed individuals in healthy populations. It includes physical symptoms of depression such as fatigue and lack of appetite. Thus, it is less specific for use in chronically ill populations such as cancer patients.

Both the HADS (Zigmond & Snaith, 1983) and the BDI (Beck et al., 1961) have been used in studies examining depression rates in cancer patients. Berard, Boermeester, and Viljoen (1998) conducted a study in which the HADS (Zigmond & Snaith, 1983) and the BDI (Beck et al., 1961) were administered to 245 cancer patients while they waited

for their appointment. Patients were then assessed with a structured psychiatric interview by mental health specialists. Both the HADS (Zigmond & Snaith, 1983) and the BDI (Beck et al., 1961) had good sensitivity and specificity (>70%). Therefore, this research demonstrates that these measurements are useful in determining which patients are at risk for depression and should receive a psychiatric interview. One drawback to using psychiatric interviews is that they require the time and experience of a mental health specialist in order to be administered to patients. They also use the patient's time, while using a self-rated questionnaire takes less time. Therefore, screening patients with a self-rating scale such as the HADS (Zigmond & Snaith, 1983) or the BDI (Beck et al., 1961) may be more feasible, as it requires less time and staff resources.

One approach that increases the specificity of an assessment is to have a two-step screening process. Sharpe et al. (2004) describe a screening program in which cancer patients at a hospital cancer centre were screened with the HADS (Zigmond & Snaith, 1983). Those scoring above a cut-off of 15 were interviewed using DSM-IV criteria (American Psychiatric Association, 1994) over the telephone. In total, 23% of the 3938 patients who completed the HADS (Zigmond & Snaith, 1983) scored above the cut-off score. All of the high scorers were then administered the telephone interview. Of those interviewed, 34% were diagnosed with major depressive disorder. This two-step process helped increase the specificity of the screen, because only those with high scores were interviewed. Implementing the two-step process is useful when time and resources are limited, because it identifies those at greater risk of being depressed and allows them to be diagnosed with a psychiatric interview that has greater sensitivity and specificity. It also avoids the burden of administering a psychiatric interview to all patients. Dugan et

al. (1998) also evaluated a two-step process in diagnosing cancer patients with depression. They administered the Zung Self-Rating Depression Scale (Zung, 1965) to patients. Like the BDI (Beck et al., 1961), it was developed to screen for depression in healthy populations. Both of these questionnaires include questions that assess physical symptoms of depression, which overlap with the physical symptoms of cancer and its treatment. Dugan et al. overcame the problem of including these physical symptoms by administering a brief version of the scale, which did not include the physical symptoms, to a group of cancer patients, using the exclusive approach (Bukberg et al., 1984). They found that the brief version of the scale was as reliable as the full version (both had an alpha coefficient of 0.84), and produced a similar prevalence of depression. In total, 35.9% of participants were classified as depressed using the full length version, and 31.1% were classified as depressed using the brief version. Because of this similarity, Dugan et al. recommend using the brief version.

Thus, one factor influencing depression rates is whether a questionnaire or a clinician's diagnosis was used. When resources are limited, a self-rating questionnaire may be appropriate. Screening for depression is typically a first step in determining if a patient is depressed, and these measures are useful at identifying patients at risk for depression who should undergo further screening, such as a diagnostic interview, in order to determine if a diagnosis of depression is warranted. Typically, a mental health specialist, such as a psychiatrist or psychologist, would conduct the diagnostic interview. However, Passik et al. (2002) describe a trial program in which oncologists were trained to administer a psychiatric interview to cancer patients if a patient, using a self-rating questionnaire, was identified as being at risk of being depressed. In centres in which

oncologists lack the time to administer psychiatric interviews, patients may be referred to mental health specialists.

An additional factor that makes it difficult to determine the rate of depressive disorder in cancer patients in studies using a clinical assessment is that clinicians may have difficulty differentiating between normal sadness following a cancer diagnosis and clinically significant depression (Thekkumpurath, Venkateswaran, Kumar, & Bennett, 2008). Block (2000) also describes the difficulty that clinicians may have in differentiating a normal reaction to terminal illness, from clinically significant depression. Clinicians, according to Block, may lack the clinical knowledge and skills to identify psychiatric illnesses such as depression. Patients and physicians may be reluctant to consider psychiatric causes of distress because of the stigma associated with such diagnoses. Finally, Block states that clinicians may feel that they lack the time to explore psychiatric issues. Educating clinicians could help overcome these barriers, by teaching clinicians how to identify symptoms, increase their clinical skills, and decrease stigma. In addition, Block suggests screening can be improved by teaching clinicians that if a patient displays depressive symptoms, they should enquire further to determine if the symptoms are due to the illness or to an underlying depression. In such situations, using a self-rating questionnaire can help, because it places less emphasis on a clinician's skill in distinguishing a normal reaction to illness from a psychiatric diagnosis, and can help reduce stigma by normalizing the experience for patients. Therefore, the depression criteria used to identify a patient as depressed, influences depression rates.

Another factor that emerges from the research to date is the length of time over which patients were followed. Those studies which had a longer follow-up time found

higher rates of depression, while those with shorter times found lower rates. For example, Loberiza et al. (2002) found a higher rate of depression (35%) in leukemia patients compared to Prieto et al. 2005 (17.5%). There are many differences between these studies, however, one difference is that Loberiza et al. assessed for depression over six months following treatment, while Prieto et al., assessed for depression in the seven days following treatment. This indicates that length of time over which patients were identified as being depressed should be considered. .

Studies reported in this thesis have largely failed to consider the effect of gender on depression rates in cancer patients. None of the studies discussed here examined gender differences in their cancer patients despite that fact that, in the general population, women have a much higher prevalence of depression than men in the years following puberty (Grigoriadis & Robinson, 2007; Kuehner, 2003; Scheibe, Preuschof, Cristi, & Bagby, 2003). Kuehner (2003) conducted a systematic review of epidemiological papers published between 1993-2002, and offers several hypotheses for this difference in prevalence for men and women in the general population. These reasons include differences in reporting symptoms, genetics, hormones, personality traits, neuropsychological factors, and gender roles and psychosocial factors. Kuehner`s review found that the gender gap did not narrow when samples were younger, which he suggests may mean that this gender difference may be more biological than cultural in origin. Scheibe et al. (2003) conducted a study to examine the depressive characteristics of 139 men and 246 women receiving antidepressants for depression in an outpatient setting. In support of Kuehner's proposed biological basis for gender differences in depression

rates, Scheibe et al. report that women tend to have more physical depressive symptoms, more severe symptoms, and an earlier age of onset.

One review of studies that have examined the effects of gender on rates of depressive disorders in stroke patients, and two reviews of the effects of gender on rates of depressive disorders in cancer patients, do not clarify the issue of gender (Massie, 2004; Miaskowski, 2004; Poynter et al., 2009) . A systematic review of studies published between 1966 and 2006 located 56 original studies examining depression in patients who had a stroke (Poynter et al., 2009). Poynter et al. (2009) found that women were more likely to be depressed, compared to men. However, a narrative review of depression in cancer patients by Massie (2004) found mixed results with respect to gender, with some studies reporting that male patients were more likely to be depressed, while others found that female patients were more likely to be diagnosed with depression. Similarly, Miaskowski (2004) also reported mixed gender differences in her review of seven studies of depression and cancer published from 1994 to 2001. Of the five studies reviewed by Miaskowski that evaluated gender differences, three found no gender differences, and two found that female cancer patients had higher rates of depression. Studies examining depression rates in cancer patients should consider the role of gender, because gender may influence depression rates. However, there is not sufficient evidence as to whether gender differences are biological in origin, or whether it is caused by diagnostic factors such as women being more open and talkative about their depressive symptoms. More research is clearly needed. One type of study to test whether these differences have a biological or diagnostic basis would be to study men with prostate cancer receiving

androgen deprivation therapy. If their levels of depression are similar to female cancer patients, this would lend support to a biological basis for depression rates.

Age may also impact the rates of depression found in cancer patients. In the general population, the elderly (those aged 65 years and older) are more likely to have a diagnosis of depression (Beyer, 2007). A study of depression in lung cancer patients found that older patients were more likely to be depressed (Buccheri, 1998). Therefore, it is important to consider age factors when investigating depression in cancer patients. There is little evidence to determine if age affects depression rates in cancer patients.

Many factors influence the rates of depression in both the general population, and more specifically, in cancer patients. One additional factor that may influence depression rates, and has yet to be explored in this section, is the type of cancer in the population being studied.

One of the highest reported rates (35%) for depression was found in a group of 193 leukemia patients surveyed six months after receiving stem cell transplantation (Loberiza et al., 2002). The self-report depression questionnaire used in this study, was specifically developed for the Loberiza et al. (2002) study. Patients were rated as depressed if they reported being bothered by depression, and had four or more diagnostic symptoms (anxiety, difficulty concentrating, feelings of isolation, fatigue, or memory loss). This definition of depression is less stringent than DSM-IV-TR criteria for major depressive disorder (American Psychiatric Association, 2000). Loberiza et al. found that six months after treatment, 35% of patients in their sample met criteria for depression. The median age of the depressed group (45 years) was not significantly different from the non-depressed group (48 years), and no data were included about the gender of the

patients. The use of a self-report method of reporting depression may account for the high rate of depression observed.

The rate reported by Chang et al. (2004) is similar to the rates reported by Loberiza et al. (2002). In Chang et al.'s study, the median age was 46 years, and the majority of participants were male (60%). In total, 32% of the leukemia patients they studied were rated as significantly depressed at 12 months following stem cell transplantation. Depression was defined as having a Beck Depression Inventory-II (Beck et al., 1996) score of 10 or greater. This inventory is a standardized self-rating depression measurement, and typically, patients are judged to have mild to moderate depression when their score ranges from 10-18. This criterion is also less stringent than DSM-IV-TR criteria (American Psychiatric Association, 2000), which may be why Chang et al. also found a relatively high prevalence of depressed patients.

Prieto et al. (2005), who did use DSM-IV criteria (American Psychiatric Association, 1994) for depressive disorders to diagnose patients, found a much lower prevalence of depression than either Loberiza et al. (2002) or Chang et al. (2004). Prieto et al. (2005) studied depression rates in a group of leukemia patients undergoing hematopoietic stem-cell transplantation. At the time of hospitalization for transplantation, 9.0% of patients met criteria for major depressive disorder, and an additional 8.5% met criteria for minor depressive disorder, for a total of 17.5%.

Because the type of cancer was the same in these three studies, it is possible that other factors, such as length of time over which patients were followed, are responsible for this difference in rates. However, the rate given by Prieto et al. (2005) is still higher than the prevalence of depression in the general population, which is 4.8% (Public Health

Agency of Canada, 2002) but lower than the highest rate (58%) reported by Massie (2004).

All three of these studies examined depression in populations of leukemia patients. Lung cancer patients also have rates of depression similar to the findings by Loberiza et al. (2002) and Chang et al. (2004). Buccheri (1998) studied depression in lung cancer patients by administering the Zung (1965) Self-rating Depression Scale to 113 recently hospitalized patients. In total, 42 patients (37%) met criteria for mild to severe depression. Thus, because the rates for some studies of leukemia patients and lung cancer patients were similar, other factors may be influencing depression rates. However, before making any conclusions about cancer type, it would be useful to explore depression rates in other types of cancer.

Pancreatic cancer patients have also been found to experience depression. Sheibani-Rad and Velanovich (2006) found that 54 out of 258 pancreatic cancer patients (approximately 20%) had received a diagnosis of depression at the same time as receiving their cancer diagnosis. Patients' medical charts were reviewed, and patients were rated as depressed if their depression was diagnosed by a psychiatrist, a behavioural health care provider, or a primary care physician at the time of their diagnosis of pancreatic cancer. This rate is similar to Prieto et al.'s (2005) reported rate of 17.5%. This highlights the fact that the method of diagnosing depression may be a very important factor in influencing rates of depression, because the rates found in studies using clinicians' diagnoses were lower than those studies using self-report measures. This finding may be due to clinicians using DSM-IV-TR criteria (American Psychiatric

Association, 2000). This supports the importance of the role of diagnosis in influencing depressive rates, with a clinician's diagnosis being more stringent.

In summary, rates of depression in research studies range considerably, which may be due to several factors, including the time period during which a patient's depression is evaluated, the method used to assess the depressive symptoms and the ability of clinicians to distinguish depressive symptoms from expected sadness following a diagnosis of cancer. However, the factor that appears to cause rates to vary the most is the depression criteria used. Studies that used more stringent criteria, usually with a clinician's diagnosis based on DSM-IV-TR (American Psychiatric Association, 2000) criteria, had lower rates compared to studies using self-rating questionnaires. It is important to note that, while useful for identifying patients at risk of being depressed, a further diagnostic interview is required to definitively diagnose a patient with depression. This is because questionnaires are used to screen patients for depression, and to identify patients at risk of being depressed who do not meet criteria for a depressive disorder, once interviewed. In clinical situations, a two-step process such as is described by Sharpe et al. (2004), is useful, because only those at greater risk of meeting depressive criteria are interviewed.

The Consequences of Depression in Cancer Patients

It is important to diagnose and treat depression in cancer patients, especially major depressive disorder, because individuals with major depressive disorder have a higher mortality rate, compared to those who have never been depressed, as shown in a large study by Reynolds, Haley, and Kozlenko (2008) examining life expectancy. In 1993, they enrolled 7,381 individuals aged 70 and older in the "Asset and Health

Dynamics Among the Oldest Old" study in Michigan, USA. The participants were contacted again in 1995-1996 and 1998. Life expectancy was defined by the authors as the total number of years that a person could expect to live. Life expectancies were calculated by combining individuals with four different chronic diseases: cancer, diabetes, heart disease, and stroke, and did not examine life expectancies in different diseases separately. Patients were rated as depressed if their score on the short version of the Centre for Epidemiological Studies Depression Scale (Soldo et al., 1997) was above the cut-off. Reynolds et al. report that depression has the effect of decreasing life expectancy in both men and women older than 70 by 1.6 to 3.5 years, depending on the age and gender of the population being studied. Because this study included individuals with different illnesses, caution should be applied when examining these results, as the different diseases have different prognoses and severities. In addition, in this older age group, depression carries stigma (Reynolds et al., 2008), thus participants may have underreported their depressive symptoms when completing the self-rating questionnaire for fear of being stigmatized. In addition, Reynolds et al. (2008) did not report excluding those with intellectual or physical disabilities, and if they were included, these individuals may have had difficulty in completing the depression questionnaire. Thus, the effects of depression could be greater than the results of this particular study indicated.

A prospective study by Onitilo et al. (2006) examined 10,025 individuals aged 1-74 years who were enrolled in the National Health and Nutrition Examination Survey. Individuals were grouped based on their cancer and depression status in 1982: no cancer and no depression, depression but no cancer, cancer but no depression, and depression and cancer. Individuals were considered to be depressed if their score on the Center for

Epidemiologic Studies Depression Scale was 16 or greater, the recommended cut-off for this scale (Radloff, 1977). These individuals were then followed for the next eight years. Hazard ratios for all-cause mortality were calculated, which indicate the increased mortality risk that individuals with certain risk factors may have. The first hazard ratio only took into account age and gender of the individuals, but the second multivariate model, in addition to accounting for age and gender, included confounding factors such as ethnicity, education, marital status, income, physical activity, body mass index, aspirin use, and comorbid conditions (cancer, hypertension, heart disease, and stroke). Onitilo et al. found that (1) having a diagnosis of depression and cancer increased the risk of death by 19% compared to those with only cancer; (2) having a diagnosis of depression and cancer increased the risk of death by 24% compared to those with only depression; (3) having a diagnosis of depression and cancer increased the risk of death by 70% compared to those with no diagnosis. Onitilo et al. also reported that older individuals, and those with a history of hypertension, heart disease, and stroke at baseline were more likely to have both depression and cancer. However, because Onitilo et al.'s corrected model accounted for these factors, the increased risk of death for those with cancer and depression is robust, meaning that because the corrected model accounted for hypertension, heart disease, and stroke at baseline, the increased risk of death from depression is valid.

Depression also decreases survival time in specific populations of cancer patients, including those with brain tumors, breast cancer, liver cancer, lung cancer, and leukemia (Buccheri, 1998; Hjerl et al., 2003; Litofsky et al., 2004; Loberiza et al., 2002; Mainio et al., 2006; Steel, Geller, Gamblin, Olek, & Carr, 2007; Watson, Haviland, Greer,

Davidson, & Bliss, 1999). These studies demonstrate that depressed patients are both less hopeful about their prognosis and do not survive as long, compared to cancer patients who are not depressed.

The exact causal mechanism in which depression reduces mortality is unclear. However, Litofsky et al. (2004) suggested that patients receiving less aggressive treatment may become pessimistic about their prognosis, and this pessimism might lead to depressive symptoms. Another possibility is that individuals with more co-morbid diagnoses have poorer quality of life, and as a consequence, do not choose as aggressive a treatment for their illness. Contradicting this, is the study by Levin, Li, Riskijng, and Rai (2007), which found that leukemia patients receiving chemotherapy had worse emotional functioning, as measured by the Short Form-36 (SF-36, Ware & Gandek, 1994), a quality of life questionnaire, compared to patients not receiving treatment. However, depressive scores on the BDI-II (Beck et al., 1996) were not significantly different. This could be because the SF-36 measures emotional function more broadly than the BDI-II, which focuses on depression. In addition, the emotional functioning scale of the SF-36 (Ware & Gandek, 1994) could be capturing some of the elements of "chemobrain" (Taillibert et al., 2007) that affects cancer patients receiving chemotherapy.

Depression also reduces cancer patients' quality of life. Kroenke et al. (2010) studied 405 participants in the Indiana Cancer Pain and Depression Study. Cancer patients completed a two-item depression scale and the SF-36 (Ware & Gandek, 1994). They found that depression significantly lowered overall quality of life in cancer patients. In addition, a study of 265 prostate cancer inpatients by Zenger et al. (2010) found that men scoring 15 or higher on the HADS (Zigmond & Snaith, 1983) reported significantly

lower levels of functioning on the European Organisation for Research and Treatment of Cancer Quality of Life Questionnaire-Core 30 (EORTC QLQ-C30) (Aaronson et al., 1993), and also experienced worse global quality of life. Bang et al. (2005) also used the HADS (Zigmond & Snaith, 1983) and the EORTC QLQ-C30 (Aaronson et al. 1993) in their study of 98 palliative care patients with solid tumors. They found a significant relationship between lower quality of life scores and higher depression scores. Frick, Tyroller, and Panzer (2007) also used the HADS (Zigmond & Snaith, 1983) and the EORTC QLQ-C30 (Aaronson et al., 1993) to measure depression and quality of life in 93 cancer patients undergoing radiation therapy, and found that there was an association between higher HADS scores and impaired quality of life. Finally, Lue, Huang, and Chen (2008) used the Beck Depression Inventory II (Beck et al., 1996) and the EORTC QLQ-C30 (Aaronson et al. , 1993) to examine depression and quality of life in 43 patients with nasopharyngeal cancer. They found that depression was negatively correlated with functional domains of the EORTC QLQ-C30 and global quality of life, indicating that those with more severe depressive symptoms had fewer functional abilities and worse global quality of life. Therefore, there is sufficient evidence to demonstrate that depressed cancer patients have a corresponding decrease in quality of life. Many of the symptoms of depression, such as anhedonia, would impair patients' abilities to fully enjoy their life. In addition, as described earlier, depression may indirectly, as well as directly, reduce mortality by decreasing quality of life, which could cause cancer patients to pursue less aggressive treatment for their disease.

This research suggests that across different chronic illnesses, including cancer, those who are depressed have a greater risk of mortality (Reynolds et al., 2008), and that

cancer patients in particular who are diagnosed with depression have a greater risk of mortality (Onitilo et al., 2006). Depressed cancer patients also do not survive as long, compared to those with cancer who are not depressed (Buccheri, 1998; Hjerl et al., 2003; Litofsky et al., 2004; Loberiza et al., 2002; Mainio et al., 2006; Steel et al., 2007; Watson et al., 1999). Research has also demonstrated that depressed cancer patients have reduced quality of life (Bang et al., 2005; Frick et al., 2007; Kroenke et al., 2010; Lue et al., 2008; Zenger et al., 2010). Therefore, it is important to recognize and treat depression in cancer patients in order to reduce their mortality and morbidity, including quality of life.

Treatment of Depression

There are two standard and effective treatments for major depressive disorder: pharmacotherapy with antidepressants and psychostimulants, and psychotherapeutic interventions. Kim and Fisch (2006) conducted a narrative review of antidepressant use in ambulatory cancer patients. They report that antidepressants are frequently prescribed to cancer patients for treatment of hot flashes, neuropathic pain, anorexia/cachexia, and fatigue. While there is limited evidence supporting the effectiveness of antidepressants in treating these other symptoms, they do feel there is enough evidence to support the use of antidepressants in treating depressive symptoms in cancer patients. They recommend that antidepressants be given to cancer patients with depressive symptoms, because this will increase both survival and quality of life. Williams and Dale (2006) conducted a systematic review investigating the effects of pharmacological treatment of depression in patients with varied types of cancer. Their review included six studies from 1960-2005. The average age of the patients in the studies was between 50 and 61 years, and 50% to 100% of the samples were female. They conclude that depression can be treated with

antidepressants in this population. Shimizu et al. (2007) studied 20 cancer patients who survived less than three months following a depression diagnosis. No demographic data about the patients, such as age, gender, or type of cancer, were included. Shimizu et al. found that administration of antidepressants was successful in reducing major depressive disorder symptoms in 54.5% of cancer patients who survived longer than six weeks, with 35% showing much improvement in depressive symptoms, according to a retrospective rating scale of depression symptoms. Finally, Block (2000) conducted a systematic review of the management of depression in cancer patients. She suggested that in patients with poor prognoses, psychostimulants may be useful in treating depressive symptoms. This is because psychostimulants take less time to alleviate depressive symptoms, compared to antidepressants. Thus, they may be a better treatment option.

Several reviews suggest that psychotherapy may also be effective in treating depression in cancer patients. Jacobsen and Jim (2008) reviewed 14 studies examining the effect of psychotherapy in alleviating cancer patients' depression. These authors report that 13 of the 14 studies included in the review found that psychotherapy alleviated depressive symptoms in cancer patients. The age and gender of the patients, and the type of cancer, were not reported in this review. Barsevick, Sweeney, Haney, and Chung (2002) also conducted a qualitative systematic review of 56 articles published between 1980 and 2000 which examined the effectiveness of psychoeducational interventions in relieving depressive symptoms in cancer patients. The types of psychoeducational interventions included in the study were counseling or psychotherapy, behaviour therapy, informational support, and social support. The most common type of cancer that patients had in these studies was breast cancer, followed by mixed types of cancer within studies.

Barsevick et al. report that these interventions were successful in reducing depression in cancer patients, with the meta-analyses included in this review demonstrating significant effect sizes.

Psychotherapy can also be used to treat depression in patients with advanced cancer. A Cochrane Review by Akechi, Okuyama, Onishi, Morita, and Furukawa (2008) investigated the effects of psychotherapy on depression in incurable cancer patients. The types of psychotherapy investigated included behavioural therapy, such as relaxation training, and cognitive-behavioural therapy. All randomized control trials of psychotherapeutic interventions in incurable cancer patients up until September 2005 were included, resulting in 10 studies being reviewed. Psychotherapy was found to be useful in treating depressive symptoms in these patients despite the advanced stage of their cancer. Therefore, Akechi et al. recommend that clinicians use psychotherapy to treat depressive symptoms in advanced cancer patients. However, it is important to note that these reviews and meta-analyses included different types of psychotherapy. This study did not determine whether certain types of psychotherapy were more beneficial than others.

Depression treatment can be delivered by oncology clinicians or mental health professionals, depending on the severity and type of treatment required. In some cases, oncologists can treat depression in cancer patients themselves, without consulting psychiatrists or psychologists (Hoffman & Weiner, 2007). Both nurses and physicians can also provide support to patients using active listening techniques to encourage patients to describe emotional difficulties (Barsevick et al. 2002).

In complex cases, or when patients fail to respond to medication, they may need to be referred to a psychiatrist or psychologist for treatment (Ballenger et al., 2001; Greenberg, 2004; Van Fleet, 2006). Unfortunately, it appears few patients are referred for treatment of depression. Verdonck-de Leeuw et al. (2009) studied distress and rate of referral for distress in a group of 55 head and neck cancer patients. In total, 69% of the sample was male, and the mean age was 63. They found that only 21% of head and neck cancer patients with significant distress were referred for psychosocial care. However, this study took place at a hospital in the Netherlands, without description of the types of treatment for distress offered. Accordingly, it would be difficult to compare to the Canadian context where the type of psychosocial support offered could differ. The reason that so few highly distressed patients were referred could be that physicians have difficulty identifying severely distressed patients (Passik et al., 1998; Sollner et al., 2001). Another possibility is that there are not clear guidelines in place to determine when a patient should be referred. Sollner et al (2001), also studied whether there was agreement between a systematic method for referring patients to psychosocial counseling and oncologists' actual referral. These criteria called for patients to be referred when they have high levels of distress, lack social support, have financial difficulties, or desire such support. Sollner et al. (2001) found low agreement between the referral criteria and oncologists' actual referral behaviour. Therefore, even if guidelines for making referrals are in place, oncologists' ability to recognize distress needs to be addressed, in order for all distressed patients to be referred to psychological help.

A study by Sharpe et al. (2004) examined depression treatment practices in a group of 150 cancer patients identified as having major depressive disorder. Of these patients,

only 23 were judged by their oncologist to be receiving appropriate treatment for depression, and only 11 had been referred to specialist mental health services. This demonstrates that depressed cancer patients may not be receiving the care that they require, and further supports the possibility that patients with severe distress or depression may not be recognized by their oncologists.

In summary, both psychotherapy and pharmacological therapy appear to be effective in treating depression in cancer patients. This treatment can be provided by oncology clinicians, or patients may be referred to mental health specialists. While oncologists, and to a lesser extent nurses, can provide treatment for depressive symptoms, it is frequently beneficial for the patient to be transferred to a mental health specialist. There is little research investigating how frequently depressed cancer patients are treated or referred for treatment of their depressive symptoms. However, research has shown that there are many factors that influence aspects of referral practices.

Influences on Making Referrals

Once depression is detected, clinicians must decide if they will treat it themselves or refer patients for psychological or pharmacological treatment. Clinicians' opinions about referrals for psychosocial services influence whether the referrals actually take place. For example, Pray (1991) conducted a study of 30 physicians at a multi-service, tertiary care university hospital. Physicians were interviewed about their opinions about referrals and their referral practices to the hospital's social work department for hospitalized patients. Pray found that physicians often misperceived social workers as primarily involved with the discharge planning process, and were less likely to refer patients with other psychological problems such as depression. In addition, she found

that, for depressed patients, physicians preferred to refer patients to psychiatrists. This could be because physicians do not realize the role social workers play in helping patients with psychosocial problems, or it could be because physicians are more familiar with the services that psychiatrists provide. Unfortunately, one of the limitations of Pray`s study is that she did not explore the reasons physicians make or do not make referrals to other services.

Physicians' opinions about their colleagues also affect whether referral is made to them. Javalgi, Joseph, Gombeski, and Lester (1993) conducted a mail-out survey to investigate referral practices of primary and specialty physicians in the Midwestern United States in referring patients to other physicians. Their goals were: to identify decision criteria that physicians deem important in referring a patient to another physician; to segment (group) referring physicians on the basis of their referral orientation (decision criteria); and to examine the relationship between referral orientation segments and physicians' demographic and attitudinal characteristics (including specialty, type of practice, and physician age). In total, 1,086 physicians responded out of a total mailing list of 1,530 (response rate of 71%). Of the physicians who responded to this questionnaire, several factors influenced referral behaviour, including: type of illness; medical skill of the physician to whom the patient is referred (as judged by the respondent); previous positive experience with the physician being referred to; availability of the physician to whom the patient is being referred for consultation; patient preference; and how frequently the patient could be seen by the consulting physician. The factors that were most important to the physician making the referral were: skill of the physician referred to, patient preference, access, and cost to the

patient. Referral orientation of physicians was not significantly related to demographic characteristics; however loyalty to their hospital and physician bonding were significantly related to orientation segments, with participants who rated skills and patient preference more highly also rating loyalty to their hospital and physician bonding more highly. One caution in considering this study is that the majority of respondents worked outside the hospital setting, so these results may not be applicable to physicians practicing at a large tertiary care hospital, which would have different resources in place. Also, this research took place in a private hospital setting, so factors relating to access and cost may not be as applicable in a public healthcare setting, such as in Canada.

Physicians' opinions and practices surrounding referral to self-help groups have also been studied. Gray et al. (1998) investigated family physicians' awareness, opinions, and referral practices for self-help groups and cancer-specific self-help groups. In total, 911 of 1,500 questionnaires (60.7% response rate) were completed and returned. The majority of respondents were male (59%) and the majority had an urban practice (51%). The vast majority of respondents (92.7%) were aware of at least one support group in their area, and many physicians report having recommended specific support groups to their patients. Most physicians also thought self-help groups were helpful. Physicians reported that their patients who took part in cancer-specific self-help groups perceived several aspects as beneficial, including being able to share common experiences, overcome isolation, feel understood, and share information. However, despite awareness of and positive opinions of self-help groups, only 12% of physicians reported frequently telling patients about self-help groups as part of routine visits, even though the majority of participants were aware of the self-help groups available. This finding was unexpected,

and the authors were unsure why the percentage of physicians referring patients to self-help groups was so small. One possibility is that gender influenced the results, because female physicians, who were a minority of the sample, were more likely to refer patients to self-help groups than male physicians (15% vs. 11%). It is also important to note that the majority of respondents (76%) were family physicians. Thus, these results may not be applicable to specialists, as they have different connections with the community. This is because the catchment area for family physicians is much smaller than those for specialists working at a tertiary care hospital, thus family physicians may be more knowledgeable about community-based support groups, compared to specialists at a larger hospital, because family physicians likely have more connections to the community.

Thus, many factors influence referral to other clinicians. However, it is important to note that oncologists and nurses also play a role in the identification and management of depression in cancer patients.

Roles of Oncologists and Nurses in Identifying and Managing Depressed Patients

The different roles of oncologists and nurses in recognizing and treating depression in cancer patients are reflected both in actual practice and in the published research. Oncologists ask patients about multiple symptoms that may be bothering them, but rarely ask about depressive symptoms (Hoffman & Weiner, 2007). The authors suggest that this is because oncologists' focus is frequently to recognize symptoms so that the appropriate treatment can be given. However, clinicians should ask patients about depressive symptoms such as mood in addition to asking about physical symptoms. Because of this

need, oncologists may benefit from implementing a depression screening protocol such as Hoffman and Weiner (2007) suggest.

Having a routine depression screening protocol in place is important because oncologists may have difficulty in correctly identifying cancer patients with clinically significant depression or distress. Passik et al. (1998) administered the Zung Self-Rating Scale (Zung, 1965) to 1109 cancer patients, and had their oncologists rate their depression and anxiety using a numerical scale. Analyses revealed very little concordance between oncologists' ratings and the Zung. Of the 159 patients with moderate to severe depressive symptoms, only 20 were classified by physicians as having moderate to severe depression. It is important to note that Passik et al. reported a large individual variation in oncologists' accuracy at rating depression, with the most accurate oncologists correctly classifying patients 78% of the time. Passik et al. did not directly address the reasons for the wide variation, however one possibility that Passik et al. mention, but do not explore in this study, are differences in communication style. That is, some clinicians may have a more effective, open communication style that helps patients to disclose emotional symptoms. Another potential factor is workload. Some physicians may have a heavier patient load, or may treat more advanced patients or patients with complex treatment regimens, which may allow for less time to discuss emotional symptoms.

A study by Sollner et al. (2001) also examined oncologists' ability to detect depressive symptoms in cancer patients, by administering the HADS to 254 cancer patients, and also having their radiation oncologists rate their distress. Oncologists correctly identified 69 of 89 cases of moderate to severe distress, however oncologists were less accurate at identifying severely distressed patients. This could be because more

severely distressed patients could be less communicative about their symptoms, believing that there is no benefit to telling their oncologist about their symptoms. Oncologists also were less likely to correctly identify distress in head and neck cancer patients, and lung cancer patients, compared to other types of cancer. Sollner et al. reported that, when questioned about this finding, participants volunteered that head and neck patients might have physical problems communicating, thus reducing the opportunity for patients to discuss their distress.

Nurses, however, generally do not ask about specific symptoms. Rather, they ask about more global symptoms indicating the patient's overall well-being. Thus, the focus for nurses is not so much on recognition and diagnosis, but evaluating the patient's well-being by methods such as the active listening techniques described by Barsevick et al. (2002). If , during a conversation with a patient about the patient's overall well-being, a nurse suspects that a patient is depressed, he or she will often refer the patient to the oncologist for further questioning, referral, and treatment.

It is also important to consider the length of time that the clinician has been practicing his or her profession, and practicing at his or her centre. This is because oncology teams are increasingly interdisciplinary (Batist & Shinder, 2008), and the practice of collaborating together may be a stronger influence on behaviour than the clinicians' professional training. Unfortunately, there is a paucity of research investigating these influences on depression screening.

In summary, oncologists and nurses view the recognition and management of depression differently, however because of the interdisciplinary nature of oncology care, and the practice of collaborating together, there may be some similarities in identifying

depressed patients. In addition, oncologists may have difficulty in recognizing depressed patients. Thus, routine screening protocols may be useful.

Depression Screening Protocols

Depression can be successfully treated in cancer patients, and oncology clinicians can initiate treatment or refer patients to other clinicians for treatment. However, before treatment can occur the depression must be recognized and diagnosed. Increasingly, as evidence of the problem of depression in cancer patients has grown, health organizations have acknowledged the need to screen patients for depression. For example, the Canadian Partnership Against Cancer (n.d.) is working towards having distress screening and management incorporated into routine cancer care. Distress screening includes screening patients for depression, in addition to screening for social, practical, emotional, and spiritual issues. Other organizations have also recommended that routine depression screening occur in all cancer patients. In 2001, the European Association of Palliative Care (EAPC) led by Stiefel, Die Trill, Berney, Olarte, and Razavi (2001) called for proactive depression screening of cancer patients using a simple diagnostic tool such as the HADS (Zigmond & Snaith, 1983). The EAPC notes that while screening instruments are not diagnostic instruments, they can alert a clinician to conduct a more comprehensive interview to determine if the patient is depressed. In addition, Stiefel et al. explain that routine screening can overcome problems with under-detected depression, including the difficulty of talking about emotional symptoms, and the belief that depression is inevitable among palliative patients.

In 2003 the US National Institutes of Health State-of-the-Science panel also recommended that all cancer patients be screened for depression (Patrick et al., 2003).

Patrick et al. (2003) state that there are impediments to screening cancer patients for depression. They include not only failure to recognize depression, but also inadequate resources or skills to treat depression and the fact that patients may be reluctant to report depressive symptoms because of the stigma associated with a psychiatric illness. Patrick et al. suggested that brief assessment tools should be used to routinely ask patients about depressive symptoms, because this would aid in recognition of depression. Therefore, implementing a routine screening protocol is important, because this can help prevent the problems associated with depression in cancer patients, including reduced mortality (Onitilo et al., 2006) and reduced quality of life (Kroenke et al., 2010). Screening protocols are important. However, if no resources or protocols exist to manage depression in patients identified as being at risk of being depressed, then there is little benefit in screening patients. In addition, despite the demonstrated benefits to detecting depression so that treatment can be initiated, there are barriers to implementing a routine depression screening protocol.

A potential barrier to the detection of depression is that clinicians may not have enough time to screen, especially if a standardized, multi-question screening tool is used, because this tool may be lengthy and time-consuming. A time-efficient solution is for clinicians to use a short, one to two question screening measure to identify patients at risk of being depressed. Hoffman and Weiner (2007, p. 2855) recommend oncologists screen for depression in cancer patients by asking the patient two simple questions: (1) “Have you been feeling down, depressed, or hopeless in the last month?” and (2) “Have you been bothered by little interest or pleasure in doing things?” These questions can serve to identify at-risk patients within the time limitations of a typical medical visit. Hoffman

and Weiner state it is important for clinicians to ask patients these questions because patients may lack insight into their depression, and thus may not bring up problems with depression during a routine visit. Thus, using routine questions can help to introduce this topic.

An even shorter screening, asking patients the simple question "Are you depressed?" has also been suggested (Skoogh et al., 2010). This question was asked of 1192 Swedish men diagnosed with testicular cancer. While only four of the 794 patients answering "no" to this question were depressed according to the HADS (Zigmond & Snaith, 1983), 34% (20 of 59) of patients answering "yes" had depression according to this scale. The remaining patients who answered "yes" were not depressed, indicating a high false positive rate. However, asking this question eliminated the need to screen all patients with the HADS, and thus saved clinical time. Those who answered "yes" to the question were at higher risk of being depressed and thus required more thorough screening with the HADS.

Mitchell (2008) conducted a meta-analysis to determine the value of asking cancer patients a one or two item screen. Studies published up to January 2008 were included. In total, nine studies reviewed in the meta-analysis investigated a single-item screen (about mood or depression), and five studies examined a two-question item screen (about mood/depression and low interest). Mitchell found that two-item screens had a sensitivity of 91% and a specificity of 86%. A single-item depression screen had a sensitivity of 72% and a specificity of 83%. This indicates that a two-item screen correctly identified 91% of those who were depressed and 86% of those who were not depressed, while a single-item screen correctly identified 72% of those who were

depressed and 83% of those who were not depressed. Thus, using a two-item screen was more effective at detection, as it identified 20% more patients with depression, but asking one question about mood or depression also appears useful when clinicians lack the time for a two-question screen.

In summary, published studies suggest that both oncologists and nurses play a role in this screening for depression in patient. However, this screening is more likely to occur if there is a clinic-wide policy or protocol for routine screening, rather than leaving the responsibility for screening to individual clinicians (Stiefel et al., 2001).

Implementing Depression Screening

Clinicians may implement certain practices, such as depression screening, when the behaviour is required as part of centre policy. One oncology centre that has implemented depression screening for all patients is the Cancer Centre in Thunder Bay, Ontario, Canada (Sellick & Edwardson, 2007). The centre implemented a policy in 2000 requiring newly diagnosed cancer outpatients to complete a shortened version of the HADS (Zigmond & Snaith, 1983) in order to recognize patients who were at risk of having significant distress (Sellick & Edwardson, 2007). Patients at risk of being distressed were then referred to the Supportive Care team for individual counseling. Approximately 25% of the 4281 patients screened between October 2000 and March 2005 had HADS scores indicating that they were at risk of having clinically significant distress. They were telephoned and offered the opportunity to receive help from the Supportive Care team. Sellick and Edwardson (2007) report that neither clinicians nor patients complained about completing the HADS, and the psychosocial counselors found the HADS to be useful in identifying patients with high levels of distress. Unfortunately,

Sellick and Edwardson did not report on the frequency with which patients accepted help, nor did they follow the outcomes of patients who received treatment from the Supportive Care team. This study also highlights the need for resources to manage depression in at-risk patients at a centre with a screening protocol, because if at-risk patients are identified, they should be offered treatment.

Another example of depression screening at a cancer centre is the protocol at the Seattle Cancer Care Alliance. Fann et al. (2009) evaluated the feasibility of using a computerized depression screening questionnaire for cancer patients, as part of a plan to implement routine depression screening at that centre. Patients agreeing to participate were initially screened using two questions at two time points: prior to initiating treatment, and at six to seven weeks follow-up. The two screening questions were (1) whether patients still enjoyed previously enjoyable things, and (2) whether patients had depressed mood. Patients who answered "yes" to at least one of the two questions then completed the electronic version of the nine-item Patient Health Questionnaire (PHQ-9) (Spitzer et al., 1999). Of all the 342 patients undergoing the initial screen, 33 (9.6%) patients were screened using the full PHQ-9 at time one and 69 (20.2%) patients were screened at time two. Of the 33 patients who completed the full PHQ-9 at time one, 30% were identified at being risk for being depressed, and of the 69 patients completing the full PHQ-9 at time two, 38% were identified at being risk for being depressed. This study demonstrates that it is feasible to administer the PHQ-9 prior to initiating treatment, and again at a follow-up time six to seven weeks following initiating treatment. Most importantly, both examples show it can be feasible to implement screening for depression

as part of routine cancer care. In both studies, policies were developed to guide clinicians' behaviour and detect patients' depressed mood.

These two studies demonstrate that all clinicians may be accepting of depression screening when it is dictated by a centre-wide policy, and there are resources in place to treat those identified being at risk for being depressed. Therefore, screening is likely to occur when there is a screening protocol in place, as Sellick and Edwardson (2007) found that clinicians did not raise any concerns about the screening protocol implemented at their centre. When no screening protocol is in place, other factors, such as clinicians' opinions about depression and depression screening, may influence whether screening occurs.

Clinician's Opinions and Screening Behaviour

One early, prevalent opinion identified by Massie (2004) was that oncologists viewed depression as a normal consequence of cancer. Thus, they viewed depression screening as unnecessary. According to Massie, it was only once mental health professionals began working in oncology settings, and identified this opinion, that researchers and clinicians began studying depression as a separate disorder in cancer patients. Given the negative outcomes of depressed cancer patients, including reduced quality of life (Kroenke et al., 2010), the recognition of depression as a concomitant disorder in cancer patients was an important step in beginning to successfully recognize and treat this disorder.

Clinicians may be reluctant to screen their patients for depression because of their opinion that patients have negative opinions about such screening. For example, Jakobsson, Ekman, and Ahlberg (2008) conducted a series of nine focus groups to

examine how interdisciplinary teams treat symptoms in cancer patients. They report that clinicians worry about tiring their patients by asking them too many questions. These authors suggest clinicians may also rely on patients to state that they are having depressive symptoms, and may falsely think that the patient is not troubled by depression if he or she does not initiate a conversation about symptoms. Madden (2006), in her review, also states that clinicians may adopt a "don't ask, don't tell" policy, relying on patients to introduce concerns about depression. These two factors, clinician's reluctance to tire patients and a clinicians' opinion that patients should initiate the discussion, may be a barrier to detecting depressive symptoms. These opinions can be viewed in a positive light, in that clinicians are concerned about making patients uncomfortable, and having patient-centered conversations. However, in order to routinely screen patients for depression, clinicians need to overcome these beliefs and ask patients about their mood and anhedonia.

Clinicians may also feel that they do not have control over whether they screen their patients for depression. One concern that clinicians, including nurses, physicians, physical and occupational therapists, dietitians, and social workers, have is that they feel rushed when they assess symptoms, and they feel they do not have the time to get to know the patient and develop a rapport, which would make the clinician feel more comfortable enquiring about mood (Jakobsson et al., 2008). Others have also suggested nurses may lack the time to screen patients for depression (Madden, 2006; McCorkle, 2004), because discussions about emotional issues can be time consuming, and time during a typical oncology consultation is limited. Thus, all those in a position to raise the issue of depression during a routine cancer visit may feel a lack of control over the time

available to discuss symptoms and decide not to address it. Clinicians could be made to feel more control over their time by educating them about the importance of monitoring a patient's well-being, including depressive symptoms. If clinicians recognize the value in asking about depressive symptoms, then they may be more likely to think they have the time to ask about these symptoms.

Therefore, the published research demonstrates that there are opinions that clinicians may have about depression screening in cancer patients that may facilitate or impede depression screening behaviour. In situations such as these, use of a behavioural model or theory may be useful in conceptualizing screening behaviour. Theories are useful because they can help organize individuals' opinions, and help explain how an individual's opinions can lead to performing the behaviour. Many theories have been developed to explain how an individual's opinions lead to an individual's behaviour. One theory that has been used to understand behaviour is the Theory of Planned Behaviour (TPB) (Ajzen, 1991). This behavioural theory is useful because it considers many factors that may influence whether an individual performs a behaviour. These factors include an individual's attitudes about a behavior, his or her beliefs about whether other individuals think he or she should perform or not perform the behaviour, and the individual's perceived control over his or her ability to perform or not perform the behaviour. Thus, this theory considers many factors that could help explain why depression screening may or may not occur. However, despite the possible usefulness of this theory in explaining depression screening behaviour, no study could be found that applied the TPB to understanding depression screening in cancer patients in a systematic way, although it has been used to understand other types of clinicians' behaviour, including assessing

depression in stroke patients (Hart & Morris, 2008). Given its use in other areas, and the opinions about depression in cancer patients reported in the research, it is likely that this theory could be useful in understanding depression screening in cancer patients.

The Theory of Planned Behaviour and Depression Screening

Because depression screening is a behaviour, the factors that influence whether this behaviour occurs may be understood through the Theory of Planned Behaviour (TPB). TPB evolved out of the Theory of Reasoned Action proposed by Ajzen and Fishbein (1980). The Theory of Reasoned Action has been widely used to understand consumer's behaviour, such as choosing a certain product. Sheppard, Hartwick, and Warshaw (1988) conducted two meta-analyses of studies using the Theory of Reasoned Action to understand consumer's behaviour, and found that this theory was useful in predicting consumer's behaviour. These behaviours included making the decision to buy a certain product, performing a health behaviour such as getting a flu shot, and voting.

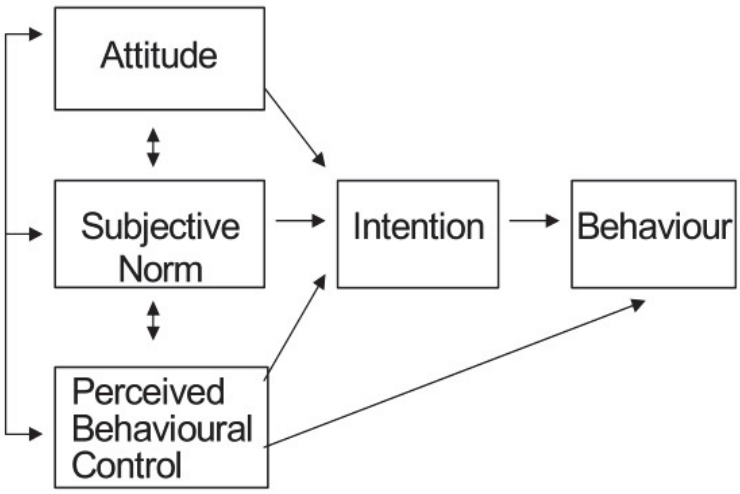

Figure 1. Ajzen's (1991) Theory of Planned Behaviour.

The Theory of Reasoned Action has two components, attitudes and subjective norms, which both contribute to intention to perform the behaviour. Ajzen (1991) defines attitude toward the behaviour as the individual's evaluation of the behaviour, which may be positive or negative. Subjective norms are defined by Ajzen as the perception of the pressure of important others to perform or not perform the behaviour. These two factors then combine to influence the individual's intention to perform the behaviour. According to Ajzen, intention is how strong the individual aims to perform a behaviour, and is a product of attitude and subjective norms. Sheppard et al. (1988) reported that based on their meta-analysis, attitudes and subjective norms predicted intention, and intention predicted behaviour in a large range of consumer's behaviours.

In this theory, the individual is considered to have full volitional control over his or her ability to perform or not perform the behaviour. That is, the individual can choose to perform the behaviour. When the behaviour is not under full volitional control, an additional construct is needed, which is perceived behavioural control. Ajzen (1991) defines perceived behavioural control as the individual's perception of how easy or difficult it is to perform the behaviour. Past experience with the behaviour, as well as impediments and obstacles, influence the individual's perceived behavioural control. Finally, Azjen considers intention to capture the motivational factors that influence a behaviour. Thus, they are indications of how hard people are willing to try and how much effort they are willing to exert in order to perform the behaviour. Finally, behaviour refers to an individual's observable response in a given situation in respect to a given target.

These three components, attitude, subjective norms, and perceived behavioural control, interact with each other to influence whether an individual intends to perform the

behaviour (see Figure 1). Ajzen (1991) states that as a general rule, the more favourable the attitude and subjective norms, and the greater the perceived behavioural control, the more likely it is that the individual will intend to perform the behaviour. Once intention is formed, intention can then influence whether the behaviour will occur (Ajzen, 1991). Ajzen (1991) explains that the stronger the intention to perform the behaviour, the more likely it is that the behaviour will occur. Perceived behavioural control, which contributed to intention, can also directly influence whether the behaviour will occur once the intention has been formed.

Ajzen (1991) further broke down the three direct components of the TPB (attitude, subjective norms, and perceived behavioural control) into six indirect antecedents. According to Ajzen, the expectancy-value model postulates that each component can be expanded to include two antecedents: the strength of the salient beliefs about behaviour, multiplied by the subjective evaluation of the behaviour. According to Ajzen, beliefs refer to an individual's opinions about the behaviour. Attitude can be broken down to include behavioural belief (belief about the consequences of a given behaviour) and evaluation of the outcomes of the behaviour. For subjective norms, the indirect antecedents are normative belief (perception about a given behaviour) and motivation to comply with others' beliefs. Finally, for perceived behavioural control, the two indirect antecedents are control belief (belief about factors that may impede or facilitate the behaviour) and perceived power to perform or not perform the behaviour. All of these subcomponents contribute to their respective direct components, and can be measured separately.

Like the Theory of Reasoned Action, the TPB has been widely used to understand factors influencing patients' health behaviours. However, it has also been used to understand clinicians' behaviour. For example, Godin, Belanger-Ravel, Eccles, and Grimshaw (2008) conducted a review of the literature to determine which social cognitive theories were used to understand clinicians' behaviour. They found that the Theory of Reasoned Action and the TPB were most often used in studies to understand clinicians' behaviour. They also report that intention was a significant predictor of clinician behaviour. Perkins et al. (2007) also conducted a literature review, and found 20 studies that used the TPB or the Theory of Reasoned Action in order to better understand clinicians' behaviour. However, they cautioned that many of the studies reviewed did not include a measure of behaviour, or behaviour was not directly observed. Despite these shortcomings, they feel that the TPB was useful in understanding behaviour, and they suggest that researchers and clinicians take the next step and use the TPB to design interventions to change clinicians' behaviour. However, researchers and clinicians should first conduct a TPB study to make sure that the TPB is useful in understanding the behaviour in their target population.

There have also been studies examining the usefulness of using the TPB to understand physicians' behaviour. In the first study, Millstein (1996) used the TPB to understand physicians' behaviour in regard to educating adolescent patients about the transmission of HIV and other sexually transmitted diseases. Attitudes, subjective norms, and perceived behavioural control were found to be related to intention to provide this information (R=.52, p<.001), and also subsequent behaviour (R=.63, p < .001). Another study, by Limbert and Lamb (2002) explored whether the TPB was useful in

understanding physicians' adherence to following guidelines for managing acute asthma and using antibiotics. They found that subjective norms were the best predictor of intending to adhere to the asthma guidelines, and attitude was the best predictor of intending to adhere to the antibiotic use guidelines. Therefore, adherence to these guidelines could be enhanced by developing guidelines targeting the components of the TPB, specifically subjective norms for asthma guidelines and attitude for antibiotic use guidelines

While the TPB has not been used to examine depression screening in cancer patients, this theory has been used to help describe why clinicians perform depression screening in other clinical populations, using both belief-based and direct measures. A study by Hart and Morris (2008) using the TPB to measure the intention of healthcare professionals in the UK to screen for depression in stroke patients. National Clinical Guidelines for Stroke in the UK (Intercollegiate Working Party for Stroke, 2004) recommend that stroke patients be screened for depression within a month of the initial stroke, and be followed-up afterwards. However, compliance with screening guidelines is low. Hart and Morris measured salient beliefs and direct attitudes, subjective norms, and perceived behavioural control, in addition to future intention to screen, and past screening behaviour (screening behaviour over the past month). The questionnaire used by Hart and Morris was developed in the following manner. First they conducted an elicitation study to examine the salient beliefs that clinicians have about depression in stroke patients, to ensure that the questionnaire accurately captured their attitudes. This was done by conducting semi-structured interviews with five healthcare professionals to determine what elements of the TPB influenced clinicians' intention to screen for depression.

Following analysis of the emerging themes, a questionnaire was developed to measure how components of the TPB influenced clinicians' intentions to screen; it was then pilot tested with six clinicians. The questionnaire included questions reflecting the attitudes that were raised in the elicitation study, questions about subjective norms, and questions about participants' perceived behavioural control.

This process corresponds to the recommended process for developing a TPB questionnaire described by Francis et al. (2004). First, the population and behaviour being studied are defined, and the researcher decides how best to measure intentions. Next, an elicitation study is conducted, in which open-ended questions about the underlying beliefs, attitudes, subjective norms, and perceived behavioural control are developed and administered to a sample of individuals from the population. A second questionnaire, which is composed of closed-ended questions, which are based on those open-ended questions that best reflect the beliefs, attitudes, subjective norms, and perceived behavioural control from the elicitation sample is then developed. This should be piloted, with a new sample from the population. The final questionnaire is then ready to be administered to the study's cohort.

The questionnaire was then mailed to 360 professionals at stroke centres across the UK. In total, 75 clinicians responded, a response rate of approximately 20%. In addition, in order to determine test-retest reliability, the questionnaire was sent one month later to 20 respondents. In total, 17 participants responded a second time. The variables had moderate stability over time, with Kendall's tau correlations between .50 and .78, except for perceived behavioural control, which was .304. Thus, the questions were

reliable. They did not report on the validity of the questions, however because they were created using an elicitation study, they have can be said to have content validity.

Respondents who reported higher intention to screen also reported higher direct and indirect subjective norms, and indirect perceived behavioural control. However, the study found that attitudes were not related to intention to screen. Intention to screen was also related to a measure of past behaviour (screening in the past month), meaning that those reporting higher intentions to screen were also more likely to report screening in the past month. A weakness of this study was that it was based on retrospective report, rather than observable behaviour as suggested by Ajzen (1991). An additional difficulty is that clinicians who were more likely to screen may have been more likely to participate, introducing a response bias. Nonetheless, the results do suggest that some components of the TPB were useful in understanding the clinicians' intentions to screen for depression in stroke patients, although one component, attitude, was not found to be related to intention to screen in this sample. It is possible that while an elicitation study was conducted to develop a belief-based measure, the salient beliefs antecedents were still not captured in this population.

Nash et al. (1993) used the TPB to explore how attitude, subjective norms, and perceived behavioural control influenced nurses' intentions to assess pain in their patients. Using this theory, a written questionnaire was developed by asking nurses about their intentions, attitudes, subjective norms, and perceived behavioural control beliefs about pain assessment. This questionnaire was then distributed to 100 registered nurses in the Brisbane Health Region of Australia. In total, 59 nurses responded. The study found that participants had positive attitudes towards assessing pain. Participants also had

positive subjective norms, and indicated slight behavioural control over their behaviour. A multiple regression analysis of the results found that attitude, subjective norm, and perceived behavioural control predicted 21% of the variance in intention to screen, indicating that this theory was useful in understanding nurses' intentions to screen. Only perceived behavioural control made a significant independent contribution to whether nurses intended to assess pain in their patients, meaning that this component of the TPB explained the most variation in intention to assess for pain, relative to the other components. This study is relevant because assessing patients for pain can be perceived to be similar to screening patients for depression. Both involve asking patients about a symptom that may be reducing their quality of life, that may affect outcomes, and for which treatment is available.

Puffer and Rashidian (2004) also used the TPB in a study examining nurses' intentions to offer smoking cessation advice to patients, in order that nurses comply with coronary heart disease guidelines. Prior to developing the questionnaire, they conducted five semi-structured interviews with nurses to determine the salient beliefs of nurses towards offering smoking cessation advice. These findings were used to construct a TPB questionnaire, which was then mailed to all 88 members of a nursing practice group in the north of England. In total, 48 nurses responded and returned their questionnaires.

Prior to conducting multivariate analyses, Puffer and Rashidan (2004) conducted a series of correlations to determine which components of the TPB were related to intention to provide smoking cessation advice. They found that one of the perceived behavioural control items, evaluating the ease or difficulty of following guidelines, was most highly correlated with intention. Attitude (direct) and perceived behavioural control

were also related to intention. Past behaviour, indirect subjective norms, and indirect attitudes were also related to intention, but to a lesser degree. Finally, direct subjective norms and intention were not related. In addition, further correlations demonstrated that direct and indirect attitude were related, and direct and indirect subjective norms were related. Finally, the second direct perceived behavioural control item, asking whether following the guidelines were under the individual's control, was related to indirect perceived behavioural control. This suggests that, of all the salient beliefs and direct TPB components, perceived behavioural control best explained variance in intention to provide smoking cessation advice, followed by attitudes towards providing advice.

Using multivariate analyses, Puffer and Rashidian (2004) found that direct attitude and perceived behavioural control explained 40% of the variance in nurses' intention to provide smoking cessation advice. The authors did not include subjective norms subscale scores in the multivariate analyses, because multivariate analyses indicated high multi-collinearity between attitude and subjective norms. Multi-collinearity is a statistical concept that reflects how highly correlated two variables are when entered into a single multivariate analysis (Braunstein, 2007). If multi-collinearity is very high, as in this case, it indicates two variables account for a high proportion of the same variance in the dependent variable and that one should be omitted. While offering smoking cessation advice is somewhat different from screening patients for depression, both behaviours involve activities that clinicians perform during routine medical visits, both involve issues (depression, smoking) that can be detrimental to patients and both involve issues that can be addressed by available treatments. Thus, Puffer and

Rashidian's study supports the possibility that the TPB may be useful in understanding depression screening behaviour.

Together, these three studies found that some components of the TPB were related to reported intention to perform a given behaviour. They also suggest that the role of specific components of the TPB model may vary depending on the behaviour being examined, the patient group, or the clinical circumstances. Nonetheless, because two of the studies indicated features of the TPB had an impact on screening behaviour in relation to depression (Hart & Morris, 2008) and pain (Nash et al., 1993) their results suggest TPB may also be relevant to the issue of screening for depression in cancer.

In support of this, underlying beliefs of the TPB have been reported by several authors in relation to screening for depression in cancer patients. Massie (2004) reported that the opinion that depression is one of the consequences of cancer may reduce the belief that it is useful to screen and treat depression in cancer patients. This corresponds to the attitude component of the TPB, and also the underlying salient belief. More specifically, the opinion that depression is a normal consequence of cancer corresponds to the behavioural belief subcomponent of the TPB, as it reflects clinicians' opinions about a feature of depression in cancer patients. Jakobsson et al. (2008) report that clinicians may think that asking patients about their emotional well-being will make patients uncomfortable, and that clinicians hold the opinion that the patient will introduce concerns about depression. This reflects the subjective norms component of the TPB, as it reflects opinions clinicians have about what important others have about depression and depression screening. More specifically, this suggests the indirect normative belief subcomponent of the model, as it explores the perceptions of other views of the

behaviour. Madden (2006) reports that clinicians may lack perceived behavioural control over their ability to screen, that is, they may perceive that they lack the time to screen, which suggests that the perception of control may also be a factor in screening behaviour. This reflects the indirect component of control belief, as the opinion that clinicians frequently lack the time to screen corresponds to beliefs that clinicians may have of factors that facilitate or hinder the behaviour.

Although these factors related to components of the TPB have been independently shown to influence screening, the TPB as a whole has not been applied to studying depression screening in cancer patients in a systematic way. Because Ajzen (1991) states that these components interact to influence intention, studying them in isolation may not be sufficient to fully capture the potential implications of the TPB. Thus, a study investigating whether the TPB is related to depression screening behaviour among cancer patients could provide a more comprehensive account of why clinicians perform or do not perform this behaviour. This better understanding may help in developing more effective ways to improve the rate of screening at clinics and this could be important in improving patient outcomes because of the strong evidence of the negative effects of untreated depression for cancer patients.

Summary

Many factors account for the large variation in depression rates, including the criteria used to diagnose depression, the length of time over which patients are followed, and the gender, age, and type of cancer of the patients being studied. However, cancer patients who are depressed experience severe consequences, including shorter survival time and reduced quality of life. Depression can be successfully treated in cancer

patients. Several, international organizations recommend that cancer patients be routinely screened for depression (Patrick et al., 2003; Stiefel et al., 2001). Research has demonstrated that consistent depression screening can be implemented as part of routine cancer care. Unfortunately, in practice very few cancer centres have depression screening protocols in place.

Little data exist on how frequently cancer patients are screened for depression at centres without screening protocols in place and factors that influence that frequency. Clinicians may have opinions about depression and depression screening that inhibit screening, however this has not been studied in a systematic way. Ajzen's (1991) TPB may be useful in understanding this behaviour.

Chapter 3: Methods

Few studies have explored how frequently cancer patients are screened and treated for depression. It is important to understand how common these behaviours are prior to implementing depression screening and management protocols. This study sought to examine how frequently oncologists and nurses at a tertiary care cancer centre screened patients for depression, and how they managed depression, including referral of patients to other professionals. This study also examined whether Ajzen's (1991) Theory of Planned Behaviour (TPB) was useful in understanding clinicians' screening behaviour.

Research Design

This was a descriptive study consisting of structured interviews with a convenience sample (all clinicians who volunteered were included in this study) of oncologists and nurses at a tertiary care cancer centre without a screening protocol in place. A convenience sample was used, instead of a more systematic method, because of the small sample available. Participants were asked about their past depression screening and management practices, and their opinions about depression and depression screening, using closed- and open-ended questions.

Participants.

Oncologists and oncology nurses were recruited from a tertiary care cancer centre. This centre provides medical and radiation oncology treatment to 800,000 residents of a large geographic area. This centre treats approximately 4,000 cancer patients each year. All clinicians who volunteered were interviewed. In total, 10 nurses and 10 oncologists took part, out of a total population of 45 nurses and 21 oncologists (R. Rutledge, personal communication, July 7, 2010; A. Whynot, personal communication,

May 17, 2010), reflecting an overall response rate of 30%, 22% for nurses and 48% for oncologists.

Participants were recruited in the following manner. Presentations at regularly scheduled departmental meetings were given to inform oncologists about the project. The project and the Principal Investigator were introduced, and the purpose of the study was briefly described. Clinicians then had the opportunity to ask questions about the study. This study was presented separately to nurses at a regularly scheduled meeting. At the nurses' presentation, a recruitment letter explaining the project was distributed to interested nurses, and a follow-up email reminding clinicians about the study was sent to all oncologists following the presentations (see Appendix A, p. 140). A copy of the consent form was attached to the letter and to the follow-up email (Appendix B., p. 141). A poster describing the study was also posted in areas of the centre accessible to, and frequented by, oncologists and oncology nurses including lunch and break rooms. A mutually convenient time to conduct the interview was then arranged with those who responded. The interviews took place at the centre, either in the participants' office, or in a convenient meeting room, and took approximately 15 to 20 minutes to complete.

Measures.

A structured interview guide was developed (see Appendix C, p.152). Both closed and open-ended questions were included. The majority of questions were closed-ended for a number of reasons. First, it was less time-consuming to answer closed-ended questions. Second, because the closed-ended questions were recognition questions, rather than recall questions, they were easier for participants to answer (Foddy, 1993; Gray & Guppy, 2003). Third, answers to closed-ended questions could be meaningfully

compared between subpopulations from this study (Foddy, 1993; Gray & Guppy, 2003). Open-ended questions were also included to allow clinicians to answer in their own words and to more fully explore clinicians' opinions about depression screening.

Section 1: Demographics.

The structured interview guide contained five sections. The first section asked participants for demographic information and general information about screening. This section included questions about their profession and how many years they had been practicing in oncology, and how many years they had practiced at the centre. These variables were included to gain a better understanding of the characteristics of the study sample. This section also examined how many minutes participants typically spend with each patient during a visit.

Section 2: Screening Practices.

This section of the interview (Appendix C, p.152) contained questions that explored how frequently participants reported screening their patients for depressive symptoms. The first question was open-ended and asked the participant to list the typical symptoms of a depressed patient. The next three questions were closed-ended and asked participants how frequently they screened their patients for three depressive symptoms: (1) mood, (2) enjoyment of activities that patients used to enjoy (i.e. anhedonia), and (3) feelings of worthlessness or guilt. There were four frequency options: rarely, occasionally, frequently, and always. Prior to data analysis these three questions were assigned numerical values (rarely = 1, occasionally = 2, frequently = 3, always = 4).

The final question in this section was open-ended, and asked participants about other ways that they typically screened for depression. This question was meant to

capture other ways that clinicians screen, or other depressive symptoms that clinicians screen for that were not captured in the three closed-ended questions.

Section 3: Depression Management Practices.

The third section (Appendix C, p. 152) asked which actions participants take to manage depression in a patient. The first question asked about actions taken if they identify a patient as being depressed. The answers that they were able to select included (1) asking the patient further questions about his or her depressed mood, (2) referring the patient for psychological or psychiatric help, (3) prescribing medication, (4) moving on to the next issue during the appointment, or (5) other (specify). Participants were able to indicate if they took more than one action.

Oncologists were specifically asked how frequently they prescribed medication for depression. They could report prescribing medication for depression rarely, occasionally, frequently, or always. Then, all participants were asked how frequently they referred patients for psychological and psychiatric help. They could select the following options: rarely, occasionally, frequently, or always. Participants were also asked what type of help they refer patients to. They could select any combination of the following: (1) referring for psychological help, (2) referring for psychiatric help, (3) referring to self-help group, and (4) referring to other types of help.

Section 4: Theory of Planned Behaviour Questions.

Section four of the interview guide (Appendix C, p.152) included a series of eleven questions (Questions 14 to 24) based on the TPB (Ajzen, 1991), as developed for stroke patients by Hart and Morris (2008). Participants were asked about the attitudes, subjective norms, and perceived behavioural control beliefs about depression screening.

They were then asked about intention to screen and past screening behavior. Thus, all components of the TPB were included in the questions asked in this section.

Nine questions from Hart and Morris' (2008) study were used in the present study because these questions were given as the best examples of questions from each category. The entire questionnaire by Hart and Morris was not used because of time constraints for interviews. The wording of all questions was identical to that used by Hart and Morris, with one exception. The wording of the first question measuring attitude was changed from "Screening patients for depression after their stroke is" to "Screening cancer patients for depression is:" The questions were scored using a seven-point Likert scale as used by Hart and Morris. However, the end-points of some questions were reversed to facilitate scoring.

The nine questions (questions 15-23 of the structured interview) (Appendix C, p. 152) asked about attitude towards depression screening (questions 15-17), perception of subjective norms (questions 18-20), and perceived control over depression screening (questions 21-23). Participants responded to each question using a 7-point Likert scale that was anchored by either *Useless* (1) and *Useful* (7) or *Strongly Agree* (1) and *Strongly Disagree* (7). Scores were then summed, to produce three scores that corresponded to the three components of the TPB ("Attitude,"; "Subjective Norms,"; and "Perceived Control"). For all items and subscales, a higher score indicated that the participant has more positive attitudes towards screening.

Participants were also asked about their past intention to screen (Question 14, Appendix C, p. 152). Participants were asked about their past screening behavior in a separate question (Question 24, Appendix C, p. 152). These two questions were based on

questions in the Jones, Courneya, Fairey, and Mackey (2005) study that used the TPB to explore oncologists' recommendation of exercise to recently diagnosed breast cancer survivors. It is important to note that an elicitation study was not conducted to develop these specific questions. However, these questions were developed in a study in a similar population (clinicians). Question 14 was based on the item that measured behavioural intention in the Jones et al. study, with the question being changed from the future to the past tense, and specifying a time period. The question was worded "In the past four weeks I intended to routinely screen all of my patients for depression." It was scored on a seven-point Likert scale with the anchors *Strongly disagree (1)* to *Strongly agree (7).* Question 24 stated "In the past four weeks I screened all my patients for depression." It was scored on a seven-point Likert scale with the anchors *Strongly disagree (1)* to *Strongly agree (7)*.

Section 5: Open-Ended Questions.

Finally, participants were asked six additional open-ended questions (Appendix C, p. 152). The first question enquired: "Who has a role in screening for depression, and what role would that be?" This question was designed to explore how the participant viewed the roles of different clinicians in the screening process. The next two questions asked about factors influencing screening at the centre. Thus, these questions stated "What impedes your screening for depression in your patients?" and "What facilitates your screening for depression in your patients?" . The next question examined how the participant perceived cancer variables, such as type and stage of cancer, which might make the participant more likely to have screened for depression (Massie, 2004). Next, the participant reported which patient characteristics, such as age or gender, might make

the participant more likely to have screened for depression (Massie, 2004). The final question, "Is there anything that you would like to add about depression in cancer patients?" obtained information about depression screening that was not captured in previous questions.

Procedure.

An elicitation study was not conducted prior to drafting the questionnaire, and pilot testing in the population being studied (clinicians) did not occur. This is because of the small size of the population being studied. However, as described earlier, this study did use questions developed by Hart and Morris (2008) in a similar population, and these authors did conduct an elicitation study prior to testing their questionnaire, lending support to using their questions in the present study. Before conducting the study, the structured interview was piloted with a Health Promotion graduate student to determine the length of the interview and whether any of the questions were unclear or needed to be revised. This was done to maximize the potential number of participants from the population being studied. While this is not the same as conducting a pilot study with the sample population, it is still better than omitting this step all together. All of the questions appeared to be understandable, and no changes or alterations were necessary. The structured interview took only 15 minutes to administer. After initial testing was completed, the study commenced.

If a potential participant was interested in participating in the study, a mutually convenient time to conduct the interview was agreed upon. Before starting the structured interview, the participant was asked to review the consent form, and provide his or her signature. The principal investigator and the witness also provided their signatures at this

time. The structured interview was then administered (see Appendix C, p. 152). It took approximately 15 to 20 minutes to complete the consent discussion and interview. All of the questions were read verbatim from the structured interview guide, and the options for the closed-ended questions were read as well. Open-ended questions were also read to participants. However, participants were able to answer the open-ended questions in their own words. The participants' responses were recorded on the paper copies of the structured interview guide. Participants were generally able to answer the questions, save needing two clarifications. First, two participants were unfamiliar with the term "impede" used in Question 26 a) that stated "What impedes your screening for depression in your patients?" A definition was given to them. In addition, two participants were confused regarding how the two questions regarding past intention to screen, "In the past four weeks I intended to screen all of my patients for depression" and past screening behaviour, "In the past four weeks I screened all of my patients for depression", differed. This difference was explained to these participants.

Ethical Considerations

Informed Consent and Confidentiality.

Ethics approval for the study was provided by the Capital Health Research Ethics Board. Informed consent was obtained from all participants prior to conducting the interviews. A thank-you gift (a $10 gift certificate for Tim Horton's) was given to each participant.

Although the interviews took place in the tertiary care cancer centre, which may have decreased anonymity and confidentiality, it was thought that this was necessary so that the interview location was convenient for participants. The interviews were held in a

private room, in order to provide privacy to the participants. No participant voiced concerns about anonymity and confidentiality because the interview took place at the centre, and the participants appreciated having the interview in a convenient location. There was minimal risk associated with the study, however as described above steps were taken to provide privacy to the participants. There were also no direct benefits to participants. However, participating in the study may have helped develop a better understanding of how depression screening occurs in the centre being studied

The structured interviews were coded, so names of participants did not appear on the record of the interview. No identifying information was reported when describing the results of the study, and findings were not reported for members of groups numbering fewer than five. If fewer than five individuals were part of a group, the groups were aggregated so that there were at least five individuals per group. Finally, the open-ended questions were analyzed separately from each other and from the closed-ended questions, to reduce the risk of inadvertently identifying a participant and to preserve confidentiality. Analyzing participants' profession, but not other characteristics of the participants, for the closed-ended questions provided sufficient information without inadvertently identifying any participants.

Data Management.

The consent forms and completed interviews were stored in a locked locker at Dalhousie University during data collection and analysis, and will be stored in a locked filing cabinet at Dalhousie University for seven years following publication, and then destroyed, in keeping with the Capital Health Research Ethics Board requirements. All data files were kept on a password protected laptop during the study. Once the study was

complete, these password-protected files were burned onto a CD, and the original files on the laptop were deleted. These CDs will also be stored in a locked filing cabinet at Dalhousie University for seven years following publication, and then destroyed**.**

Data Analyses

Analyses were conducted using the Statistical Package for the Social Sciences (SPSS) version 16.0 (SPSS Inc., 2007). Alpha was set at 0.05, and all tests were two-tailed. Descriptive statistics were calculated, including means and standard deviations for continuous variables and medians for demographic variables. Frequency counts were calculated for categorical variables.

In addition, for the questions investigating depression screening practices, responses to how frequently participants reported asking about the symptoms was grouped into two categories for descriptive variables: one category, referred to as "infrequently screening" included participants who reported rarely or occasionally asking about the given symptom, and a second category, referred to as "often screening" included participants who reported asking about the given symptom frequently or always. This grouping occurred because of the small number of participants in certain categories.

Mann-Whitney U tests were conducted to compare responses between nurses and oncologists on demographic variables reflecting professional history (experience practicing in oncology, experience practicing at the centre, or amount of time spent with patients). Mann-Whitney U tests were used because while the data met the assumption of independence, the distributions did not meet the assumption of normalcy (De Veaux, Velleman, & Bock, 2005). Responses did not differ by profession. This indicated that the

TPB responses for nurses and oncologists could be examined without including possible confounding factors related to past experience in subsequent analyses.

Continuous data were analyzed using inferential tests. Because the data met the assumption of independence but not normal distribution (De Veaux et al., 2005), Mann-Whitney U tests were used to test the hypothesis that depression screening practices differed between nurses and oncologists. A t-test was used to test the hypothesis that referral frequency differed by profession, as these data met both assumptions of independence and normalcy.

Chi-square tests were used for categorical data, to test the hypothesis that depression management practices differed by profession. The data met the assumption of independence and the counted data condition (De Veaux et al., 2005). However, not all data met the sample size assumption that the cell frequency would be five or greater. For the four of five chi-square tests where this assumption was not met, Yates' continuity correction was applied.

The three attitude items were summed to produce a total attitude score. The three subjective norms items were also summed, as were the three perceived behavioural control items. This was done even though the Hart and Morris (2008) study analyzed the direct components (attitude, subjective norms, and perceived behavioural control) and salient beliefs components (behavioural beliefs, outcome evaluation, normative beliefs, motivation to comply, control beliefs, and perceived power) of the TPB separately. Pearson correlations were used to explore the relationships between the summed variables and intention, and between intention and behaviour, to test the hypotheses that the TPB components would be related to past intention to screen and past intention to

screen would be related to past screening behaviour. Most studies using the TPB explore the relationships between the TPB components and intention by conducting multivariate analyses, such as multiple regression. However, because of the small sample size in the present study (N=20), it was not possible to conduct multiple regressions. Thus, these data were only explored using univariate statistics. All of the TPB variables met the quantitative data condition and the straight enough condition (De Veaux et al., 2005), meaning all data were ordinal and had a linear relationship. However, some data distributions had outliers. When an outlier was found, correlations with and without that outlier were conducted and the results of both are reported, because an outlier can cause a relationship to be found, or can obscure a relationship. However, when this single outlier is removed a relationship between two variables may no longer exist, or the obscured relationship may be revealed. Finally, Cronbach's alpha was calculated for each subscale to measure the items' reliability. Low reliability would indicate that the results should be interpreted with caution.

Open-ended questions, which explored depression screening practices, and opinions about depression and depression screening, were analyzed in the following manner. All of the responses for each question were read by the author. If a participant gave more than one answer, such as listing several items, these responses were treated as separate responses. The profession of each respondent was also noted. Participants' responses were then grouped together when the responses were identical or similar, and names were given to each category. The categories were then reviewed by the author, and in some cases categories were collapsed together and renamed. This process corresponds to the initial steps in coding open-ended questions as described by Gray and Guppy

(2003). Because of time constraints, the questions and the responses were necessarily brief. This constrained the depth of potential qualitative analyses for these initial steps.

Summary

This study used an observational, cross-sectional design in order to investigate depression screening and management practices at a tertiary care cancer centre. Ajzen's (1991) TPB was also used to understand this behaviour. This study had both closed-ended and open-ended questions. Data from nurses and oncologists were combined for the TPB questions without inclusion of covariates, because initial analyses indicated no differences between groups based on past levels of professional experience.

Chapter 4: Results

This chapter outlines the results of the study on depression screening and management practices at a tertiary care cancer centre. First, participant demographic information is reviewed. Participants' depression screening practices are described next; followed by participants' depression management practices, including treatment and referral to other clinicians. Finally, Ajzen's (1991) TPB is used to explore participants' attitudes about depression screening. The two main research questions investigated were "What are the depression screening practices of oncologists and nurses at a tertiary care cancer centre, including screening frequency?" and " Do the three components of the TPB (attitudes, subjective norms, and perceived behavioural control) help explain past intention to perform depression screening behaviour, and is this then related to past behaviour?" The secondary questions were "How do clinicians manage depression in patients either by treating it or referring patients to other clinicians?" "Is profession related to depression screening and management behaviour?" and "What are clinicians' opinions about depression screening in cancer patients?".

Demographics

In total, 22% of nurses (10 of 45), and 48% of oncologists (10 of 21) participated in the study (R. Rutledge, personal communication, July 7, 2010; A. Whynot, personal communication, May 17, 2010). No data were gathered on clinicians who did not participate. The mean number of years that participants had practiced in oncology was 16.3 years (*SD* = 9.8) (see Table 1). When analyzed by profession, oncologists' mean years of practice was 17.9 years (*SD* = 9.6), while nurses had practiced a mean of 14.7 years (*SD* = 10.2). Therefore, those who responded were generally very experienced.

Table 1.

Participants' experience and average minutes spent with patients during routine visits

Variable	Total (N=20)		Oncologists (n=10)		Nurses (n=10)	
	Mean	SD	Mean	SD	Mean	SD
Years in oncology	16.3	9.8	17.9	9.6	14.7	10.2
Years at tertiary cancer centre	10.3	7.3	12.3	4.8	8.3	8.9
Average minutes with patients during routine visits	18.9	9.6	17.5	7.9	20.6	11.8

The mean number of years that participants had practiced at the tertiary care cancer centre was 10.3 years (*SD* = 7.3). When analyzed by profession, oncologists had practiced a mean of 12.3 years (*SD* = 4.8), and nurses had practiced a mean of 8.3 years (*SD* = 8.9). Note that there is a large standard deviation for nurses' experience, with some nurses having much experience and others having little experience.

Overall, an average of 18.9 minutes (*SD* = 9.6) was spent with each patient; among oncologists this average was 17.5 minutes (*SD* = 7.9) and for nurses, 20.6 minutes (*SD* = 11.8) with each patient.

Depression Screening Practices

Participants were asked how frequently they screened for three depressive symptoms, including mood, enjoyment of activities, and feelings of worthlessness or guilt. In total, 85% of participants (n=17) said they asked their patients about their mood "often". This 85% was comprised of eight oncologists and nine nurses. Only 15% of

participants (n=3) responded that they infrequently asked about mood; two oncologists and one nurse (see Figure 2).

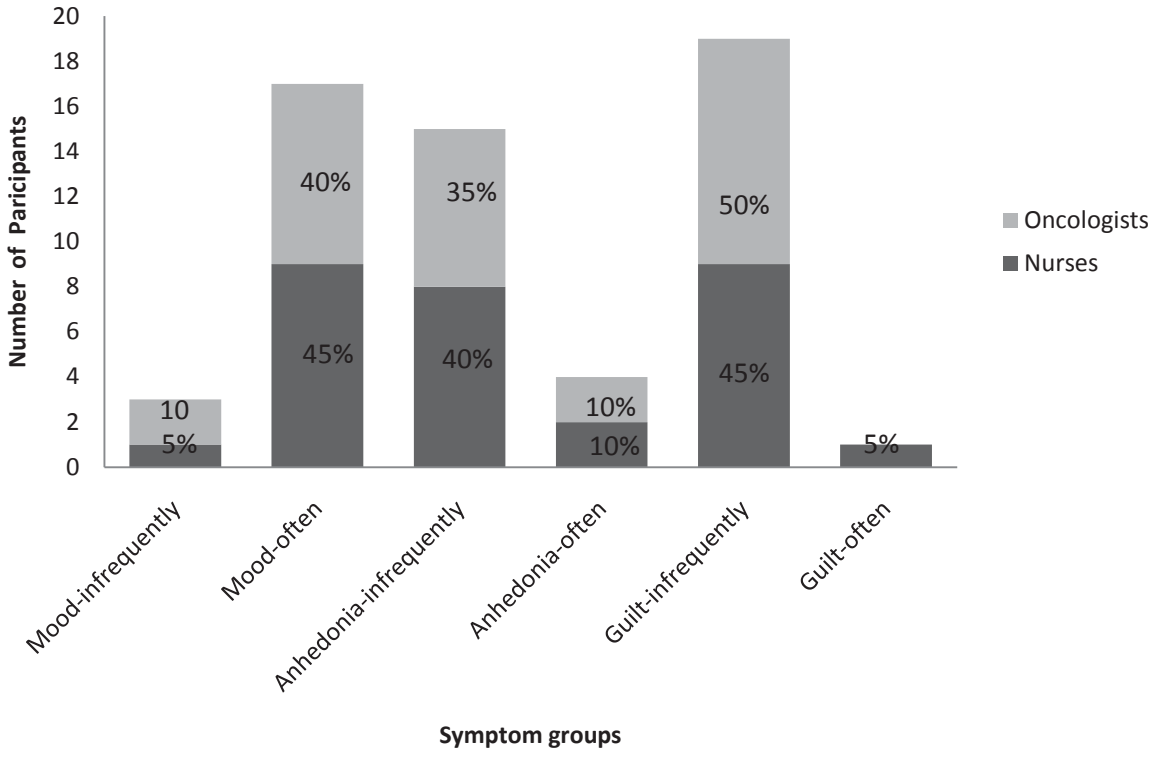

Figure 2. The number of oncologists and nurses who reported screening for three depressive symptoms: mood, anhedonia, and guilt.

In contrast to asking about mood, participants asked about reduced enjoyment of activities, or anhedonia, less frequently. In total, 75% participants infrequently asked patients whether they still enjoyed activities (n=15), with one participant declining to answer the question (see Figure 2). By profession, eight nurses and seven oncologists asked infrequently about anhedonia. In addition, 95% participants (n=19), including nine

nurses and all ten oncologists, reported infrequently asking about feelings of worthlessness or guilt.

The total number of depressive symptoms for which patients were screened was explored next. In total, 65% of participants (n=13) reported that they often asked about one symptom of depression, which was mood (see Figure 3). Eight of these were nurses and five were oncologists. Only two participants (both oncologists) reported that they often asked about two depressive symptoms (mood and anhedonia) and only one participant (a nurse) reported asking often about all three depressive symptoms. Fifteen percent of participants reported that they infrequently ask about mood, anhedonia, and feelings of worthlessness or guilt. Within this 15%, 5% of participants (1 participant, an oncologist) reported that he or she rarely asks about all three symptoms.

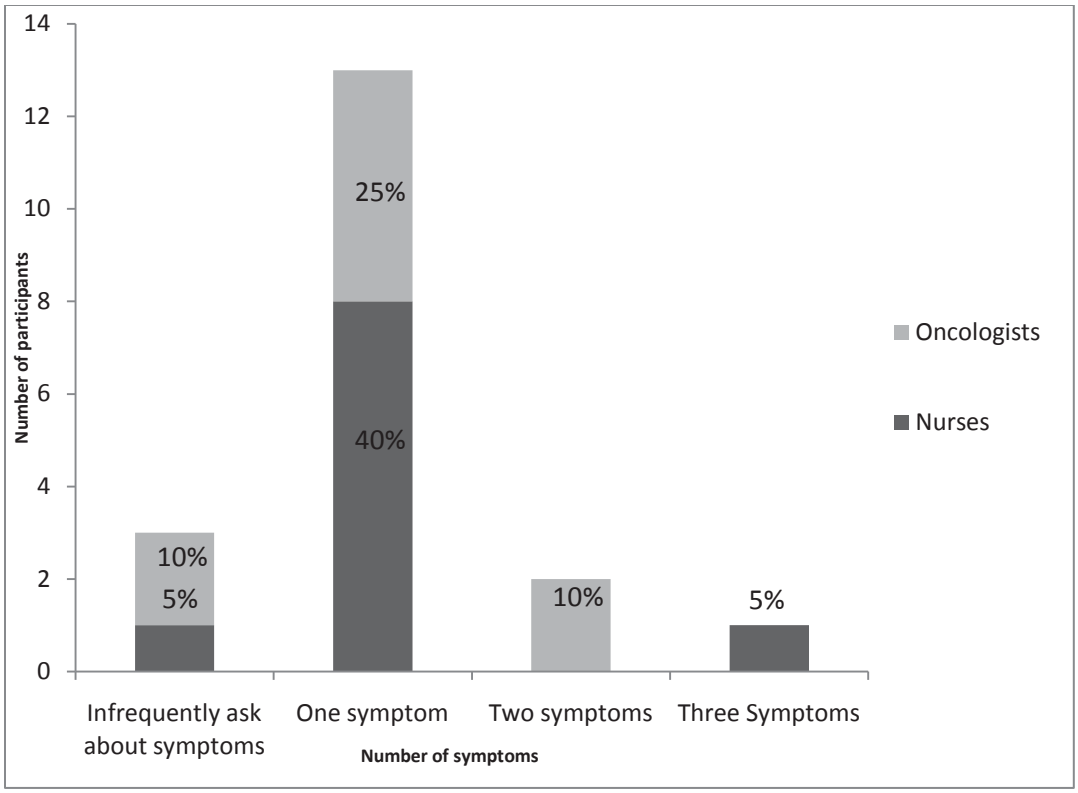

Figure 3. Number of depressive symptoms that oncologists and nurses reported often asking their patients about.

Profession and Depression Screening Practices.

A secondary research question was whether screening practices differed by profession, and was explored by conducting a series of three inferential tests. Groups were not collapsed for these analyses, thus the four frequencies included in the analyses were: rarely, occasionally, frequently, and always. All Mann-Whitney U tests were non-significant, indicating that oncologists and nurses did not differ in the frequency with which they reported asking about mood (U=37.0, n_1=n_2=10, p=.353), enjoyment of formerly enjoyable activities (U=44.0, n_1=9, n_2=10, p=.968), and feelings of

worthlessness or guilt (U=39.5, n_1=n_2=10, p=.436). An additional Mann-Whitney U test, exploring if the number of symptoms that participants reported often asking about differed by profession was also not significant (U = 44.00, n_1=9, n_2=10, p = .92). These findings refute the hypothesis that depression screening practices would differ by profession.

Open-Ended Questions Exploring Participants' Depression Screening Practices.

Depressive Symptoms.

Participants were asked to list the symptoms of a depressed patient. The symptoms that participants gave were grouped by the researcher into four symptom categories: physical, emotional, social, and cognitive. Physical symptoms identified included feelings of tiredness, fatigue, changes in sleep, and changes in appetite or weight. Emotional symptoms included flat affect, crying, sadness, withdrawing, and mood changes such as anxiety, depressed mood, hopelessness, and despondence. Social symptoms included decreased socialization, lack of eye contact, and lack of engagement in conversation. Finally, cognitive symptoms included "foggy" thoughts, disorganized thoughts, difficulty working, having fears about the future, enjoying activities less, and having few things to give purpose or commitment to life. All participants listed multiple symptoms that they reported are indicative of depression, with participants listing a median of 5.5 symptoms. There was no common combination of symptoms. However, most participants (n=16) listed a physical symptom, and 14 participants listed an emotional symptom of depression, such as sadness, crying, or flat affect. Participants did

not expand on why they thought these symptoms were indicative of depression, they simply listed symptoms.

Screening Practices.

Participants were asked to report other methods they used to screen for depression, other than asking about mood, anhedonia, and feelings of worthlessness or guilt. These responses were grouped into four categories. In total, 15% of participants (n=3) reported using no other methods to screen for depression. However, the majority of participants reported different screening practices. Other practices that participants reported included observing the patient (*n* =3), administering the nursing assessment form (which has a single item about depression) (*n* =3), or asking the patient or the patient's family members about the patient's mood and other symptoms (*n* =4).

Role of Healthcare Providers in Depression Screening.

Participants' opinions about the role of clinicians in screening for depression were explored. In total, 45% (n=9) of participants stated it was the responsibility of the entire team to screen for depression including oncologists, nurses, social workers, and radiation therapists. Next, 30% (n=6) of participants stated that it was the role of both oncologists and nurses to screen for depression, without naming other clinicians. Two participants said that it was the role solely of the nurse to screen. One participant said it was solely the role of oncologists to screen. In addition, one participant said it was the role of oncologists, nurses, and radiation therapists to screen, and one participant said that it was the role of oncologists, nurses, and social workers to screen. In addition to clinicians, one of the participants who stated that it was the role of everyone to screen also said that family members play a role in the screening process.

Cancer Characteristics.

Next, participants' opinions about which cancer characteristics might make them more likely to screen patients for depression were explored. Four participants said the stage and type of cancer would not make them more likely to screen patients for depression. However, other participants said they were more likely to screen patients with advanced cancer (n =14). Some oncologists said that patients with certain types of cancer (breast cancer, head and neck cancer, melanoma, prostate, and thyroid cancer) would require additional screening (n=10). Additionally, some nurses (n=6) said that the patient's stage of treatment (including a new diagnosis, the end of treatment, a change of diagnosis or a recurrence) might necessitate additional screening. Finally, some participants reported that certain comorbidities or symptoms, including insufficient coping skills, the presence of many cancer symptoms, and anxiety, would require more screening (*n* =3).

Patient Characteristics.

Participants' opinions about which patient characteristics might make them more likely to screen patients were explored. In total, seven participants said that there were not any patient characteristics that would make them more likely to screen patients for depression. The remaining responses from other participants were grouped into three categories. The first category included responses from participants who said males should be asked more about depression because males were perceived to be less talkative about their emotions (n=9). The second group of responses was related to age. Participants were

divided on whether older or younger age was associated with depression. Five participants said that older adults should especially be screened for depression, because they thought depression was often unrecognized in this age group. In contrast, eight participants said that younger patients would be more likely to receive additional screening. The third and final group was participants who stated that the patients' situation influenced whether they should be screened for depression. Five participants said that patients with little social support should be screened more frequently, an additional two participants reported that patients with addiction issues should be screened more frequently, and another identified patients with financial constraints as those who should be screened more frequently.

Impediments and Facilitators.

Participants identified a number of impediments to screening. The most common impediment, reported by 60% of participants (n=12), was a lack of time to screen patients for depression, and similarly, pressure from colleagues to stay on schedule. Thus, having enough time to screen was reported to be a major facilitator for depression screening. Participants also identified patient-related impediments. These impediments included participants' beliefs that patients did not want to talk about depression (n=3), a perceived lack of a rapport with new and male patients (n=2), and patients being severely distressed or anxious (n=2). Participants also identified situational impediments, such as a lack of privacy to discuss depressive symptoms (n=1) and the short length of the interaction before a patient is transferred to a family physician (n=1).

Participants also described factors that, in their opinion, would facilitate screening. Participants stated that removing the stigma associated with depression would

facilitate screening (n=3). One facilitator that participants reported would be to have a tool or protocol available for routine screening (n=5). Finally, some participants said that family members can play a role in facilitating screening, by telling the clinician about possible depressive symptoms that are troubling the patient (n=2).

Participants' Additional Comments Regarding Depression and Depression Screening.

Participants' additional comments were grouped into three categories. The first category (n=14) introduced by both oncologists and nurses reflected the need for more resources, including more time to screen, more training to screen, having a better support system to refer depressed patients, and having a tool to screen patients for depression (see Table 2). The second category (n=8) introduced by both oncologists and nurses reflected the need for increased awareness of the problem of depression among patients, their families, and clinicians. The third category, identified by six oncologists, reflected the difficulty that participants have in differentiating a normal reaction to cancer from depression.

Table 2

Categories of Additional Comments Made by Participants Regarding Screening

Category	Number of responses
Need for more resources, including a tool to screen patients for depression.	14
Need for increased awareness of the problem of depression	8
Difficulty in differentiating depressive symptoms from a normal reaction to a cancer diagnosis.	6

Depression Management Practices

In total, 85% of participants (n=13) indicated that once they identify a patient as being at risk of being depressed, they ask further questions (see Table 3). Referring patients to psychological or psychiatric help was a common step, with 70% (n=14) of participants indicating they referred the patient for psychiatric or psychological help. In addition, 65% (n=13) of participants indicated they took another action. Alternative actions specified by participants included referral to the psychosocial oncology team, a social worker, chaplain, or the patient's family physician. No other alternative was reported and no participants indicated they moved on to the next issue without taking action. When broken down by profession, the most common practice reported by oncologists (n = 8) was referring patients to psychiatric or psychological help, and all nurses reported enquiring further once a patient is identified as being depressed.

Table 3

Actions Taken Once a Patient is Identified as Being Depressed.

Action	Total % (N)	Oncologists % (n)	Nurses % (n)
Ask more about it	85% (17)	70% (7)	100% (10)
Referral	70% (14)	80% (8)	60% (6)
Prescribe medication	N/A	30% (3)	N/A
Move on to next issue	0% (0)	0% (0)	0% (0)
Other	65% (13)	60% (6)	70% (7)

Note. Percentages sum to more than 100% because participants could report more than one action.

The combination of actions that participants reported taking once they have identified a patient as being depressed were identified next. The most common combination, reported by 30% of participants (n=6), was to ask the patient more about their symptoms and to refer the patient to psychological or psychiatric help. This group included three oncologists and three nurses. The next most common response, reported by 25% of participants (n=5), was to ask more about a patient's symptoms and refer patients to help other than to a psychologist or psychiatrist. This group included one oncologist and four nurses. The next most commonly reported combination, to ask more,

to refer the patient to psychological or psychiatric help, and refer the patient to other types of help, was reported by 20% of participants (n=4). This group included one oncologist and three nurses. The fourth most common combination, reported by only oncologists, was to ask more about a patient's depressive symptoms, prescribe medication, and refer the patient to psychological, psychiatric, or other types of help. In total, 10% of participants (n=2) reported taking this combination of actions. The remaining combinations were reported being taken by one participant each. These other combinations included referring the patient to psychological, psychiatric, and other types of help, referring the patient to other types of help, and referring the patient to psychological or psychiatric help and prescribing medication. Thus, all participants reported taking action once they identified a patient as being at risk of being depressed.

Participants' Frequency of Referral to Psychological and Psychiatric Help.

As noted above, when asked about how depression is managed, 70% (n=14) of participants indicated that they had referred patients to psychological or psychiatric help (see Table 3). Participants were also asked how frequently patients were referred psychological or psychiatric help, either frequently or always ("often") or rarely or occasionally ("infrequently"). This question was asked of all participants, however, only the participants who indicated that they refer patients to psychological or psychiatric help in the previous question were included in this analysis. Of the 14 participants who had indicated that they referred patients to psychological or psychiatric help after depression is identified, 10 (71%) reported often referring patients to psychological or psychiatric help, and four (29%) reported infrequently referring patients to psychological or psychiatric help.

Table 4

Frequency with Which Patients are Referred to Psychological or Psychiatric Help after Depression is Identified

Frequency	Total % (N)	Oncologists % (n)	Nurses % (n)
Rarely or Occasionally	29% (4)	25% (2)	33% (2)
Frequently or Always	71% (10)	75% (6)	66% (4)

Managing Depression with Medication.

Participants' depression management practices were explored further by asking oncologists how frequently they prescribed medication for depression. This question was separate from the earlier question in which prescribing medication was listed as one of the actions that participants could report taking. All oncologists indicated they prescribed medication for depression rarely or occasionally. While three oncologists answered an earlier question by stating they manage depression by prescribing medication, this question indicated that they prescribe this medication infrequently.

Types of Help for Depression Management.

Finally, in order to further explore participants' depression management practices, the types of help to which depressed patients were referred were explored. All participants were asked this question, because participants who did not indicate that they

referred patients to psychological or psychiatric help in the previous question could indicate that they referred patients to self-help groups or to other types of help for this question. In total, 90% of all participants reported they referred patients for psychological help; 50% of participants reported they referred patients for psychiatric help; 30% of participants reported they referred patients to self-help groups and 65% of participants reported they referred to another type of help (see Table 5). Other types of help participants reported referring patients to included referral to the psychosocial oncology team, to a social worker, to the chaplain, and to the patient's family physician.

Table 5.

Percentage of Participants who Refer to Each Type of Help

Type of Help	Total % (n)	Oncologists % (n)	Nurses % (n)
Psychological	90% (18)	100% (10)	80% (8)
Psychiatric	50% (10)	80% (8)	20% (2)
Self-help group	30% (6)	20% (2)	40% (4)
Other	65% (13)	60% (6)	70% (7)

When responses were broken down by profession, 80% of nurses reported referring patients for psychological help and 100% of oncologists reported referring patients to psychological help. In addition, while only 20% of nurses indicated they had referred patients to psychiatric help, 80% of oncologists indicated they had referred patients to this type of help. These results suggest that oncologists refer patients to both psychologists and psychiatrists, while nurses mainly refer patients to psychologists.

Profession and Depression Management Behaviour.

It was hypothesized that the type of action taken once a patient is identified as being depressed would differ by profession. Chi-square tests, with the Yates' continuity correction, revealed that nurses were neither more nor less likely than oncologists to inquire further about depressive symptoms (χ^2 (1, N=20) =1.569, p=.210) or refer patients for psychological or psychiatric help (χ^2 (1, N=20) =.238, p=.626). Thus profession was not related to the actions participants reported taking to manage depression, and the hypothesis that the action reported being taken by participants would differ by profession was not supported.

There was little difference between oncologists and nurses when comparing the frequency with which they reported referring patients to psychological or psychiatric help. To support this, a two-sample t-test found there was no difference between how frequently oncologists and nurses refer patients to psychological and psychiatric help (t(12) = .70, p = .50).

A series of chi-square tests were performed, to test the hypothesis that profession was related to the type of help to which patients were referred (see Table 6). Only referrals to psychiatric help differed by profession, with oncologists reporting that they were more likely to have referred patients to psychiatric help. Profession was not related to whether participants reported referring patients to psychological help or self-help groups. Thus, the hypothesis that referral practices would differ by profession was only partially supported.

Table 6

Profession and Type of Help to Which Patients are Referred

Type of help	Degrees of freedom	*N*	Chi-square	p-value
Psychological [a]	1	20	.556	.456
Psychiatric	1	20	7.20	.01*
Self-help group [a]	1	20	.238	.626

[a] Yates' continuity correction was applied, because the expected cell frequency count for some of the categories was less than 5.
*Significant at .05 alpha level.

Theory of Planned Behaviour

The next hypotheses tested were whether participants' attitudes, subjective norms, and perceived behavioural control was related to past intention to screen, and whether past intention to screen were related to past screening behaviour (see Table 7). The item means are presented individually, and the means for the subscales are also presented.

Table 7

Mean Scores for the Theory of Planned Behaviour Questions

Section	Item	Mean	SD
Attitudes	Usefulness of screening	6.48	.75
	Reducing uncertainty	5.75	1.55
	Usefulness of reducing uncertainty	6.45	1.00
	Mean attitude score	6.23	6.28
Subjective norms	Colleagues beliefs	3.92	2.03
	Patients' beliefs	3.77	1.86
	Compliance with patients' beliefs	5.79	1.86
	Mean item score	4.54	1.29
Perceived behavioural control	Screening under participants' control	5.60	1.93
	Adequate skills and training	4.83	1.52
	Skills and training determines screening	4.85	1.84
	Mean item score	5.09	1.13

*For each item, possible scores ranged from 1 to 7.

Past intention to screen and past screening behaviour were each measured with a single question: one question asking about the participant's past intention to screen his or her patients for depression, and one question asking about the participant's past depression screening behaviour. The mean score for the past intention to screen item was 3.95 (*SD* = 2.16) and for past screening behaviour the mean score was 4.08 (*SD* = 1.84).

Pearson correlations were conducted to determine if the scores reflecting TPB components were related to scores for the intention to screen (see Table 8). The correlations reported in Table 8 have any detected outliers removed. The correlation between past intention to screen and attitudes was non-significant, (r (20) =-.12, p=.62). Visual inspection of the scatter plot of attitudes and intention revealed that attitudes had

an outlier (participant 11, summed attitude score = 9). When this outlier was removed, the correlation between intention to screen and attitudes remained non-significant (r (19) =.23, p=.350). The correlation between past intention to screen and subjective norms beliefs was non-significant (r (19) =.32, p=.21). Visual inspection of the scatter plot of past intention to screen and subjective norms revealed an outlier (participant 11, subjective norm score = 4). When this outlier was removed, however, the correlation between past intention to screen and subjective norms became significant, (r (18) =.730, p=.001).

Finally, the correlation between past intention to screen and perceived behavioural control was non-significant (r (20) =.11, p=.63). Visual inspection of the scatter plot of intention to screen and perceived behavioural control did not reveal any outliers.

Table 8

Theory of Planned Behaviour Correlation Matrix and Reliability

	Attitudes	Norms	Control	Intention	Behaviour
Attitudes	.82				
Norms	.33	.58			
Control	.03	.30	.34		
Intention	.23	.73**	.11		
Behaviour	.10	.38	.24	.55*	

Note. Cronbach's alphas, indicating the subscales' reliability, are given on the diagonals

**Correlation significant at the .01 level.

* Correlation significant at the .05 level.

A further Pearson correlation was conducted to determine if past intention to screen was related to past screening behaviour. This correlation had the following value (r (20) =.55, p=.01), indicating past intention to screen was significantly related to past screening behaviour. Visual inspection of a scatter plot of intention to screen and past screening behaviour did not reveal any outliers.

The next set of analyses examined the correlations among components of TPB. Attitudes were significantly related to subjective norms (r (19) =.66, p =.01). However, visual inspection of a scatter plot of attitudes and subjective norms revealed an outlier (participant 11, summed attitude score=9). When this outlier was removed, the

correlation was no longer significant (r (18) =.33, p=.21). Subjective norms were not related to perceived behavioural control (r (19) =.30, p=.24). Visual inspection of a scatter plot of subjective norms and perceived behavioural control did not reveal any outliers. Finally, attitudes and perceived behavioural control were not related (r (20) =.14, p=.56). Visual inspection of a scatter plot of attitudes and perceived behavioural control revealed one outlier (participant 11, summed attitude score = 9.00). However, when this outlier was removed, the correlation remained non-significant (r (19) =.03, p=.90). Finally, the correlation between perceived behavioural control and past screening behaviour was not significant (r(19) = .24, p = .31). Visual inspection of a scatter plot of perceived behavioural control and past screening behaviour did not reveal any outliers.

The hypothesis that participants reporting screening their patients for depression would be related to positive attitudes towards screening, positive subjective norms towards screening, and higher perceived behavioural control could not be tested. This is because the majority of participants reported asking about depression (85%) but few reported asking about anhedonia (25%) and feelings of worthlessness or guilt (5%). Because of the large differences in group sizes, inferential tests could not be conducted.

To summarize, few significant relationships were found, thus the hypothesis that TPB would explain screening behaviour was only partially supported. Past intention to screen was related to past screening behaviour. However, of the three components of TPB (attitude, subjective norms, and perceived behavioural control), only scores reflecting subjective norms were related to past intention to screen. This is in contrast to findings from the open-ended questions, in which clinicians reported pressure to stay on time, which corresponds to perceived behavioural control.

Chapter 5: Discussion

This study examined depression screening and management practices at a tertiary care cancer centre without a depression screening protocol in place. In total, 10 oncologists and 10 nurses took part in the study, which consisted of a single structured interview. In addition to asking about depression screening and management practices, questions based on the TPB were also included, to determine whether this theory was useful in understanding depression screening behaviour.

A key finding from this study is that the majority of clinicians in the study report frequently screening patients for depressed mood. However, published research has found that asking about anhedonia, in addition to mood, increases the sensitivity and specificity of the screen (Mitchell, 2008). Thus, a key implication for this study is that clinicians should be encouraged to ask patients about anhedonia, in addition to asking about depressed mood. It is important to note that all participants reported taking some type of action after identifying a patient as being depressed. The majority of participants reported managing depression by referring the patient to other clinicians.

This chapter will review the depression screening and management practices of the participants who took part in the study, and will compare these findings to the published research. The utility of using the TPB to understand screening behaviour will then be examined. Finally, the limitations and implications of this study for clinicians, health promoters, and researchers will be reviewed.

Depression Screening Practices

The majority of participants (85%) in this study indicated that they often screen for depressed mood. Thus, the expectation that the majority of participants would report infrequently screening for depressive symptoms, including mood, was partially met. This is because while the majority of participants reported asking about mood, they reported asking infrequently about the other two depressive symptoms. Asking about mood is an accepted method of screening for depression that is frequently recommended in the published research. For example, Skoogh et al. (2010) found that even though asking patients if they were depressed had a high false positive rate, it was effective at identifying those at risk for depression. Thus, this question had high sensitivity. Based on his review of 17 published studies, Mitchell (2008) also reported that asking about mood, while not as accurate as asking about mood and anhedonia, was still quite accurate at identifying depressed cancer and palliative patients, as indicated by a high sensitivity and specificity rate. Therefore, it is positive that the majority of participants in this study reported asking patients about mood.

Only four participants (20%) in this study reported that they often ask about anhedonia. This is problematic because Mitchell's (2008) review of the published research reports that asking about anhedonia, in addition to asking about mood, increased the sensitivity of screening in detecting depression by 20%. However, specificity did not noticeably increase. This means that while the one-item screen is good at correctly determining which patients are not depressed, compared to a two-item screen, it tends to over-identify patients who are depressed. Asking about anhedonia, in addition to mood,

would decrease participants being identified as depressed when they are not depressed, and thus would help reduce the burden on resources for at-risk patients.

Even though the majority of participants reported asking about mood, only one participant reported asking about feelings of worthlessness or guilt. One reason for this may be that asking about feelings of worthlessness or guilt may be perceived as too personal and intrusive. This is supported by Madden (2006), who discusses the fact that clinicians may be reluctant to screen patients for depression because they feel uncomfortable talking to patients about emotions. If clinicians are uncomfortable asking patients about their feelings of worthlessness or guilt, Madden recommends that clinicians instead ask patients questions such as "How are you feeling today?". Given that the majority of participants reported asking about mood, which is similar to asking "How are you feeling?", asking this question is feasible. Therefore, participants frequently asked about mood and less frequently about anhedonia and feelings of worthlessness or guilt. Thus, the hypothesis that the majority of participants do not screen was only partially supported, because the majority reported screening for mood. This may reflect the published recommendations that clinicians screen patients for depressed mood, such as the recommendation by Patrick et al. (2003). Given Mitchell's (2008) findings, clinicians should be encouraged to routinely ask patients about anhedonia, as this would increase the sensitivity and specificity of the depression screen. However, given that Madden (2006) suggests clinicians may be uncomfortable asking about emotional symptoms, it is best for clinicians not to screen for this symptom and instead leave it to mental health specialists making a diagnosis to ask about this symptom.

Depressive Symptoms.

Participants reported asking patients about multiple depressive symptoms, including cognitive, emotional, social, and physical depressive symptoms. Unfortunately, no data were gathered on how frequently they screen for each symptom. If they are screening for these additional symptoms frequently, this would suggest that they are not using a one-item screen, as reported in the closed-ended results. Clinicians' practice of asking about multiple symptoms, as reported here, also does not coincide with published research that suggests that clinicians should screen for depressed mood and anhedonia (Hoffman & Weiner, 2007; Mitchell, 2008). However, it is possible that clinicians only screen for these additional symptoms sporadically, while most ask about mood routinely, as they reported in the close-ended section. The current data cannot confirm this, as no data were gathered on how frequently participants ask about these symptoms. If these data do reflect their behavior, it suggests that participants may not be efficient in their screening. This is because participants may be asking about more symptoms of depression than they need to. Asking about only two, mood and anhedonia, is also more sensitive and specific than asking about multiple symptoms of depression (Mitchell, 2008).

Screening Practices.

Participants reported screening practices, in addition to asking about mood, anhedonia, and guilt, which included observing the patient, administering the nursing assessment form, and asking family members about depressive symptoms in the patient. Some depressive symptoms, such as fatigue and appetite change, may be caused by cancer and not depression. Asking patients about depressed mood and anhedonia is more

specific, as these symptoms are more likely related to depression (Hoffman & Weiner, 2007). Administering the nursing assessment form is also useful, but because it contains a single item asking about depression, it may not be identifying all depressed patients, compared to a two-item screen asking about mood and anhedonia (Hoffman & Weiner, 2007; Mitchell, 2008). Hoffman and Weiner acknowledge the role that family members play in identifying potentially depressed patients, as depressed patients may lack insight into their depression. Asking family members, if present, about the patient's mood may also be helpful in identifying patients at risk of being depressed. While useful, family members' observations should not replace asking patients about depressed mood and anhedonia. The responses to this open-ended question demonstrate that clinicians are screening for depression, however their methods of screening may not be optimal. Thus, these results demonstrate the need for a routine depression screening protocol. It is, therefore, important to allow participants the opportunity to explain the role of different clinicians in depression screening.

Role of Healthcare Providers in Depression Screening.

When participants were asked to explain who has a role in screening for depression in their own words, the most common response was to report that it is the role of the entire team to screen patients for depression. However, participants did not describe how the team works together to screen patients for depression, despite being prompted in the interview guide to explain the role of different team members. This may reflect the view held by participants that the roles of nurses and oncologists are the same when it comes to screening patients for depression, which accords with the results of the closed-ended questions indicating that asking about the three depressive symptoms did

not differ by profession. This was unexpected, given the different roles for oncologists and nurses in the literature, with oncologists asking about symptoms (Hoffman & Weiner, 2007) and nurses using active listening techniques to evaluate a patient's well-being (Barsevick et al., 2002). The majority of participants stated that all clinicians play a role in screening patients for depression. This could be interpreted to mean that all participants are following the National Comprehensive Cancer Network (NCCN, 2008) guidelines and all clinicians are screening for depression. However, one of the limitations of this study was that it is not known whether participants were consciously following NCCN guidelines, or whether their practices correspond to these guidelines. However, given that many participants reported that all clinicians have a role in screening for depression, they likely have strong beliefs that colleagues think that they should screen for depression. This belief is important, because subjective norms, that is, the belief that other people think they should perform the behaviour, was the only component of Ajzen's (1991) TPB that was related to intention to screen. Thus, because these results suggest that participants think that they should be screening, this suggests that profession may play less of a role in determining screening behaviour than hypothesized in the current study. In addition, this could reflect the interdisciplinary nature of oncology practice, as described by Batist and Shinder (2008). Thus, oncologists and nurses have similar screening practices due to interdisciplinary collaboration

Profession and Depression Screening

As discussed earlier, there was no significant difference found in the frequency with which oncologists and nurses screened for three specific depressive symptoms in their patients that were asked in this study. Thus, the hypothesis for the second research

question, which was that oncologists and nurses would have different depression screening practices, was not supported. As described earlier, oncologists and nurses play different roles in recognizing and managing depression in cancer patients. Oncologists ask about depressive symptoms as part of asking patients about other symptoms that are bothering them, while nurses are more concerned with patients' overall well-being, and then refer patients to the oncologist as necessary (Hoffman & Weiner, 2007; Madden, 2006). However, despite these differences in practice reported by the published research, this study did not find a difference in screening practices, indicating that both ask about mood, and less frequently ask about anhedonia and feelings of worthlessness or guilt. This finding, that screening did not differ by profession, may reflect the increasingly interdisciplinary nature of oncology (Batist & Shinder, 2008). This also reflects the responses to the open-ended question, asking participants what role clinicians have, because the majority of participants stated that it is the role of all clinicians, including oncologists and nurses, to screen patients for depression. Therefore, it is not surprising that no difference between oncologists and nurses was found. Now that screening in a typical patient has been explored, the specific characteristics that might make clinicians more likely to screen are explored.

Cancer Characteristics.

Several of the opinions expressed by participants concerning which patients they are more likely to screen for depression correspond to findings published in previous studies. Miovic and Block (2007) found up to 50% of patients with advanced cancer have a clinically significant mental health problem, including depression. Given this high rate, advanced cancer patients should be screened more frequently for depression. In the

review by Massie (2004), head and neck cancer, and breast cancer, which were mentioned by participants, were found to be highly associated with depression. However, participants expressed their opinion that they would be more likely to screen patients with prostate cancer, melanoma, and thyroid cancer. Participants explained that those with prostate cancer may also be more likely to be at higher risk of depression because of the sexual symptoms and associated stigma. Melanoma patients were also judged to require additional screening for depression. Participants reasoned that this is because many cases of melanoma are preventable. They think patients may feel guilty about their diagnosis, because they may feel responsible for having melanoma. Finally, participants stated that thyroid cancer patients have an increased risk of being depressed because they think hormone changes associated with thyroid cancer place patients at greater risk of being depressed. Therefore, patients with certain types of cancer are at greater risk, and the published research supports this. When this was not supported by the research, participants could explain why these types of cancer (prostate, melanoma, thyroid) should receive extra screening.

Some of the treatment phases identified by participants as being times when depression may be more likely to occur, such as when patients receive a diagnosis, and when the diagnosis changes or has a recurrence, correspond to published views expressed in the literature. Dy et al. (2008) recommend that patients should be screened for depression at diagnosis, and if they are diagnosed with advanced disease. However, this study did not identify patients at the end of treatment as being at greater risk of being depressed, which was reported as a relatively higher risk period by the participants in the present study. Some of the participants explained that they think patients should receive

extra screening at this stage because patients may be anxious or depressed about having less frequent contact with oncology clinicians.

Patient Characteristics.

The study participants reported that certain patient characteristics led them to think that patients should undergo more frequent screening. Participants identified older adults as being more likely to be depressed and thus requiring more frequent screening. In contrast, other participants had a perception that younger people in their 20s and 30s might also be at increased risk for depression. These participants explained that younger patients were seen as likely having young children depending on them and, therefore, a diagnosis of cancer may have more of an impact upon them. Participants who thought gender influenced screening practices typically said that they felt men should be screened more frequently. In this case, they explained that men were frequently reluctant to disclose emotional problems such as depression. Thus, they should be explicitly asked about their mood more often than women, in order to better diagnose those men with depression.

Participants' opinions about the relationship between patient characteristics and risk for depression are not necessarily reflected in the published research. Those aged 65 years or older may be more likely to be diagnosed with depression (Beyer, 2007). Kohn and Epstein-Lubow (2006) suggest that this is partially caused by older individuals being more likely to have co-morbid illnesses, such as cancer, thus increasing the burden of disease on these individuals. Despite research demonstrating that older individuals are at greater risk of depression, no studies could be identified that stated that younger patients and male patients should be screened more often. The belief that males should be

screened more frequently contradicts the published research, given that following stroke, women have been found to experience higher levels of depression compared to men (Poynter et al., 2009). In addition, Miaskowski (2004) found that when there was a gender difference, women with cancer were more likely to be depressed. Miaskowski (2004) did state that women are more talkative about their depression, which does coincide with the participants' opinions here. These results suggest that either participants mistakenly screen male patients more for depression, or, that the reason women are more frequently diagnosed with depression is because they are more talkative about their depression, and thus, participants are correct in screening male patients more frequently. In either case, more research investigating gender differences in depression rates among cancer patients is needed to clarify whether differences in screening are warranted. Finally, no research was found to support participants` reasoning that a patients` situation necessitates additional screening. This should be investigated further.

In summary, the results of these two open-ended questions show that there are certain characteristics that make clinicians screen patients more frequently for depression. Some of these characteristics are reflected in the published research; however, others are not. This suggests more research is needed to determine whether some of the characteristics described by participants are actually indicators of higher rates of depression, and whether certain groups of patients should be screened for depression more often. It is also important to note the small sample size in the present study, because some of the views about which characteristics indicate that patients should be screened more, may not exist in the general clinical population. Now that a better understanding of

which patients should be screened more has been reviewed, the impediments and facilitators for screening are explored.

Impediments and Facilitators to Depression Screening.

Not surprisingly, the most common impediment raised was that participants lacked the time to screen patients for depression. This highlights the need for an easy-to-use, time-efficient screen for depression. One of the barriers to routine screening reported in the published research is a lack of time (Madden, 2006; Ryan et al., 2005; Snyderman & Wynn, 2009). Thus, participants here are not alone in this opinion. A time-efficient method of screening for depression is to adopt the two-question screening recommended by Hoffman and Weiner (2007), in which patients are asked about their mood and anhedonia. This screen requires less time than administering a self-rating questionnaire, or administering a psychiatric interview.

Another problem that clinicians described is building a rapport between the patient and clinician. According to Madden (2006), a rapport may not exist because clinicians may feel uncomfortable talking to patients about their emotions. Likewise, clinicians may worry that asking patients about their emotional well-being will make the patients uncomfortable (Jakobsson et al., 2008). Having a routine, time-efficient screen would help overcome the barriers of lacking the time to screen patients for depression, and the short time of the typical interaction with patients. One additional barrier is that clinicians reported having difficulty differentiating a normal reaction to cancer from clinically significant depression. This issue is described by Thekkumpurath et al. (2008). Once again, having a routine screen would aid in this, because it would indicate whether a patient's symptoms are severe enough to warrant further investigation.

Participants' answers to the factors that facilitate depression screening complement the barriers that participants listed. They stated that increased time with patients and having a standardized tool to screen patients for depression would facilitate depression screening. In the additional comments section, participants also stated that having more resources, such as a tool and more time, would help increase screening behaviour. Participation from family members also facilitates the depression screening process, and Hoffman and Weiner (2007) state that family members can play an important role in introducing concerns about a depressed patient. However, it is important that this not replace asking patients directly about their mood.

Thus, implementing a routine, time-efficient screen would be useful and would help with identifying patients at risk of being depressed. The results of both closed-ended and open-ended questions indicate that participants are taking steps to identify depressed patients. However, participants may not have a systematic way of asking about depression. In addition, two barriers to asking patients about depression is that many participants think they lack the time to ask about depression, and that they are concerned that their relationship with their patients is not close enough to comfortably ask about depression. Therefore, implementing a routine depression screening protocol is feasible, and would help overcome these problems.

Participants in this study also were able to correctly identify some points in time, and some patient characteristics, associated with greater risk for depression. However, in order for screening to be of value, treatment must be offered when depression is found. Depression management practices are explored in the next section.

Depression Management Practices

While an understanding of clinicians' screening behaviours is important, it is also essential to understand how clinicians manage depression in patients once their depression is identified, because if depressed patients do not receive treatment, it is not useful to screen for depression. An important finding of this study was that none of the participants indicated they moved on to other issues in the appointment, once a patient was identified as being depressed. This suggests that clinicians do not ignore a patient's depressive symptoms once the patient is identified as being depressed. Instead, they take steps to ensure that the patients receive treatment.

Asking More about a Patient's Depressive Symptoms.

The majority of participants reported asking more about a patient's depressive symptoms once he or she had been identified as being at risk of being depressed. This corresponds to NCCN (2008) guidelines that all clinicians should enquire further once identifying a severely distressed patient. This also corresponds to supportive listening techniques, as described by Barsevick et al. (2002), that all oncology clinicians can practice. There were some slight differences by profession. However, these differences were not significant. This suggests that both oncologists and nurses may be taking steps to globally assess a patient's well-being, rather than focus on making a diagnosis. Thus oncologists may be playing a role more frequently prescribed to nurses (Madden, 2006) by being concerned about a patient's global well-being. This also corresponds to earlier questions indicating that there are not differences by profession for depression screening, and that it is the role of the entire healthcare team to screen patients for depression. In

addition, this finding disproves the hypothesis that this particular depression management technique would differ by profession.

Referral to Psychological and Psychiatric Help.

The majority of participants reported referring patients to psychological and psychiatric help. Once again, this corresponds to NCCN (2008) guidelines that recommend that patients with severe distress should be referred to mental health specialists. Once again, there were slight differences in reported referrals between oncologists and nurses. However, these differences were not significant. There is little published research to suggest that oncologists and nurses differ in this behaviour, so this finding was not surprising. This is also positive, because it suggests that both oncologists and nurses see the value in referring patients to mental health specialists.

Even though many participants indicated that they have referred patients to psychological and psychiatric help, fewer reported referring patients on a frequent basis. However, given that Verdonck-de Leeuw et al. (2009) found that only 21% of patients with distress were referred to psychosocial resources, the rate of referral found here, with 71% of participants reporting they frequently, or always, refer patients to psychological or psychiatric help, suggests the clinicians at this clinical setting are taking action when they suspect a patient has depression and that, in most cases, this action involves referring for help from another source. The results, however, do not reveal how the participants make the decision to refer. Further research could help to understand this process.

All participants were asked about which types of help to which they refer patients. It is positive that so many participants (90%) of participants reported referring patients to psychological help. However, this 90% includes participants who refer patients to

psychological help infrequently. In addition, this reflects NCCN (2008) guidelines that patients with significant distress be referred to mental health specialists. Fewer participants reported referring patients to psychiatric help (50%). However, this is because of the different rates of referral by oncologists compared to nurses.

One finding is that the profession of the participant was not related to referring a patient to psychological or psychiatric help. This may be because oncologists and oncology nurses work as a team, taking action as a unit once they realize that a patient is depressed. Batist and Shinder's (2008) description of the interdisciplinary nature of oncology practice supports these results, in that both nurses and oncologists play a similar role in treating cancer patients' psychological concerns.

It is important to note that even though the frequency with which participants indicated they referred patients to psychological or psychiatric professionals is the same, the exact type of help that patients are referred to differs by profession, with oncologists significantly likely to have indicated that they refer more frequently to psychiatrists. This is likely because the hospital system makes it easier for physicians to refer patients to other physicians. In addition, the results of the study of referral behaviours of physicians by Javalgi et al. (1993), found that respondents were more likely to refer patients to services with which they were familiar. Pray (1991) also found that physicians are more likely to refer patients to psychiatrists compared to social workers for depression treatment. Thus, it is possible that this finding reflects the fact that oncologists are more familiar with the services psychiatrists provide.

Referral to Self-Help Groups.

An additional finding was that only 30% of participants reported referring patients to self-help groups. However, this finding is reflected in the research, with Gray et al.'s (1998) study finding that even though physicians were aware of self-help groups, few reported frequently referring patients. This finding could also reflect the fact that there may be few self-help groups for cancer patients in the community being studied. If self-help groups do exist, then this suggests that clinicians should be made aware of these groups, and be encouraged to refer patients to them.

Referral to Other Sources of Help.

Participants reported referring patients to the psychosocial oncology team, the hospital chaplain, the centre's social worker, and to the patient's family physician, in answer to the question of which referral action they take, and also, to which sources of help they refer patients. This centre has a psychosocial oncology team. However, at a smaller centre without these resources, patients are likely referred to others, including chaplains, social workers, and family physicians. In addition, even though a psychosocial oncology team is available at this centre, participants reported referring patients to these other sources of help. Referring patients to chaplains to receive psychosocial support is identified in the NCCN (2008) guidelines. Likewise, it is positive that participants indicated they referred patients to the social worker for psychological counseling, as an early study by Pray (1991) found that clinicians were reluctant to refer patients to social

workers for psychological support, because they thought that social workers tended to provide assistance solely for discharge purposes.

One interesting finding in this study was that oncologists reported that they referred patients to family physicians to receive medication for depressive symptoms, rather than prescribing this medication themselves. Oncology clinicians reported being unable to allot the time to follow-up with patients in order to monitor their mental health. Thus, they thought that family physicians could more easily follow up with patients. This means referral to the existing family physician for initiation and monitoring of medication for depression may be because oncologists view family physicians as being the most accessible to patients. The finding that family physicians play a role in treating depression is also reported in the research. Klabunde et al. (2009) found in their survey that family physicians were more likely to state that they play a direct role in evaluating and treating depression, while oncologists were more likely to report referring depressed patients to other practitioners. They found that family physicians, and not oncologists, were most often responsible for treating co-morbidities in cancer patients, especially depression. Furthermore, Smith and Toonen (2009) also recommend that family physicians be involved in the care of cancer patients, including treating patients for depression. Thus, the reports of participants in this study that they refer some patients to family physicians for treatment of depression is consistent with published research indicating that family physicians play a role in treating depression in cancer patients. However, this also points to the need for guidelines for family physicians in prescribing and managing antidepressant use in cancer patients.

Theory of Planned Behaviour and Screening

Ajzen's (1991) TPB was chosen as a means of better understanding the screening behavior of the participants in this study because previous research investigating clinicians' behaviours (Hart & Morris, 2008; Nash et al., 1993; Puffer & Rashidan, 2004) found that this theory was useful in conceptualizing clinician behaviours, including screening for depression and pain, and providing smoking cessation advice.

This study used Hart and Morris' (2008) interpretation of Ajzen's (1991) theory, which was based on the original work by Ajzen (1991). Overall, the results from the present study indicate that only subjective norms were significantly related to participants' past intention to screen. In contrast to findings by Millstein (1996), this study did not find that attitudes and perceived behavioural control were related to intention to perform the behaviour of interest, even though the present study did find that subjective norms were related to intention to screen. This suggests that a physician's decision to provide education about sexually transmitted diseases to adolescents is not similar to screening cancer patients for depression. In addition, while Limbert and Lamb (2002) found that attitude was the strongest predictor for physicians in prescribing antibiotics, subjective norms were the strongest predictor in physicians following asthma treatment guidelines. However, there are still differences between these two behaviours, because in the Limbert and Lamb study, the focus on asthma management is treatment, while in the present study, the focus is on recognizing depression in cancer patients in order that it can be managed.

It is unclear why the current study did not find all the TPB components to be related to intention to screen, with the hypothesis that all components of the TPB would

be related to intention to screen, while Hart and Morris (2008) found that subjective norms and perceived behavioural control were related to intention to screen. While this study did not find a relationship between perceived behavioural control and intention to screen, in contrast to the Hart and Morris (2008) study, it is important to note that studies using the TPB frequently fail to find a relationship between all of the TPB components. Thus, it is not surprising that a relationship between components was not found in the present study.

An additional factor that may have influenced the lack of a relationship between all of the TPB components and intention to screen was that, in this study, the sample size (n=20) was smaller than the sample size in Hart and Morris' (n=75) study. However, given that subjective norms did have a significant relation to past intention to screen, the small sample may not be completely responsible for the lack of significant effects of the other TPB components. It is also possible that differences in the distribution of responses was a factor. The distribution of scores for subjective norms, as measured by the standard deviation, was greater for subjective norms (*SD*=3.88) than for attitudes (*SD*=2.97), and perceived behavioural control (*SD*=3.39). Thus, a Pearson correlation may not have had the ability to detect a relationship between these latter components and intention to screen, because there was less variability for these two components. Because a correlation measures the change in one variable in relation to the change in another, the correlation will be weaker if one of the variables does not exhibit substantial change.

A second possibility is that depression screening in stroke patients is not comparable to depression screening in cancer patients. It is possible that aspects of the population, the disease, the professionals, or the training of these two groups differs in

ways that would affect the process of screening. Thus, in the present study, intrinsic differences between cancer patients and stroke patients may have accounted for the lack of a relationship between some of the components of the TPB and intention.

A third possible explanation as to why only subjective norms were related to intention to screen in this study could be due to the fact that it was not possible to conduct an elicitation study. An elicitation study consists of a qualitative study in which the target population's attitudes are explored prior to developing a questionnaire or structured interview (Francis et al., 2004). This allows the researcher to ensure that they are inquiring about the salient beliefs that exist in the population. Thus, if the questions in this study had been based on an elicitation study specific to this population, a significant relationship between the components of the TPB and intention to screen may have been found. In particular, it is possible that attitudes about depression screening in cancer patients are unique, and were not captured in Hart and Morris' (2008) questions.

Hart and Morris (2008) did conduct an elicitation study prior to distributing questionnaires, in which they explored the opinions that stroke clinicians had about depression and depression screening in their patients. This may be why they found a significant relationship between subjective norms and perceived behavioural control, and intention to screen. Conducting an elicitation study would allow researchers to ensure that they are capturing attitudes, subjective norms, perceived behavioural control beliefs, and underlying salient beliefs while constructing their structured interview.

A final problem with the present study is that the reliability of the TPB subscales was low. While the reliability for the attitudes scale was sufficiently high (.82), the reliability for subjective norms (.58) and perceived behavioural control (.34) were low.

Therefore, the significant correlation between subjective norms and intention should be interpreted cautiously. This study did find that subjective norms were related to intention to screen. Accordingly, it is possible that this is a valid result that reflects the fact that, for this group of clinicians in this setting, clinicians' beliefs about what others believe they should do is the key factor in their intention to screen. Whether this is the case, or whether changes in methodology would have resulted in stronger relationships emerging between intention to screen and other TPB components, should be explored in a future study. The significant relationship between subjective norms and intention to screen suggests that implementing a screening protocol could increase screening behaviours in this group. It would signal to clinicians that all members of the team believe that screening is of sufficient importance to perform the screening. The screen could also be more effective if patients know about the screening protocol in place at the clinic, which would further increase subjective norms for screening. This could be accomplished by advertising within the clinic that patients should expect their clinician to ask about depression, perhaps using posters, or as part of a patient information package. It was not surprising that attitudes were unrelated to intention to screen, because Hart and Morris (2008) also did not find a relationship between attitudes and intention to screen. It is also important to note that participants reported positive attitudes towards depression and depression screening. This likely reflects the fact that so many participants volunteered for the study, suggesting that participants likely had positive attitudes about screening. The finding from Nash et al. (1993) also found that participants had positive attitudes about assessing for pain. This once again points to the possibility of a selection bias in the present study.

One main difference between this study and Nash et al. (1993) study was that, for Nash et al., while all three components contributed to intention to assess for pain, only perceived behavioural control made the largest contribution to intention. This suggests two possibilities. First, it is possible that screening for depression and assessing for pain are not similar behaviours. A second possibility is that the perceived behavioural control items in the present study and the Nash et al. study were not measuring similar beliefs. Unfortunately, Nash et al. did not provide examples of which items were included in their questionnaire. However, the questions in the present study included one item about control beliefs, and two items about how skills and training influence behaviour.

There were also differences between the present study and Puffer and Rashidian's (2004) findings. First, their univariate analyses revealed that attitudes and one perceived behavioural control item were strongly related to intention to provide smoking cessation advice, while the present study found that only subjective norms were related to intention to screen. However, the attitude items in the Puffer and Rashidian study were different from the attitude items in the present study, with only the item asking about the usefulness of the behaviour being the same. Puffer and Rashidian included items asking about the beneficial, good, valuable, helpful, and appropriate attitudes towards providing smoking cessation advice. Likewise, the perceived behavioural control item that Puffer and Rashidian found to be related to intention, evaluating the difficulty in providing smoking cessation advice, was not included in the present study. Finally, the direct subjective norms item in the Puffer and Rashidian study was worded differently from the subjective norms items in the present study. Thus, these differences in item phrasing may account for the different results in the present study.

It is also important to note that this study did not find a significant relationship between attitudes and subjective norms, once an outlier was removed. This is in contrast to results by Puffer and Rashidian (2004) that reported a highly correlated relationship between attitudes and subjective norms in their study of nurses providing smoking cessation advice. This suggests that providing smoking cessation advice is conceptually different from screening cancer patients for depression. A second possibility is that the questions used in this study did not sufficiently capture the attitudes about depression and depression screening in the population being studied.

The finding of the present study, that only subjective norms are significantly related to intention to screen, appear to support findings in the published research exploring depression screening in cancer patients. These beliefs, that clinicians may not screen for depression because they worry about tiring the patient (Jakobsson et al, 2008), and that clinicians may rely on patients to raise concerns about depression (Madden, 2006; Ryan et al., 2005), appear to correlate with the finding that unfavourable subjective norms reduce depression screening behaviour. These findings are also supported by findings from the open-ended questions that indicated that clinicians typically believe that it is the role of all clinicians to screen patients for depression. Thus, this also indicates that clinicians likely have positive subjective norms about screening.

One significant finding was that perceived behavioural control was not significantly related to intention to screen. This was unexpected, as the research indicated that lack of time to screen is a common impediment to screening (Jakobsson et al., 2008; Madden, 2006). Findings from the open-ended questions also indicated that a common impediment is that clinicians frequently lack the time to screen. Finally, Nash et al.

(1993) found that only perceived behavioural control was related to intention to assess patients for pain, making the present's study's results more surprising. One reason for this finding could be that the questions specifically about perceived behavioural control in the present study did not elicit information about time constraints.

An additional problem is that while clinicians stated that lack of time is a barrier to screening, the majority reported often asking patients about mood. This could be because when answering the question about barriers to screening, they thought that screening refers to a more comprehensive screen with a self-rating questionnaire, and did not consider asking about mood as a depression screen.

Past intention to screen was related to past screening behaviour, which supports the hypothesis that intention would be related to past screening behaviour. This corresponds with Ajzen's (1991) theory. When considering this result, it is important to note that the two questions are quite similar in phrasing. Thus, even though the two questions were separate in the original structured interview, participants may have inadvertently perceived them to be the same, and thus answered the same way. During administration of the structured interview, two participants asked if the screening behaviour question was the same as the intention to screen question, and needed clarification. Future studies could find a way to further differentiate these questions, so that the difference between the intention to screen question, and actual screening behaviour question, is noticeable. This could be done by rephrasing the intention question so that it is clear that it is intention that is being measured. In addition, measuring intention to screen at multiple points in time, and then measuring actual behaviour, would reduce the chance that participants interpret intention to screen and actual behaviour to be

the same question. Given that Ajzen originally conceived his theory to explain behaviour that could be directly observed, this approach may be better suited to using the TPB.

In summary, this study found that not all components of the TPB were significantly related to intention to screen for depression, although intention to screen was found to be related to actual screening behaviour. A future study could conduct an elicitation study prior to administering a structured interview, and use a larger sample size in order to evaluate whether the limited relationships found here truly reflect the phenomenon studied, or are due to limitations of the methods used in this study.

Limitations

This study was conducted at a small, tertiary care cancer centre, and thus the depression management practices identified in this study may not be applicable to other, larger settings, or to primary care settings. This is because larger centres may have more psychosocial resources, while smaller centres may have fewer. Therefore, it is important to note that this study examines depression screening and management behaviours at a single centre.

Another limitation is that this study only specifically asked how frequently participants ask about three depressive symptoms. However, in response to open-ended questions, participants reported asking about the physical, cognitive, and social depressive symptoms. Unfortunately, no data were gathered on how frequently clinicians screen for these additional depressive symptoms. Thus, had more symptoms been included in the interview, differences between oncologists' and nurses' screening behaviour may have emerged. That is, it is possible that nurses and oncologists screen

differently for depressive symptoms that were not examined in the closed-ended questions.

An additional limitation of this study was the sample size. This limitation may be responsible for the failure to find a relationship between attitudes and perceived behavioural control, with intention to screen, as previous studies that found a relationship had larger sample sizes. In addition, this study did not include an elicitation study. If such a study had been conducted, questions could have been tailored to this population and a relationship between all components of TPB and intention to screen may have been found. This is especially important with regard to the questions asked about attitudes towards screening, as the attitude questions taken from Hart and Morris' (2008) study of depression screening in stroke patients may not reflect the attitudes in depression screening in cancer patients. In addition, Hart and Morris also did not find a relationship between attitudes and intention to screen, so it could be that these questions presented in their study did not adequately capture depression screening attitudes in either population. An additional limitation is the number of nurses who took part in the study. While the majority of oncologists at the centre took part in the study, a minority of nurses took part. It is possible that the nurses who took part resulted in a selection bias. Those who screen for depression frequently and have favourable opinions about screening may have been more eager to volunteer to participate, thereby biasing the results. Having a larger sample of the nurses at this centre may have addressed this possible limitation. Therefore, a future study could attempt to recruit more nurses.

A final limitation is that this study used a convenience sample of nurses and oncologists. Because of this, the participants in the current study may have had positive

opinions towards screening prior to participating in the study. This may have biased the results.

Implications

Implications for Future Practice.

This study raises a number of implications for future practice. A need, highlighted by this study is a standardized, easy-to-use screen for depression. Such a screen could be as simple as a two-question screen recommended by Hoffman and Weiner (2007). It consists of two questions: one asking about depressed mood, and one asking about anhedonia (whether the patient enjoys formerly enjoyable activities). Such a screen would be easy to implement, and would be useful in identifying patients at risk of depression. A positive step that this centre could take to address the problem of depression in their patients would be to adopt a depression screening measure, such as the two question screen recommended by Hoffman and Weiner. Mitchell (2008) also reported that asking both questions has a higher sensitivity rate and specificity rate, compared to asking a single question. If clinicians feel that they do not have the time to implement this screen, then the one-item screen suggested by Skoogh et al. (2010), in which clinicians ask patients whether they are depressed, should be implemented. Given that the majority of participants reported asking about mood, implementing such a routine screen would be feasible. This recommendation reflects a clinically relevant and clinically feasible outcome of this project that can have immediate local impact.

An important consideration is whether a two-item screening protocol should be implemented, or whether a standardized screening instrument should be used, such as the HADS, as described by Sellick and Edwardson (2007). However, a difficulty with regard

to a standardized screening instrument is the amount of time required to administer the instrument. Even if patients complete the questionnaire prior to meeting with the oncologist, a clinician still needs to take the time to score the questionnaire. Given the results of the open-ended question indicating that a barrier to screening was lack of time, implementing an instrument-based screening protocol may not be feasible. In addition, a common feature of a screening instrument-based protocol is that patients who score above a predetermined cut-off are referred to psychosocial care (Sellick & Edwardson, 2007). However, in a situation where resources are limited, this may not be possible. In this situation, using a two-item screen is preferable, because if a patient answers yes to either question, the clinician can enquire further to determine if referral to psychosocial care is appropriate.

A related finding was the relationship between subjective norms and intention to screen. This suggests that a team decision to implement screening as a standard practice could increase subjective norm pressure for individual clinicians to screen. This could also make implementation more readily accepted by the clinicians. Educating patients about the standard practice would also add to the perception of clinicians that others expect them to screen, further increasing the use of subjective norms to encourage this behavior.

An additional concern is whether it is necessary to apply a theory such as the TPB when a behaviour is mandated through the implementation of a protocol. Two examples of behaviours that are performed because they are mandated include seat belt use, and helmet use while riding a bicycle. However, as the study by Jones and Doebbeling (2007) showed, even when physicians are prompted to screen patients for depression, only 81%

of patients were actually screened. In addition, there is evidence that in general, physicians are reluctant to follow guidelines. Thus, even if a screening protocol were implemented, it is likely that not all clinicians would comply with the protocol. Thus, it is still useful to use the TPB to understand clinicians' behaviour, even if the behaviour is mandated by a protocol.

The recommendations from this study are relevant to both oncologists and nurses, as both routinely spend time with patients, and there is a growing emphasis for all of these clinicians to treating psychological concerns in cancer patients. These recommendations also apply to other clinicians who routinely interact with cancer patients, such as social workers and radiation therapists. This study also demonstrates that family physicians can play an important role in managing depression in cancer patients with medication. Finally, health promoters can take the lead in educating all clinicians about the need to screen patients for depressed mood and anhedonia, and also to educate patients that it is part of the normal routine for clinicians to ask them about their mood and anhedonia.

Implications for Health Promotion.

This study also has important implications for the field of health promotion. First, health promoters should conduct further research to better understand why depression screening occurs, or not, and whether the TPB is useful in understanding this behaviour. Elicitation studies are required to explore oncology clinicians' attitudes, and health promoters can play a leading role in this research.

Given the Ottawa Charter for Health Promotion's (Canadian Association of Public Health, Health and Welfare Canada, & the World Health Organization, 1986),

recognition of health being not solely the absence of disease, measures to improve cancer patients' quality of life are important, and health promoters can play a leading role in this. Health promoters can play an important role in studying whether preventive behaviours, such as screening cancer patients for depression, actually occur.

Health promoters also play an important role in informing clinicians of the need for routine depression screening, including depression screening policy for oncology clinics, and overseeing implementation of policy. Because health promoters are experts in writing and implementing health behaviour policy, this is a key area in which health promoters can participate. These policies should include screens that are time efficient, and include questions about mood and anhedonia.

Health promoters can also take the lead in developing educational programs about depression for both cancer patients and clinicians. While educating individuals to take control of their health is common in health promotion, developing educational programs for clinicians is less common, although, given these findings, potentially helpful. Because this study found that subjective norms were related to intention to screen, educating both patients and clinicians about the need for depression screening would increase subjective norms, and could thus lead to increased screening behaviour.

Implications for Future Research.

This study also raises new problems that should be researched. First, a qualitative study is needed in order to explore how depressed patients are identified as part of routine practice. A qualitative study examining how oncologists and nurses see their roles in recognizing and managing depression in cancer patients is also necessary, to help clarify why the present study found few differences in how oncologists and nurses identify and

manage depression. Research is also needed to explore how frequently patients are referred to non-mental health specialists. A chart review study could accomplish this, in order to determine how frequently, and to which clinicians, depressed cancer patients are referred.

In addition, there is a newer conception for the TPB, known as the subcomponent model. According to Azjen (2002a), attitude has lower order factors of affective (e.g. enjoyable or unenjoyable) attitude and instrumental (e.g. beneficial or harmful) attitude. Subjective norms are composed of injunctive (e.g. opinions about other's opinions of the attitude) and descriptive (e.g. whether other people perform the behaviour) norms. Finally, perceived behavioural control can be viewed as having two lower order factors: self-efficacy (e.g. confidence in performing a behaviour) and controllability (e.g. perception of control over the behaviour). Evaluating the contribution of self-efficacy and controllability is especially important, because in a later paper, Ajzen (2002b) outlines the important contributions of self-efficacy and controllability in contributing to perceived behavioural control. These contributions are also reflected in the published research. For example, Rhodes and Courneya (2003) evaluated the usefulness of using the lower factor contributions to the TPB components in understanding participants' intentions to exercise. Rhodes and Courneya found that only self-efficacy, and not controllability, made a contribution to whether participants' intended to exercise. Lower order factors for attitudes and subjective norms were less useful in predicting exercise intention. Because of the role of these lower order factors in understanding intention, Ajzen (2002a) recommends that TPB questionnaires be constructed to include items investigating these lower factors.

Therefore, a future study could include questions measuring the lower order factors. It is most likely, based on the published research and the current study, that perceived behavioural control would be better represented by its two subcomponents: self-efficacy and controllability. The present study found that clinicians rated highly how their skills and training allowed them to screen for depression, which are elements of self-efficacy. However, both the open-ended questions, and published research, indicated that clinicians frequently lack the time to screen for depressive symptoms. Thus, while it is likely that clinicians have high self-efficacy towards screening, they lack controllability.

Finally, an elicitation study is required, in order to explore how clinicians' attitudes, subjective norms, and perceived behavioural control beliefs influence their depression screening behaviour. If such a study were conducted, this would allow the development of a new TPB questionnaire that might be more accurate in exploring whether the TPB is useful in understanding depression screening behaviour. A larger sample size in such a study is also required, in order to explore further whether all components of the TPB are useful in understanding depression screening in cancer patients. All of these studies would make important contributions to the research and would aid in understanding oncology clinicians' depression screening and management practices. This could lead to improved clinical practices that would improve care of patients who have cancer and depression.

Conclusions

The current study explored depression screening and management practices at a tertiary care cancer without a depression screening protocol in place. This study found

that participants reported frequently asking patients about patients' mood, but not about anhedonia and feelings of worthlessness or guilt. Participants also reported that they ask about other depressive symptoms, including physical, cognitive, emotional, and social depressive symptoms. Participants thought that certain patients, including patients with advanced cancer, younger and older patients, and male patients, were at increased risk of being depressed and should be screened more frequently. The majority of participants reported that it was the role of all clinicians on the oncology team to screen patients for depression, which may account for the lack of a difference in how oncologists and nurses reported screening for depression. Finally, participants reported that they frequently lack the time to screen their patients for depression, even though in the closed-ended questions, the majority of participants reported often screening their patients for depressed mood.

Another important finding from this study is how depression in cancer patients is recognized and managed. Once a patient is identified as being depressed, most participants reported asking the patient more about how they were feeling. Depressed patients were then referred to mental health specialists, such as psychologists, psychiatrists, and social workers, and non-mental health specialists such as chaplains and family physicians. A key finding is that oncologists rarely prescribe medication for depression, instead preferring to refer patients to other physicians, including family physicians, and reasoning that family physicians could follow-up with patients more frequently. Finally, this study found that oncologists were more likely to refer depressed patients to psychiatrists, possibly because oncologists are more familiar with the services psychiatrists provide.

In relation to why clinicians screen for depression, the results found here suggest that clinicians' intention to screen for depression was related primarily to whether they believed others thought they should do so. Thus, implementing a depression screening policy could increase screening behaviour. This is because such a screen would increase participants' subjective norms about screening. Educating patients about the need for their clinicians to ask about depression could also increase clinicians' subjective norms around screening, thus increasing this behaviour.

This information will be useful in educating clinicians in how to recognize and manage depression in cancer patients, and will also hopefully lead to a standardized depression screening protocol at this centre. This study highlights the need to implement a simple, time-efficient screen to detect cancer patients with depression, and health promotion activities to increase the perception that depression screening is an expected behavior. Together, these could improve the way in which depression is assessed, in order that it can be managed in a timely and appropriate manner.

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Appendix A

Recruitment Letter

January 12, 2010

To Whom It May Concern

I am a graduate student in Health Promotion at Dalhousie University. As part of my thesis project, I am conducting a study entitled *Depression Screening Practices at a Tertiary Care Cancer Centre* at the QEII Health Sciences Centre. The aim of the study is to determine the screening and treatment practices for depression at the Nova Scotia Cancer Centre, which currently does not have a protocol in place for depression screening.

Participating in this study involves participating in one 15 to 20 minute interview at the Cancer Centre. During this interview the study will be explained, consent will be obtained, and then a questionnaire developed for use in this study will be administered. The interview will be arranged at your convenience. All responses will be kept confidential.

If you would like to participate, or if you have any questions about the study, you may contact me at gbreau@dal.ca . You may also contact my supervisor, Dr. Lynne Robinson, at (902) 494-1157, or at lynne.robinson@dal.ca.

Thank you for taking the time to consider taking part in this study.

Sincerely,

Genevieve Breau, BSc. (Hons),

M.A. Health Promotion (candidate),

Dalhousie University,

Email: gbreau@dal.ca

Appendix B

Consent Form

Capital Health

QEII Health Sciences Centre

CONSENT TO TAKE PART IN A RESEARCH STUDY

Participant Information

STUDY TITLE: **Depression Screening Practices at a Tertiary Care Cancer Centre**

PRINCIPAL **Genevieve Breau,**

OR QUALIFIED **School of Health and Human Performance,**

INVESTIGATOR: **Dalhousie University,**

6230 South St., Halifax, Nova Scotia, B3H 3J5

Phone: (902) 420-0095

ASSOCIATE INVESTIGATORS: Please see the attached Research Team Contact Page for a full list of the investigators for this study.

PART A.

RESEARCH STUDIES – GENERAL INFORMATION

1. INTRODUCTION

You have been invited to take part in a research study. Taking part in this study is voluntary. It is up to you to decide whether to be in the study or not. Before you decide,

you need to understand what the study is for, what risks you might take and what benefits you might receive. This consent form explains the study.

Please read this carefully. Take as much time as you like. If you like, take it home to think about for a while. Mark anything you don't understand, or want explained better. After you have read it, please ask questions about anything that is not clear.

The researchers will:

- Discuss the study with you
- Answer your questions
- Keep confidential any information which could identify you personally
- Be available during the study to deal with problems and answer questions

PART B.

EXPLAINING THIS STUDY

2. WHY IS THIS STUDY BEING DONE?

Currently, at the Nova Scotia Cancer Centre, there is no protocol in place for screening patients for depression. However, it is possible that clinicians do screen patients for depression, even though it is not required. Thus, the present study is investigating oncologists and oncology nurses' depression screening and treatment practices.

3. WHY AM I BEING ASKED TO JOIN THE STUDY?

You were asked to participate because you are an oncologist or oncology nurse practicing at the Nova Scotia Cancer Centre. This study is about the screening and treatment practices of oncologists and oncology nurses because they are the most frequent contacts for cancer patients.

4. HOW LONG WILL I BE IN THE STUDY?

Participating in this study consists of one interview session, lasting 20-30 minutes. The interview will be scheduled at time and place convenient to you.

5. HOW MANY PEOPLE WILL TAKE PART IN THIS STUDY?

All of the oncologists and oncology nurses at the Nova Scotia Cancer Centre are being invited to participate. No other cancer centres are involved in this study.

6. HOW IS THE STUDY BEING DONE?

This study is a qualitative study, which consists of a single structured interview. The majority of the questions are closed-ended; however, there are some open-ended questions that you may answer in your own words.

7. WHAT WILL HAPPEN IF I TAKE PART IN THIS STUDY?

Written, informed consent will be obtained from you at the beginning of the interview. The structured interview adapted for use in this study will then be administered. I will be asking you a series of questions with several answer options, and some open-ended questions. You will then have the opportunity to ask any questions of your own that arise as a result of the interview. You may also review your completed interview if you wish, while the study is ongoing.

8. ARE THERE RISKS TO THE STUDY?

There is a small chance that anonymity may be breached during the study. However, this risk will be minimized in the following manner. First, the interview will take place at a private room in the centre. Second, your transcribed interview will be coded with an identification number, and the electronic file linking your identity to your identification number will be password-protected. Finally, publications resulting from this study will not identify you in any way. Additionally, the information you provide will not affect your work evaluations.

9. WHAT HAPPENS AT THE END OF THE STUDY?

Once the study is complete you have the option of receiving a report of the results,

prepared for the tertiary care cancer centre.

10. WHAT ARE MY RESPONSIBILITIES?

As a study participant you will be expected to:

- Freely provide consent.
- Follow the directions of the Principal Investigator.
- Participate in the structured interview.
- Notify the Principal Investigation if you wish to withdraw from the study.

11. CAN I BE TAKEN OUT OF THE STUDY WITHOUT MY CONSENT?

Yes. You may be taken out of the study at any time, if:

- There is new information that shows that being in this study is not in your best interests.
- The Capital Health Research Ethics Board or the Principal Investigator decides to stop the study.

You will be told about the reasons why you might need to be taken out of the study.

12. WHAT ABOUT NEW INFORMATION?

New information about depression screening is not expected to affect this study.

13. WILL IT COST ME ANYTHING?

Compensation

You will be given a Tim Hortons gift card, with a monetary value of $10.00, as a thank you gift for participating in the study.

Research Related Injury

If you become ill or injured as a direct result of participating in this study, necessary medical treatment will be available at no additional cost to you. Your signature on this form only indicates that you have understood to your satisfaction the information regarding your participation in the study and agree to participate as a subject. In no way does this waive your legal rights nor release the Principal Investigator, the research staff, the study sponsor or involved institutions from their legal and professional responsibilities.

14. WHAT ABOUT MY RIGHT TO PRIVACY?

Protecting your privacy is an important part of this study.

When you sign this consent form you give us permission to:

- Collect information from you
- Share information with the people conducting the study

Your name and contact information will be kept secure by the research team at the QEII Health Sciences Centre. It will not be shared with others without your permission.

Your name will not appear in any report or article published as a result of this study. Information collected for this study will kept as long as required by the institution. This will be 7 years or more.

If you decide to withdraw from the study, the information that you provided can be withdrawn from the study.

Information collected and used by the research team will be stored by the research team at Dalhousie University. The Principal Investigator is the person responsible for keeping it secure.

You may also be contacted personally by Research Auditors for quality assurance purposes.

Your access to records

You may ask the study's Principal Investigator to see the information that has been collected about you.

15. WHAT IF I WANT TO QUIT THE STUDY?

You may decide to withdraw at any point during the interview, and your data will not be used. If you decide after the interview to withdraw, you may contact the study investigators and ask to have your information withdrawn from the study, up until the study is complete. Your transcribed interview will be coded with an identification number so that you will not be identified. However, a password-protected electronic file will link participants to their identification number, so if after the study you wish to withdraw, your data can be omitted from the study.

16. DECLARATION OF FINANCIAL INTEREST

The Principal Investigator is receiving a student stipend from the Nova Scotia Research Foundation, which includes a small stipend to conduct the study. The Principal Investigator has no financial interests in conducting this research study.

17. WHAT ABOUT QUESTIONS OR PROBLEMS?

For further information about the study call **Genevieve Breau. Ms. Breau** is in charge of this study at this institution (she is the "Principal Investigator"). Ms. Breau's telephone number is (902) 420-0095. If you can't reach the Principal Investigator, please refer to the attached Research Team Contact Page for a full list of the people you can contact for further information about the study.

The Principal Investigator is **Genevieve Breau**.

Telephone: (902) 420-0095.

18. WHAT ARE MY RIGHTS?

After you have signed this consent form you will be given a copy.

If you have any questions about your rights as a research participant, contact the **Patient Representative** at **(902) 473-2133**.

In the next part you will be asked if you agree (consent) to join this study. If the answer is "yes", you will need to sign the form.

PART C.

19. CONSENT FORM AND SIGNATURES

I have reviewed all of the information in this consent form related to the study called:

Depression Screening Practices at a Tertiary Care Cancer Centre

I have been given the opportunity to discuss this study. All of my questions have been answered to my satisfaction.

This signature on this consent form means that I agree to take part in this study. I understand that I am free to withdraw at any time.

_____ _____ ___/____ /___

Signature of Participant Name (Printed) Year

Month Day*

_____ _____ ___/____ /___

Witness to Participant's Signature Name (Printed) Year

Month Day*

_____ _____ ___/____ /___

Signature of Investigator Name (Printed) Year

Month Day*

_____ _____ ___/____ /___

Signature of Person Conducting Name (Printed) Year

Month Day*

Consent Discussion

***Note: Please fill in the dates personally**

I WILL BE GIVEN A SIGNED COPY OF THIS CONSENT FORM.

Thank you for your time and patience!

20. Research Team Contact Page

Principal Investigator: **Genevieve Breau**

School of Health and Human Performance,

Dalhousie University,

6230 South St.,

Halifax, NS B3H 3J5

Email: gbreau@dal.ca

Phone: (902) 420-0095

Associate Investigators: **Dr. Lynne Robinson**

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Appendix C

Structured Interview

How do oncology clinicians screen and treat depression in cancer patients?

The purpose of this interview is to explore how you have recognized depressive symptoms in your patients, and also enquires about the steps that you take once you have realized that a patient has depressive symptoms and/or may be depressed.

All of your responses are confidential, and when the answers you provide will remain confidential: you will not be identified in any way when the results that you provide are published.

Some of the questions during this interview are closed-ended (i.e. multiple choice), while others will be open-ended (i.e. you can answer the question in your own words). The entire interview will take approximately 20-30 minutes. You may ask to stop the interview at any point, and if you would like to finish answering the questions but you have to leave, we can continue the interview at another time, scheduled at your own convenience.

Interviewer ID: _____

Section I – Demographic Information

1. Profession:
    a. Oncologist ☐
    b. nurse ☐
2. Number of years practicing in oncology: _____years (decline to answer)
3. Number of years practicing at the tertiary care cancer centre _____years (decline to answer)
4. Average number of minutes with patient during one visit: _____minutes

Section II – Depression Screening Practices

The questions in the next section ask about how you recognize and screen for depression and/or depressive symptoms in your patients. Some questions are open-ended, while others are closed-ended (i.e. multiple-choice).

5. According to your own experience, what are the symptoms of a patient who is depressed?

   _____

   _____

6. How frequently do you ask your patients about their mood?
   a. Rarely
   b. Occasionally
   c. Frequently
   d. Always
7. How often do you ask patients if they enjoy activities that they used to enjoy?
   a. Rarely
   b. Occasionally
   c. Frequently
   d. Always
8. How often do you ask if they have feelings of worthlessness or guilt?
   a. Rarely
   b. Occasionally
   c. Frequently
   d. Always
9. Are there any other ways that you screen for depression, besides asking patients about their mood, enjoyment of activities, and their feelings of worthlessness or guilt?

   _____

   _____

   _____

Section III-Depression Treatment Practices

The next group of questions asks about how you treat depression in cancer patients once you recognize that they are depressed. Depression for these questions includes a patient who is more distressed than a person in that situation would usually be, and he/she may have symptoms including depressed mood, problems enjoying previously enjoyable activities, or feelings of worthlessness or guilt. All of the questions in this section are closed-ended (i.e. multiple-choice).

10. If a patient reports feeling depressed, do you (check all that apply):
    a. Ask more about it
    b. Refer for psychiatric or psychological help
    c. Prescribe medication (physicians only)
    d. Move on to next issue during appointment
    e. Other (specify): _____
11. How often do you prescribe medication for depression? (physicians only)
    a. Rarely
    b. Occasionally
    c. Frequently
    d. Always
12. How often do you refer patients for psychological or psychiatric help?
    a. Rarely
    b. Occasionally
    c. Frequently
    d. Always
13. If you refer patients for help, what type?
    a. Psychological
    b. Psychiatric
    c. Self-help group
    d. Other

Section IV – Screening Attitudes and Beliefs

The next group of questions asks about your opinions about screening patients for depression. Once again, the definition of depression for these questions is when a patient is more distressed than a person in that situation would usually be, and he/she may have symptoms including depressed mood, problems enjoying previously enjoyable activities, or feelings of worthlessness or guilt. All of the questions in this section are closed-ended, and are scored on a seven-point Likert scale.

14. In the past four weeks I intended to screen all of my patients for depression.

1 2 3 4 5 6 7

Strongly disagree Strongly agree

15. Screening for depression in cancer patients is:

1 2 3 4 5 6 7

Useless Useful

16. Screening patients for depression can reduce uncertainty about whether they have depression.

1 2 3 4 5 6 7

Strongly disagree Strongly agree

17. Reducing uncertainty about patients' depression is:

1 2 3 4 5 6 7

Useless Useful

18. Most of my colleagues believe that I should routinely screen for depression in my patients, or ask for them to be screened.

1 2 3 4 5 6 7

Strongly disagree Strongly agree

19. Most of my patients believe that I should routinely screen them for depression.

1 2 3 4 5 6 7

Strongly disagree Strongly agree

20. How much do you want to do what patients think you should do?

1 2 3 4 5 6 7

Not at all Very much

21. Whether I screen my patients for depression is under my control.

1 2 3 4 5 6 7

Strongly disagree Strongly agree

22. I have the adequate skills and training to screen my patients for depression.

1 2 3 4 5 6 7

Strongly disagree Strongly agree

23. My level of skills and training determines whether I ask for screening or screen my patients for depression myself.

1 2 3 4 5 6 7

Strongly disagree Strongly agree

24. In the past four weeks I screened all of my patients for depression.

1 2 3 4 5 6 7

Strongly disagree Strongly agree

Section V – Open-Ended Questions

The next set of questions asks more about your opinions about depression and cancer patients, and all the questions are open-ended; you can answer each question in your own words.

25. Who has a role in screening for depression, and what role would that be?

I'd like to understand what factors influence screening at your clinic.

26. a) What impedes your screening for depression in your patients?

26. b) What facilitates your screening for depression in your patients?

27. What cancer characteristics, such as type and stage of cancer, might make you more likely to screen for depression?

28. What patient characteristics, such as age or gender, might make you more likely to screen for depression?

29. Is there anything else you would like to add about depression in cancer patients?

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