Barriers to Music Therapy Participation for Cancer Patients during Hospitalization

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Abstract

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Barriers to Music Therapy Participation for Cancer Patients during Hospitalization

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Music therapy is an allied health profession that offers effective symptom management and psychosocial support to patients receiving medical care for cancer. However, patients’ rejection of music therapy service continues to be the main barrier to service (Burns, Sledge, Fuller, Daggy, & Monahan, 2005). This study explores factors contributing to music therapy service rejection through a cross-sectional survey study. Results indicate that gender difference was significant in numbers of perceived benefits ($p < .0001$) and awareness of psychosocial needs ($X^2 = 8.54, p = .04$), and previous experience in music therapy was significant in awareness of psychosocial needs ($X^2 = 4.12, p = .04$) as well as perception of personal barriers ($X^2 = 4.84, p = .03$). The presence of perceived music therapy benefits ($X^2 = 9.76, p = .02$), the awareness of psychosocial needs ($X^2 = 11.86, p = .008$), and the absence of personal barriers ($X^2 = 11.26, p = .01$) were associated with a higher likelihood of accepting music therapy. Clinical implications are discussed and recommendations are given for music therapy clinicians working with an oncology population in inpatient medical settings.
Dedication

To Angeline Lyman, a woman of light, love, and inspiration.
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Chapter 1: Introduction

Music plays a significant role in human functioning and creates an effect on human behavior beyond its recreational purpose (Rentfrow, 2012). The connection between music and human functioning allows music therapists to utilize music for therapeutic interventions to address therapeutic goals in physical, psychological, cognitive, and social areas across a wide variety of populations and across the life span (American Music Therapy Association [AMTA], 2017; Davis & Gfeller, 2008).

A person’s wellbeing in physiological, psychological, cognitive, behavioral, social and spiritual domains may be influenced by changes in physical health (Dileo & Bradt, 2005). A change in physical condition, such as lack of energy, general weaknesses, shortness of breath, or pain, may prompt the need to seek medical attention (Winstanley, Renzi, Smith, Wardle, & Whitaker, 2016). These symptoms may compromise a person’s everyday functioning and wellbeing, which can further intensify the needs for social and emotional connections. Receiving medical care in either inpatient or outpatient settings may elicit some levels of isolation resulting from the physical barrier created by a hospital or clinic environment (Williams, Dawson, & Kristjanson, 2008). To sum up, patients receiving medical care may experience physical and emotional symptoms that are caused by the medical condition or treatment, thus resulting in various levels of psychosocial needs, all of which have an impact on general wellbeing.

Music Therapy and Patient-Centered Care

Music therapy is an allied health profession that addresses physical, psychological, social, and cognitive functioning through music interventions (AMTA, 2017). For a patient with medical needs, music therapy offers non-pharmacological
management of symptoms as well as psychosocial care (Hanson-Abromeit, 2010). Music therapy clinicians value each patient’s unique needs and will develop patient-centered treatment plans to meet the needs of each individual (Miller & O’Callaghan, 2010). This approach of patient-centered care now has an increasing significance in a time of healthcare reform (Smith, Flamm, & Pentz, 2009).

In order to pursue better empowerment for patients in healthcare, the Institute of Medicine (IOM) has embraced the person-centered model as a replacement for the traditional paternalistic approach (Lines, Lepore, & Wiener, 2015). Patient-centered care embraces the individuality of each patient and focuses on delivering healthcare in a way that is important to each individual. The power to make one’s own medical decision has increased patients’ autonomy. This emphasis on the patients’ preferences and culture in their healthcare emerged from the focus on caring for the whole person, which implies that a person’s emotions, spirituality, value, and quality of life are all taken into consideration, instead of focusing solely on the medical condition (White, Newton-Curtis, & Lyons, 2008).

The shift to patient-centered care may lead to a high impact on healthcare outcomes, since patient satisfaction has become one of the evaluative indicators for the Centers for Medicare and Medicaid Services (CMS) to rate the quality of care for hospitals (CMS, 2013). The hospitals that receive higher patient satisfaction score will be incented with a higher rate of reimbursement. In other words, a patient-centered care approach may influence both the delivery of healthcare and reimbursement for healthcare providers (CMS, 2013; Rushing & Barragan, 2014). Since music therapy embraces and
practices within the principles of patient-centered care, it seems to reason that it can both benefit patients and also support the mission of healthcare in medical facilities.

Cancer Care

Patients with cancer commonly experience both physical and psychosocial symptoms. Cancer brings physical, emotional, social, and financial challenges into a patient’s life, starting when a diagnosis is received. Anxiety, pain, a depressed mood, and nausea are some of the most commonly reported symptoms from cancer patients, regardless of the stage of illness (Yeung, Escalante, & Gagel, 2009). All of these symptoms influence a person’s daily functioning and quality of life. Even though cancer may no longer be viewed as a death sentence but rather as a chronic condition (Bedrosian, Lambert, & Pollock, 2009; NCI, 2015a), cancer patients may still constantly live in emotional distress, including fear, feelings of uncertainty, and worries that the cancer may return (Brucia, Dileo, Shultis, & Dennery, 2009). The causes of these symptoms are often multidimensional, including the stress of disease management, side effects from treatment, or the cancer itself; therefore, it may be most effective if the symptoms can be addressed with a multidimensional approach (Bellamy & Weed, 2009).

Music Therapy in Cancer Care

The effectiveness of music therapy on symptom management and psychosocial care has been a focus of research for decades (Bradt, Dileo, Grocke, & Magill, 2011). Music therapy has been reported to have positive results in symptom management in cancer, including anxiety reduction (Cassileth, Vickers, & Magill, 2003; Clark et al., 2006; Ferrer, 2007; Horne-Thompson & Grocke, 2008; Palmer, Lane, Mayo, Schluchter, & Leeming, 2015), pain management (Gutgsell et al., 2013; Zimmerman, Pozehl,
Duncan, & Schmitz, 1989), mood enhancement (Burns, 2001; Cassileth, Vickers, & Magill, 2003; Gallagher, Lagman, Walsh, Davis, & LeGrand, 2006; Lane, 1991; Pothoulaki, MacDonald, & Flowers, 2012; Waldon, 2001), and nausea/emesis management (Madson & Silverman, 2010; Standley, 1992). While research efforts continue to explore evidence for the effectiveness of music therapy on symptom management, there seems to be a trend in recent years to examine the meanings and connections behind psychosocial support with music therapy.

Music therapy may be an effective service in providing psychosocial care for cancer patients in various areas, such as offering spiritual support (Kidwell, 2014; Magill, 2009; McClean, Bunt, & Daykin, 2012), increasing quality of life (Hilliard, 2003; Mandel, Davis, & Secic, 2014), and enhancing psychological well-being (Burns, 2001; Burns, Harbuz, Hucklebridge, & Bunt, 2001). The benefit of music therapy can even extend beyond the patients to their caregivers and families (Choi, 2010; Magill, 2009; O’Callaghan, McDermott, Hudson, & Zalcberg, 2013). The capacity of music therapy to not only address needs in symptom management but also support psychosocial needs indicates that it may be an invaluable service to address the multidimensional needs of patients receiving cancer care.

**Patients’ perspectives on music therapy.** Even though there has been a growing amount of evidence on the effects of music therapy on cancer care, there has been limited information from patients’ perceptions of music therapy service. Burns et al. (2005) found that most cancer patients were interested in music therapy, with a preference for passive music listening. The finding for intervention preference of music listening matched the findings by Bruscia et al. (2009) in their study comparing patient perceptions
of music therapy between cancer patients and cardiac patients. The majority of patients in this study saw music therapy most beneficial as a social and recreational activity, stress or anxiety relief, and spiritual support or inspiration (Bruscia et al., 2009). While these studies clearly show the benefits of music therapy and patients’ preferences, they may not be adequate in providing evidence explaining barriers to music therapy services.

However, studies that explore barriers to music therapy services have been emerging. For example, Kemper and McLean (2008) asked parents of pediatric patients with acute lymphoblastic leukemia about their music use habits at home for themselves as well as for their children to understand their attitudes toward using music for therapeutic purposes. Most parents reported using music at home, but primarily as entertainment or distraction. The study discusses the potential rejection of the therapeutic use of music, since there may have been a conflict between both the expectations for and the functions of music used at home versus at the hospital. Although this study presented insightful information on barriers to music therapy service, the data were collected from the caregivers of pediatric patients, rather than the patients themselves. Even though caregivers may know their patients very well, there can still be misrepresented information when evaluating patients’ preferences versus asking their opinions directly. Moreover, the researchers of this study were not music therapy clinicians, and thus the conclusions may only be applicable for music medicine instead of music therapy.

**Problem statement.** The reason why some patients accept music therapy service while some decline it remains unclear. Just like a caregiver’s preferences can be different from those of a patient, the difference between a patient’s expectations of music therapy service be been different from a clinician’s assessment of the need for service (Kemper &
McLean, 2008). Even though music therapy may potentially offer various benefits to patients and medical facilities, no benefits can be delivered if service is declined (Bruscia et al., 2009; Burns et al., 2005). Even though respecting patients’ choices to accept or decline services is within music therapy ethical guidelines (Dileo, 2000), there is a need to further understand the barriers to service from a patient’s standpoint in order to reinforce evidence-based music therapy practice, which is defined as practice that “integrates the best available research, the music therapists’ expertise, and the needs, values, and preferences of the individual(s) served.” (AMTA, 2010). While continuing to establish evidence of the effects of music therapy on cancer care is important, there has been insufficient information about patients’ perspectives on specific needs during hospitalization, their expectations for music therapy, and whether these two aspects match. Current literature has provided some information on expectations for music therapy from patients with experience in music therapy sessions; however, patients without prior music therapy experience have equal opportunities of receiving music therapy referrals in a medical setting. Therefore, there is a need to understand the perspectives on music therapy from cancer patients with or without music therapy experiences instead of only from those who are familiar with these experiences. Moreover, there has been a lack of understanding of challenges to participation in music therapy in a hospital environment, other than the conflicts between preexisting attitudes and expectations for the use of music (Kemper & McLean, 2008). Even though support for the intense and complex needs of cancer care has been made available from both conventional medicine and complimentary services through integrative oncology (Geffen, 2010), the rejection of service poses the biggest barrier for patients to receive
support. There has been a need to explore and expand clinicians’ understanding of cancer patients’ needs during hospitalization to optimize service accessibility for patients.

Treatment or service rejection, on the other hand, may not be unique to music therapy. The reasons that patients decline treatment or service have been an inquiry in many professions, including psychotherapy (Gruber & Persons, 2010), addiction treatment (Kelly, Kahler, & Humphreys, 2010; Tam & Law, 2007), and gerontology (Areán, Alvidrez, Barrera, Robinson, & Hicks, 2002). These studies allowed clinicians to examine the challenges patients face. Even if, due to the nature of the barrier, adjustments cannot be made, a deeper understanding of patients’ needs will still be invaluable for clinicians providing services under the guidelines of patient-centered care. Therefore, seeking further understanding regarding patients’ perceptions of and expectations for music therapy is necessary, since exploring and understanding the origin of an issue may be the key to allowing opportunities for solutions (Mullaney, Pettersson, Nyholm, & Stolterman, 2012).

The purpose of this pilot study is to explore cancer patients’ perceptions on expectations for music therapy, barriers to music therapy participation, and needs during hospitalization while receiving inpatient care. This was accomplished by collecting information directly from patients through a survey while the participants were receiving inpatient care.

**Research Questions**

1. What are the perceived benefits of music therapy for hospitalized patients with cancer?

2. What are the perceived needs of hospitalized patients with cancer?
3. What are the perceived personal, physical, social, and medical barriers to music therapy for hospitalized patients with cancer?

**Definition of Terms**

**Intervention.** This refers here to music therapy techniques used in a session in order to achieve a goal. Common medical music therapy interventions including live music listening, music-assisted relaxation, interactive singing, interactive playing, lyric analysis, song transformation/song writing, and improvisation (Miller & O’Callaghan, 2008).

**Music therapy.** Defined as “the clinical and evidence-based use of music interventions to accomplish individualized goals within a therapeutic relationship by a credentialed professional who has completed an approved music therapy program” by the American Music Therapy Association (AMTA, 2017).

**Oncology.** The study and treatment of tumors, or often referring to the study and treatment of cancer. The origin of oncology is from the Greek word ónkos, which means mass or bulk.
Chapter 2: Literature Review

Cancer is a collective term for a group of diseases caused by abnormal cell growth that eventually invades the immune system (Belk & Borden, 2009). The disease can spread to distal sites or organs away from the original site, a process called metastasis. Cancer has haunted the human population for centuries, but research on cancer was not prominent until the establishment of the National Cancer Institute (NCI) in 1937 with the announcement of the National Cancer Act (NCI, 2015b). Since then, funding has been dedicated to cancer research, aiming to find a cure or to eradicate this disease, similar to the successful experiences of eradicating tuberculosis and smallpox. However, cancer remains the second leading cause of death in the United States (Centers for Disease Control and Prevention [CDC], 2016) and the threat of cancer to the general population has not ceased to grow. The National Cancer Institute has estimated that there will be more than 1.68 million newly diagnosed cancer cases in 2016 and that more than 595,000 people will die from cancer in the United States that year (NCI, 2016).

Physical Impact of Cancer

Cancer is a physical illness that directly compromises a person’s physical wellness and affects the wellbeing of the whole person socially, emotionally, and financially (Thompson, Raison, Jonas-Accardi, & Miller, 2009). Depending on the original site of cancer, symptoms may vary, including unexplained pain, unexplained weight loss, change in bowel or bladder habits, or unexplained bleeding that were caused by the malignancy (Winstanley et al, 2016). The excessive growth of cancerous cells may form tumors and metastasize to distal areas in the body. Metastasized cancer causes more physical discomfort or malfunctioning for the patient and makes treatment more
complicated to manage, which presents a great challenge in itself for cancer treatment and management for cancer (Hwang, Cooper, & Gagel, 2009). The timing of cancer development and metastasis can be difficult to predict, as sometimes the process may have already begun before the diagnosis was made. For fast-developing types of cancer, such as lung cancer, early diagnosis can be a life-saving factor (Waglang et al., 2016).

**Psychosocial and Emotional Impact of Cancer**

Cancer impacts a person’s wellbeing and functioning beyond the physical aspects of a person’s overall health. From the fear of receiving a diagnosis to the intense treatment process, extreme emotional responses, such as fear, anger, avoidance, and anxiety, have usually been observed in oncology care (Gagel, 2009). Fear or lack of understanding were identified to be major factors that can further delay the help-seeking process and result in severe consequences (Fish, Prichard, Ettridge, Grunfeld, & Wilson, 2015; Morris et al., 2016; Taber, Leyva, & Persoskie, 2014). These intense feelings can further impair the already fragile physical state and further influence emotional and social wellbeing, thus creating a barrier to a person’s psychosocial functioning. Even though anger, avoidance, and anxiety can present themselves as coping skills for cancer patients, without proper management, these coping strategies become barriers to a support system (Miller & O’Callaghan, 2010). A lack of social support, presence of physical illness, and presence of anxiety and depression are all risk factors for suicide in the general population. As a result, it is no surprise that suicide risk has been found to be twice higher in cancer patients than in the general population (Marzani-Nissen & Baum, 2009).
Medical Care and Help-Seeking

Patients with a history of cancer often live in the fear that the malignancy may return (Bruscia, et al., 2009; Winstanley et al., 2016). A patient with a history of cancer often relies on body vigilance to monitor symptoms that may indicate changes in one’s physical function (Winstanley, et al., 2016). Depending on the severity of symptoms, however, not all symptoms will need to be addressed by a medical professional. The time one takes to recognize and decipher bodily changes is called the patient appraisal interval, and the time to take action for this symptom is called the help-seeking interval (Wagland et al., 2016; Winstanley et al., 2016). Patient appraisal intervals and help-seeking intervals are crucial for early diagnosis for diseases, since early diagnosis or intervention can be the key to higher survival rate and better treatment outcomes for diseases like cancer (Taber, Leyva, & Persoskie, 2014; Wagland et al., 2016). However, barriers that delay the help-seeking intervals still exist. Researchers have explored and identified barriers to medical care, including the affordability of healthcare (Kullgren, McLaughlin, Mitra, & Armstrong, 2012; Taber, Leyva, & Persoskie, 2014), low perceived needs (Taber, Leyva, & Persoskie, 2014), feelings of embarrassment or other emotional barriers (Fish et al., 2015; Morris et al., 2016; Taber, Leyva, & Persoskie, 2014), patients’ lack of knowledge (Fish et al., 2015; Morris et al., 2016), and the fear of receiving undesired results (Fish et al., 2015; Morris et al., 2016; Taber, Leyva, & Persoskie, 2014). All of these factors can contribute to delays in receiving treatment. For conditions like cancer that progress rapidly with unpredictable patterns, a prolonged help-seeking interval may result in serious consequences (Winstanley et al., 2016).
Cancer Treatment and Symptoms

As research for cancer treatment continues, there are many more options for cancer treatment even compared to just decades ago. Before the discovery of using chemicals to control it in the 1940s, surgical removal of malignant tumors was the only treatment option for cancer (DeVita & Chu, 2008). Options for cancer treatments now include surgery, chemotherapy, radiation therapy, targeted therapy, immunotherapy, stem cell transplant, and hormone/endocrine therapy (NCI, 2015c). Each of these types of treatment has different benefits but also brings unique challenges and risks to patients. Pain, infection, fatigue, nausea, fever, headache, a compromised immune system, and change of body image (such as hair loss, mouth sores, and removal of organs) are just a few of the challenges and risks from receiving cancer treatment. However, physical challenges are only the surface of challenges. Other underlining challenges may include anxiety, a depressed mood, and impaired quality of life (Adler & Page, 2008).

Pain. Patients may experience physical and psychosocial symptoms before, during, or after treatment for cancer. It has been estimated that one third to one half of all patients experience pain while receiving cancer treatment (Adler & Page, 2008). Pain is a sensation produced by the nervous system that may be intensified from emotional suffering (Portenoy & Mathur, 2009). Pain impairs a person’s ability to function and lowers one’s quality of life. Patient-perceived pain may be difficult to eliminate completely and may only be alleviated via pharmacological interventions. Uncontrolled pain can lengthen hospitalization time and decrease patient satisfaction, both of which are factors that determine if the medical facility is to receive reimbursement (Rushing & Barragan, 2014). Pain may also be a risk factor for increased suicidal risk: Marzani-
Nissen and Baum (2009) reported that eight out of ten cancer patients who had had suicide attempts had asked for better pain control prior to the attempts. The symptoms of pain impact a patient’s safety and degree of physical impairment as well as his or her psychosocial wellbeing and quality of life, which makes addressing pain a priority in cancer care (Adler & Page, 2008).

**Anxiety.** Anxiety is one of the most frequently identified psychological symptoms in palliative care and the most common psychiatric disorder in the general adult population (Radbruch et al., 2003; Marzani-Nissen & Baum, 2009). Even though anxiety may be a natural and healthy response under pressure and change (Miller & O’Callaghan, 2010), high levels of anxiety can cause physiology symptoms, such as impaired attention, irritability, and difficulty sleeping (Marzani-Nissen & Baum, 2009). Cancer patients are more susceptible to anxiety disorders than the general population, due to both the unpredictability in the disease itself and also the treatment process, from receiving new cancer diagnosis to beginning new medication or treatment to waiting for test results to waiting for scheduled procedures – it can be a process full of transitional points. Even though, as reported from a longitudinal study tracking multiple symptoms from cancer patients receiving curative treatment (Trudel-Fitzgerald, Savard, & Ivers, 2013), the symptoms may decrease over time, the level of stress and the anxiety of managing a curable cancer may be fundamentally different compared to managing a metastatic cancer, as the stress of managing a metastatic cancer may be notably higher than managing a curable disease (C. Witt, personal communication, March 23, 2016). Anxiety has been identified as a risk factor for the development of Acute Stress Disorder
and Post-Traumatic Stress Disorder, which increases its priority to be addressed as soon as symptoms are identified (Marzani-Nissen & Baum, 2009).

**Depressed mood.** Higher percentages of cancer patients suffer from depression than the general public; however, depression among cancer patients may be highly undertreated (Thompson et al., 2009). From receiving a diagnosis to going through tests and examinations to receiving invasive treatments, the battle with cancer can be an emotional journey. Symptoms of emotional distress are usually assessed by affect, behavior, or self-evaluation by a patient. However, several challenges may hinder the evaluation of depression in cancer patients. Because a depressed mood may often be perceived as a natural response to cancer, as a result, symptoms of depression in cancer patients may be overlooked instead of being addressed. Depression may be difficult to detect in cancer patients because symptoms of depression cross over with many other symptoms of cancer or its treatment, such as fatigue, gastrointestinal irritation, weight change, or pain, thus adding on to the challenge of properly assessing and treating depression in cancer patients (Adler & Page, 2008).

**Outpatient and inpatient care.** A number of cancer treatment options, including chemotherapy, radiation therapy, and surgery, can be offered and are available in both outpatient and inpatient settings. Outpatient clinics offer numerous benefits to patients receiving treatment for cancer, such as convenience, flexibility, and being economically friendly (Chastek et al., 2012), which makes them a preferred option for most patients (Lee, Hung, Mo, & Ho, 2010), even though the risk for infection and safety outcomes were found to be similar when comparing inpatient and outpatient breast reconstruction surgeries (Qin et al., 2015). Unfortunately, inpatient care may be unavoidable for most
cancer patients, due to the disease’s natural progress (Numico et al., 2015). The cost associated with acute inpatient care may be much higher when a patient approaches the end of his or her life (Chastek et al., 2012).

Common reasons for admission include diagnosis of cancer, treatment, and symptom management. In the United States of America, types of treatment alone do not qualify for inpatient status. The Centers for Medicare and Medicaid Services have published specific criteria for inpatient status, including a physician’s order and the necessity for staying in the hospital at least two nights (Centers for Medicare and Medicaid Services [CMS], 2014). There are other mandatory criteria that medical facilities need to follow, such as clear documentation for the reason for admission, estimated time for hospitalization, plans of care, and records of procedures (CMS, 2014). These criteria have been published for billing and insurance coverage reasons, which are beyond the realm of this study. However, whether or not a patient has been admitted for inpatient care, his or her physical and psychosocial wellbeing may very likely be affected by the hospital environment.

**Challenges Associated with the Hospital Environment**

Hospitalization may become necessary for an oncology patient at some point of the progression of the disease (Chastek et al., 2012). Whether an inpatient or outpatient setting, the hospital environment may create a physical isolation that may be associated with undesired emotions, which can intensify the already fragile emotional and physical state. The nature of a hospital environment – environmental noise, interruption, lack of stability, and lack of privacy – may lead to further distress and loss of control for hospitalized patients (Dougherty, 2010). As a result, decreased sense of control and
quality of life may be compromised during hospitalization on top of wellbeing being already compromised due to managing a complex diagnosis (Williams, Dawson, & Kristjanson, 2008).

In a study exploring the meaning of the physical environment of a cancer center, Edvardsson, Sandman, and Rasmussen (2006) interviewed patients, patients’ families, medical staff, and interior designers. Results showed that the physical environment influences patients not only symbolically and metaphorically, it also actively influences patients’ experience of care received. For example, the study quoted a patient’s comment that going downstairs to the basement for radiation therapy treatment symbolizes that his physical and mental health were both declining. The private location of radiation therapy also prompted the patient to think that he belonged to a group that needed to be hidden from the public. These statements reflected the self-image, social isolation, and fear that the patient experienced. This study clearly demonstrated how environmental factors in a hospital can strongly influence a cancer patient’s wellbeing mentally, socially and existentially, which directly influence patients’ perspective of care and satisfaction (Edvardsson, Sandman & Rasmussen, 2006).

Constructive suggestions in making the hospital environment more manageable for patients are available. Bamm, Rosenbaum, and Wilkins (2013) concluded that open communication and supportive relationship with health care providers had a positive correlation with patients’ health-related quality of life and satisfaction with care. In a study investigating the need of patients and their families during hospital stay, Dougherty (2010) found that open, honest communication and simple language with sufficient information as to the plan of care and side effects were the most desired style of
communication, reflecting patients’ need for control in a hospital environment (Williams, Dawson, & Kristjanson, 2008).

Being hospitalized creates a physical barrier to the outside world as well as a feeling of psychological isolation (Larsen, Larsen, & Birkelund, 2014; Williams, Dawson, & Kristjanson, 2008). Not only does hospitalization carry a symbolic meaning of having normalcy taken away, the fundamental need of control for one’s life may also be compromised. This often creates high levels of isolation and vulnerability for hospitalized patients while being away from home and family. The need for control may be a reflection of cancer patients’ needs for high-quality care and safety protocols in the hospital (Larsen, Larsen, & Birkelund, 2014).

The advancements in medical knowledge, technology, and treatment options for cancer have significantly lowered mortality rates and increased survival rates of cancer patients. According to the National Cancer Institute (2015a), the five-year survival rate for cancer has increased to more than 66%, and it is anticipated to continue to increase in the future. These statistics show an increasing need to modify the approach to cancer as a chronic disease (Bedrosian, Lambert, & Pollock, 2009; Marzani-Nissen & Baum, 2009) and continue to enhance care for survivorship (Geffen, 2010). To provide more comprehensive and well-rounded care for cancer patients, both physical and psychosocial aspects of care have to be addressed (Adler & Page, 2008).

Being affected by cancer involves not only physical challenges (Adler & Page, 2008; Geffen, 2010; Bellamy & Weed, 2009), but compromised emotional, social, and psychosocial wellbeing are often experienced. Emotional and other mental health issues may cause a need for support for cancer patients, as they may constantly live in fear,
distress, and isolation. Some patients reported experiencing symptoms that were similar to post-traumatic stress disorder (PTSD; Adler & Page, 2008). No matter if a diagnosis has been given or not, the emotional need of cancer care cannot be underestimated. On a deeper level, going through a cancer diagnosis can bring up underlying existential issues within oneself. Patients may struggle with finding support for their spiritual needs while receiving medical care, such as finding a meaning in an illness, redefining their relationship with God, or finding meaning in death (Adler & Pager, 2008; Balboni et al., 2007; Geffen, 2010). Religious and/or spiritual needs have been found to have an association with coping and quality of life in cancer patients; however, they are among the least supported aspects in end-of-life medical care, as reported by Balboni et al. (2007). Patients may not be the only ones who need support with cancer care, as family or caregivers often experience similar level of anxiety, stress, fear, and distress when their loved ones are fighting with cancer (Adler & Page, 2008).

Taking care of a person beyond the observable and measurable physical symptoms in the traditional medical model can be challenging, as the primary focus has generally been to “fix” the physical symptoms (Geffen, 2010; Ghetti, Hama, & Woolrich, 2008). Today, the medical system has switched its approach to a focus that allows caring for the “whole person” instead solely focusing on the ailment. More advanced research in various fields, such as psychoneuroimmunology, has shed light on the complex connection between human cognition, emotions, and spirituality, as well as how these aspects influence one’s experience and physical wellbeing (Geffen, 2010; O’Callaghan & Miller, 2008). This new approach in medical care has brought more attention to integrative oncology – the joint use of conventional and complementary treatments for
cancer (Geffen, 2010; National Center for Complementary and Integrative Health [NCCIH]; 2016).

**Integrative Oncology**

Integrative oncology supports cancer care in all dimensions of needs, just as all aspects of the human experience are interconnected and cannot be separated (Dileo, 1999; Geffen, 2010). Not only does this approach acknowledge the complexity of needs of cancer patients and their families or caregivers, it is driven by the patients and their families’ desire to search for more options to increase the “whole person” care that they have not found in conventional medicine due to the traditional structure of the medical system (Geffen, 2010). The first example of this traditional structure is that primary care physicians may be limited in terms of the time they have available for each patient, due to high demands on their time. Even though patients desire more time for their physicians to listen to them, there may be no time for these doctors to discuss psychosocial needs after providing diagnosis and prescription. Secondly, medical doctors may not have enough training to support patients’ intense emotional, financial, or psychosocial needs. For example, even though a physician can be religious or spiritual himself or herself, being religious or spiritual does not mean being adequately trained in providing spiritual support. It has been argued that physicians may actually impose their own religious or spiritual views onto patients if they attempted to provide spiritual support, which could influence patients negatively instead of offering support as intended (Balboni et al., 2007). Therefore, many hospitals now offer interdisciplinary services to address needs for cancer patients that may not be addressed adequately by conventional medicine. The common services of an interdisciplinary team include social work, psychiatry, nutrition
consultation, and integrative medicine, such as music therapy, art therapy, and spiritual care, to promote wellness and quality of life (Bellamy & Weed, 2009). There has been an increasing number of music therapy research studies on cancer care (Dileo, 1999).

**Medical Music Therapy**

Medical music therapy is the clinical application of music therapy in medical facilities from general hospitals, cancer care, rehabilitation facilities, clinics, or hospices, to children’s hospitals and child care facilities for medically fragile infants and toddlers (AMTA, 2006; Standley, 2014; Standley & Walworth, 2005). The medical population has been reported to be the second largest population served by music therapists in the United States, with 17% of surveyed music therapists reporting working with the medical populations and 16% working in medical settings (AMTA, 2016). Medical music therapy engages patients in a therapeutic process with a music therapist and develops a therapeutic relationship through music and the treatment process (Dileo, 1999). Physical, psychological, social, and cognitive needs can be addressed by a music therapist by engaging patients in music therapy interventions within a therapeutic relationship, regardless of the age and baseline functioning of a patient (AMTA, 2015).

**Treatment process.** The standard process in music therapy treatment consists of the following components: referral, assessment, treatment, evaluation, documentation, and termination. After a client is referred to music therapy, an assessment will be performed to determine the need for service. If music therapy is recommended, the therapist will form individualized treatment goals and objectives and develop a client-specific treatment plan, which will include music therapy interventions to achieve target therapeutic outcomes and methods for evaluation (Gfeller & Davis, 2008). Areas of
assessment in music therapy include but are not limited to the medical, physical, cognitive, emotional, social, communication, family, and cultural aspects of a client. A treatment plan is designed by integrating data collected from the assessment process with interventions that are recommended for specific goals and objectives. The session process and observations require detailed documentation to serve as an evaluation for therapeutic outcomes, as well as a way to communicate amongst professionals involved in the care of a client (Waldon, 2016). When service is evaluated as no longer being beneficial to a client, service will be terminated. The therapeutic process is a general guideline with possibilities for adaptation to best serve a wide variety of populations.

In order to accommodate for the instability and unpredictability in a medical setting, the entire music therapeutic process may occur within one single music therapy session (Gallagher, 2011). Referrals for music therapy come from medical team members who are involved in a patient’s care, including physicians, nurse practitioners, social workers, care coordinators, physical therapists, nurses, self-referrals from a patient, or a patient’s family members (Gallagher et al., 2006; Standley & Walworth, 2005). Music therapists will extensively review a patient’s medical history, current medical needs, goals of care, social history, and other relevant background information to establish goals and objectives that are specific to the patient. Upon meeting the patient, the music therapist will integrate the information collected from the chart review with the patient’s condition observed in the moment to confirm or adapt goals and objectives, as well as to determine appropriate interventions and evaluation criteria for the session. Music therapists continue to assess and adapt while implementing treatment interventions to address patient-specific goals and needs (Bradt, Dileo, Magill, & Teague, 2016). Each
session will be documented in detail, including assessment information, the treatment process, outcomes of the session, and future plans or other recommendations for better communication between teams (Gallagher et al., 2006; Waldon, 2016).

In order to meet the various levels of needs that patients present in a medical setting, Dileo (1999) defined three levels of work medical music therapy can achieve: (a) supportive level, (b) specific level, and (c) comprehensive level. Supportive level music therapy supports medical intervention by providing distraction and coping skills for patients to manage symptoms; specific level music therapy requires deeper searching as to the underlying cause of a symptom, which may be equally important to medical treatment; and comprehensive level music therapy aims to find resolution with the symptom itself and functions as the primary treatment modality (Dileo, 1999). All levels of medical music therapy may be necessary to effectively address various needs when providing care for cancer patients (Dileo, 1999).

**Music therapy for symptom management in cancer care.** Music therapy has been increasingly integrated into cancer care in conjunction with standard medical care due to its effectiveness in symptom management in both inpatient and outpatient settings (Bradt et al., 2011; Standley & Walworth, 2005). Some common symptoms of patients who are hospitalized for cancer care include anxiety, pain, nausea/emesis, fatigue, and depressed mood (Yeung, Escalante, & Gagel, 2009). These symptoms may interfere with a patient’s normal functioning, independence, or safety, and thus create a barrier to discharge (Adler & Page, 2008). The effects of music therapy on the symptoms commonly experienced by patients with cancer will be discussed as follows.
Music therapy for anxiety reduction. Music therapy has a high effect size for anxiety reduction among medical population (Dileo & Bradt, 2005). Anxiety is a common symptom for the oncology population (Marzani-Nissen & Baum, 2009), and it has been reported to be the most frequently referred symptom for hospice music therapy with a 96% referral rate (Groen, 2007). Horne-Thompson and Grocke (2008) compared music therapy with a controlled condition in a randomized control trial and found music therapy significantly decreased anxiety in terminally ill patients. In addition to anxiety, other symptoms like pain, tiredness, and drowsiness were also significantly improved after music therapy intervention. Music therapy may further promote quality of life in palliative care patients by decreasing anxiety without increasing fatigue, which is a leading distressing symptom for palliative care patients (Jenkins, Schulz, Hanson, & Bruera, 2000).

Anxiety can be a natural in response to change, such as change in physical status, service, or routine. Several studies implementing music therapy interventions during times of change or transitions have shown effectiveness in reducing anxiety. Hunter et al. (2010) studied the effect of music therapy on the anxiety and stress of weaning patients off mechanical ventilation. The researchers implemented the intervention during times of transitioning from ventilator to tracheostomy collar, which was when anxiety had been reported the most, and they found significant decrease in anxiety, as determined by the patients’ self-reported rating, heart rate and respiratory rate measured pre- and post-session, ratings from nursing staff, and satisfaction rated by patients and nurses. Even though the number of days needed for weaning was not significantly influenced, both the
participants and nurses responded positively to music therapy intervention (Hunter et al., 2010).

In a recent randomized control trial, Palmer et al. (2015) studied the effect of patient-selected live music and patient-selected recorded music on pre-surgical anxiety of 207 patients and found significant decreases in anxiety for both music conditions, as compared to standard care. In another study using a similar music therapy intervention, Ferrer (2007) studied the impact of live familiar music on anxiety during outpatient chemotherapy treatment. Even though, due to a thorough preparation, education, and scheduling process involved prior to receiving treatment, chemotherapy may not be an acute event, it can still be highly anxiety-provoking due to the anticipation of its aversive side effects (Patlan, 2009). As a result, significant reduction of anxiety was found in the experimental group compared to the control group from this study (Ferrer, 2007).

In order to be effective, the timing of music therapy interventions for anxiety reduction can be crucial. In a study comparing live music, recorded music, and control conditions on anxiety, Horne-Thompson and Bolger (2010) found music therapy has no significant differences for patients with amyotrophic lateral sclerosis (ALS) or motor neurone disease (MND). Patients with ALS or MND had been treated with a palliative care approach since receiving diagnosis. When the researchers recruited the participants, they were all well past the diagnosis point and enrolled in an inpatient hospice service; as a result, many patients reported little or no anxiety prior to intervention, and thus no significant influence on anxiety was found in this study. These two studies showed the importance of assessment and the ability to be flexible in order for music therapy to be most effective in addressing needs in the moment. These studies not only inform the
effect of music therapy on anxiety for patients with cancer, terminally ill patients, and other medical populations, but also the importance of crucial timing in order to address needs.

**Music therapy for pain reduction.** Pain is a physical symptom with emotional and existential components that may be highly interrelated with depression and anxiety, which usually is the most effectively treated when addressed with a comprehensive and multidisciplinary modality (Staats, 2002). It has been found to be one of the most common symptoms being referred to and addressed by hospice music therapists with a referral rate of 80% in a nation-wide survey study (Groen, 2007). Regardless of the wide variety of medical populations discussed in the available literature, music therapy has been consistently found to have a medium-to-high effect size on pain, as reported in two individual meta-analysis studies (Dileo & Bradt, 2005; Standley, 2000). Gutgsell et al. (2013) examined the effect of a single session on pain from 200 palliative care patients in a randomized control trial, utilizing a combination of music therapy intervention with a relaxation script; they found a significant decrease in pain in the music therapy group as compared to the control group with standard care, as measured by a participants’ self-reported numerical rating scale, nursing staff’s looking at Face, Legs, Activity, Cry, and Consolability, and the Functional Pain Scale. This study emphasized that music therapy can effectively address pain in one single session to enhance standard care (Gutgsell et al., 2013).

A recent mixed-method study comparing the effects of music therapy and music medicine (Bradt et al., 2015) found both music therapy and music medicine were equally effective in terms of symptom management, but more participants (77.4%) preferred to
continue future treatment with music therapy instead of music medicine. The primary reason for choosing music therapy over music medicine was the interpersonal connection within the therapeutic relationship in the sessions, which contained support and empathy from the music therapist, music making, creativity, and opportunities for emotional expression and processing. This study not only captured the effective of music therapy on pain but also brought out the importance of the therapeutic relationships that music therapy offers in cancer care (Bradt et al., 2015).

Our current knowledge of music therapy for pain management suggests that music therapy offers a safe alternative to a pharmacological regimen as well as the capability to offer support for the emotional and spiritual aspects of pain management. However, studies on patients’ expectations on music therapy also revealed that those with more severe pain were less likely to accept service (Burns et al., 2005).

**Music therapy for nausea reduction.** Nausea may be frequently experienced by cancer patients, whether alone or with emesis. Nausea may be caused by cancer itself; from the side effects of cancer treatment, such as chemotherapy and radiation therapy; or from other factors, such as high levels of fatigue or the anticipation of nausea and emesis (Patlan, 2009). The fear of nausea can deter patients from receiving treatments, and it may have a serious impact on a patient’s wellbeing. The literature on music therapy as an intervention for nausea and emesis is still limited. A meta-analysis of studies using music medicine presented a small-to-moderate effect size of emesis reduction, with preferred music producing slightly higher results than researcher-selected music, even though no significant result was found (Dileo & Bradt, 2005). Standley (1992) found that starting music listening early on in chemotherapy sessions could reduce nausea and prolong the
time between chemotherapy and emesis. In a study using music therapy for adult patients receiving organ transplants, Madson & Silverman (2010) found a significant result in reduced nausea (p < .05), and the study participants responded positively to music therapy interventions with willingness to seek services again. Even though there were some positive findings as to the effect of music therapy for decreasing nausea and emesis, more evidence may need to be established with appropriate timing, intervention, and setting for the effect of music therapy on decreasing nausea and emesis.

**Music therapy for mood and fatigue management.** The rates of depression from cancer patients have been found to be much higher than those of the general public (Thompson et al., 2009). From receiving a diagnosis and going through tests and examination to receiving invasive treatments, the battle with cancer can be an emotionally draining process. Yet, depression among cancer patients may remain highly undertreated, since the depressed mood may often be perceived as a natural response to cancer. It can be difficult to assess and treat depression properly in cancer patients, since symptoms of depression also cross over with symptoms of cancer or its treatment, such as fatigue, gastrointestinal irritation, weight change, and pain (Marzani-Nissen & Baum, 2009).

The mental health population has been reported to be the largest population served by music therapists in the United States (AMTA, 2016), and there is rich evidence on the effect of music therapy on mood and depression, whether for the general population or for cancer patients. Gallagher et al. (2006) found significant differences in mood assessment before and after a single music therapy session among 123 palliative care patients, using a variety of interventions that were determined for individual
sessions. In a phenomenological study using improvisation intervention with cancer patients receiving hospice care, music therapy positively influenced patients’ moods by increasing social communication, reducing stress, and increasing self-confidence (Pothoulaki, MacDonald, & Flowers, 2012). Since cancer patients often experience social isolation, which can also contribute to depressed moods, creating group interactions through music created positive changes in mood. The result of this study was consistent with a similar study investigating the effect of group music therapy on mood states of cancer patients (Waldon, 2001).

**Music therapy for decreasing isolation.** Music therapy not only brings a non-invasive and safe option for patients to express themselves through group improvisation (Pothoulaki, MacDonald, & Flowers, 2012; Waldon, 2001), but some interventions, such as song writing, may also support patients in communicating with their loved ones while hospitalized. O’Callaghan, O’Brien, Magill, and Ballinger (2009) analyzed the lyrical content written by cancer patients during hospitalization. Music therapy was found to be effective in assisting patients with communicating with their children; moreover, music was found to serve as a bridge to spiritual outlets for patients as well as creating a legacy for the remaining family (O’Callaghan et al., 2009).

**Music therapy for psychosocial support in cancer care.** In addition to physical symptom management, psychosocial and mental health needs are just as prominent in patients affected by cancer. However, psychosocial needs may often be under treated (Adler & Page, 2008). Since psychosocial symptoms may intensify physical symptoms, both aspects of symptoms need to be carefully managed in cancer care (Adler & Page, 2008).
Music therapy for increasing quality of life. As the focus of healthcare has also shifted from the lack of physical illness to the wellbeing of whole person, quality of life has become one of the major focuses in cancer care (Ghetti, Hama, & Woolrich, 2008). Hilliard (2003) studied the effect of music therapy on the quality of life of patients with terminal cancer and found that music therapy has a significant influence in maintaining quality of life, regardless of the decline of physical conditions. Mandel, Davis, and Secic (2014) found that patients who received music therapy during hospitalization reported higher scores in quality of life than those who did not ($p = .06$). However, those who received music therapy reported that they were significantly more likely to recommend the hospital to their family and friends ($p = .02$; Mandel, Davis, & Secic, 2014).

Music therapy for spiritual support. Even though there has been an increasing availability of chaplain or spiritual care services introduced to hospitals through integrative oncology, the most identified need for music therapy referral from hospice nurses was still spiritual support (Groen, 2007). According to a study investigating end-of-life cancer patients’ views on spiritual needs, 72% of patients reported their needs as not being met as they received medical care (Balboni et al., 2007). The fear and view of cancer as a life-threatening condition can increase patients’ needs for religious and spiritual support, as many struggle with finding meaning in their suffering (Adler & Page, 2008; Balboni et al., 2007; Geffen, 2010). McClean, Bunt, and Daykin (2012) highlighted the power of music in providing transcendence, connections, and opportunities to find meaning, as well as faith and hope in patients attending music therapy support groups. Similarly, Kidwell (2014) portrayed the multidimensional capacity of music in
successfully supporting her patients’ religious and spiritual needs through their last journeys. Both studies reflect music therapy’s ability to embrace the complexity of needs in cancer care. Family members and caregivers can also benefit from music therapy in addressing spiritual needs, as they report being able to find support and meaning through music therapy sessions (Magill, 2009). Honoring humans as multidimensional beings and providing care that meets such needs may be essential in cancer care, whether the patient is facing the end stage of his or her disease or not (Geffen, 2010; Kidwell, 2014).

**Music therapy for family support.** Just like cancer influences not only the patients themselves but also their families, music therapy supports not only those who suffer from cancer but also their caregivers. Magill (2009) analyzed interviews with caregivers of terminal cancer patients and found that the caregivers were able to find meaning, empowerment, peace, and coping with grief and the imminent loss of the loved ones. In another study targeting pre-loss needs for caregivers, O'Callaghan et al. (2013) concluded that music therapy can be a supportive service for caregivers who have lost a loved one to cancer by providing ways of accessing meaningful memories about the diseased in music, expressing and processing emotions in music, and connecting with others in a support system through music. Choi (2010) also found that music therapy can be effective in increasing quality of life and decreasing anxiety and fatigue for caregivers of hospice patients, even though there was not a significant difference between music therapy and other conditions, such as progressive muscle relaxation only. Music therapists may support patients and their families with multidimensional needs that are in conjunction to their medical condition through musical interventions that are assessed as
appropriate for patent-specific conditions, situations, and cultures (Choi, 2010; Miller & O’Callaghan, 2010).

**Benefits of music therapy for medical facilities.** Music therapy can be a service offered to patients and their families that directly benefits the patients. However, there is an increasing body of research that shows that music therapy may extend its benefits to the medical facility directly and indirectly by increasing staff morale, bringing cost-effective services, and increasing patient satisfaction.

**Improving working environment.** Healthcare providers working in oncology can be more prone to burnout (Eelen et al., 2014). Burnout significantly influences the wellbeing of healthcare professionals, which cannot be ignored, as it influences patient care directly (Eelen et al., 2014; Geffen, 2010). Palmer, Lane, and Mayo (2015) reported increased morale of medical staff who witnessed the positive effect that music therapy had for their patients. While studying the effect of music therapy on anxiety, Hunter et al. (2010) found that nurses who were involved in the participant’s care experienced higher satisfaction and lower anxiety themselves. Even though there was no direct evidence of burnout prevention found in healthcare providers’ involvement in music therapy with patients, this can be a potential area of investigation for future inquiries.

**Increasing cost effectiveness.** The effects of music therapy on reducing patient-perceived pain can potentially benefit a medical facility by reducing the length of hospitalization, which can directly influence reimbursement for medical facilities (Rushing & Barragan, 2014). Walworth (2010) found that live music therapy intervention can potentially shorten the length of time for, decrease error in, and increase efficiency during MRI scans, which means the costs for the medical facility can be reduced. Palmer
et al. (2015) reported that a five-minute music therapy intervention was effective in reducing pre-surgical anxiety. The time required for music therapy to be effective was significantly less than the average of 15- to 30-minute hypnosis intervention in similar studies. Moreover, even though no significant difference was found, patients from the patient-selected music group required less anesthesia than the control group. Another research studying the effect of music therapy on sedation for pediatric patients undergoing EEG testing found music therapy offered a safe alternative to chloral hydrate, with less time to achieve sedation and a shorter recovery time (Loewy, Hallan, Friedman, & Martinez, 2006). All of the above research provides evidence as to how music therapy can benefit a medical facility financially through procedural support. Even though these studies may not be considered as direct evidence for decreased expenses for a medical facility due to the complexity of variables in a cost effectiveness analysis, these may indicate the capacity music therapy has to bring positive economic influence to a medical facility through patient care.

**Increasing patient satisfaction.** Patient satisfaction continues to receive attention, as it has been correlated with perceived treatment outcome (Bamm, Rosenbaum, & Wilkins, 2013) and directly influences reimbursement to the medical facility that provided care (CMS, 2013; Rushing & Barragan, 2014). One of the factors that has been linked to patients’ satisfaction is the communication style of a medical team to a patient (Dougherty, 2010). Music therapy may aid in improved communication and staff morale within the medical team (Hunter et al., 2010; Palmer, Lane, & Mayo, 2015), which can potentially contribute to the general satisfaction about the treatment received.
There have been an emerging number of studies connecting the positive influence of music therapy to patient satisfaction. In a study comparing the Press Ganey Inpatient Survey scores of music therapy patients to patients who did not receive music therapy, those who received music therapy reported a satisfaction level that was 3.4 points higher on average (Yinger & Standley, 2011). However, one limitation of this study was the non-matching sample sizes between music therapy and non-music therapy groups, due to a low response rate of 20% from the music therapy group. In another study investigating the influence of music therapy on patient satisfaction, Mandel, Davis, and Secic (2014) found no differences between music therapy and non-music therapy groups in the overall satisfaction score; however, those who received music therapy reported higher healthcare-related quality of life as well as a willingness to recommend the hospital to others. Healthcare-related quality of life is a conceptual factor that potentially influences patient satisfaction, as no evidence or strong correlation between the two variables has been established currently (Bamm, Rosenbaum, & Wilkins, 2013). This may be in part due to the fact that satisfaction studies have compartmentalized patient experience by looking for individual contributors to patients’ healthcare experience and have failed to examine the complexity and depth of human experience.

**Person-Centered Care**

In the last quarter of the twentieth century, an increasing number healthcare professionals have become aware of the need to commit to patients’ wellbeing, thus catalyzing a transition in both the physician-patient relationship and the decision-making process in the United States (Smith, Flamm, & Pentz, 2009). The physician-patient partnership became a trend when the U.S. government, in a period of focusing on
healthcare reform, started to emphasize personal experience in order to improve quality of care for the increasing number of senior citizens (Smith, Flamm, & Pentz, 2009; Person-Centered Care, 2008). Person-centered care is defined as “a way of thinking about care that honors and values the person receiving support,” (Person-Centered Care, 2008). In order to capture the philosophy of person-directed care, White, Newton-Curtis, and Lyons (2008) addressed six domains that support the main focus of increasing wellbeing and quality of life, as defined by the person. Five out of the six domains are directly involved in care, including (a) personhood, (b) knowing the person, (c) autonomy/choice, (d) comfort, and (e) relating to others; the sixth domain is a supportive environment, which also has an emphasis on the wellbeing and relationship of caretakers in the work space (White, Newton-Curtis, & Lyons, 2008). All of these domains have received increasing acceptance by the healthcare system, as evidenced by active changes and policies in practice.

**Patients as decision makers.** The role of a patient has been transitioned from a follower of the physician’s orders to a partner in his or her own medical care (Lines, Lepore, & Wiener, 2015; Smith, Flamm, & Pentz, 2009). Patients may be actively involved in healthcare decision-making by being provided with thorough information regarding their conditions, suggestions for treatment options, and the pros and cons of each treatment option. Patients are then given the authority to make the final decision. In other words, patients’ voices are highly valued in modern medical practice. With the increasing convenience of knowledge access through the Internet, more people may seek health related information online, which empowers individuals to contribute actively when discussing treatment options with their physicians (Geffen, 2010).
While it may be powerful for a patient to make meaningful decisions, when a person is physically compromised, chances are that the ability to make important decisions may also be impaired, regardless of the patient’s level of education (Epstein, 2013). The movement of focusing on the whole person in medical care not only has changed the way modern healthcare operates, but it also has prompted the search for options that are more holistic in order to care for other aspects of wellbeing (Geffen, 2010).

**Treatment Rejection**

Most healthcare professionals focus on providing help and support to those who are in need in ways that are most constructive. However, in a study exploring medical patients’ perceptions of the need and desire for help, there was an inconsistent result found between those patients who were willing to accept help and those who were displaying symptoms of anxiety and depression (Baker-Glenn, Park, Granger, Symonds, & Mitchell, 2011). In other words, not everyone who presented symptoms of anxiety and depression agreed that support was necessary. This may indicate a conflict between the need-based referral system of music therapy and the patient-centered care philosophy, since a patient who has been referred for service may not agree with the need for referral.

There is an emerging body of literature exploring service rejection with psychiatric populations. In a survey study, Kelly, Kahler, and Humphreys (2010) investigated the reasons that substance use disorder patients failed to attend a 12-step program. They found that barriers to patients’ attendance were multidimensional, including lack of motivation, spiritual barriers, logistical barriers, dislike of meeting content/format, and psychiatric barriers. Tam and Law (2007) reported various factors
that contributed to patients’ refusal of medication from an assertive community treatment team, including living arrangement, environmental barriers, and patient capacity in decision making. The conflicts between physicians and patients, as well as compromised plans and solutions, have been documented in the literature on treating patients with bipolar disorders, which is a population, along with other psychiatric populations such as eating disorders and borderline personalities, that may be more prone to treatment rejection or non-adherence (Gruber & Persons, 2010).

Studies on treatment refusal are emerging in the field of music therapy. Music therapists practice within the scope of practice and abide by a code of ethics, in addition to following the policies and values of the medical facility to respect the patients’ rights to service as well as their choices, whether that means accepting or declining services (AMTA, 2014; Dileo, 2000). Music therapy supports patient-centered care by offering choices and control, which creates the potential for patients to decline service. Even though the benefits for music therapy service have been well documented in related literature, the biggest barrier to service remains patients’ rejection of services (Burns et al., 2005). Music therapy may serve no benefit to patients, medical teams, or healthcare facilities if services are declined. Even though studies that investigate patients’ interests, preferences, and perspectives on music therapy are available (Bruscia, et al., 2009; Burns et al., 2005), there is still limited information as to why music therapy services may be declined, specifically from the perspective of patients who are receiving inpatient care. Kember and McLean (2008) asked caregivers of pediatric patients with leukemia about their attitudes towards and habits of music use at home, which reflected their perspectives on music being a source for entertainment or distraction, rather than being used for
therapeutic purposes. While the information shared about service refusal helps provide knowledge and understanding, in this study, the results were provided from the caregivers’ perspective instead of from the patients’ perspectives (Kemper & McLean, 2008).

**Summary**

Music therapy offers effective non-pharmacological and cost-effective interventions for symptoms management and psychosocial support. Music therapists have the responsibility to abide by a code of ethics (AMTA, 2014), which enhances the philosophy of patient-centered care that has been the focus of medical reform. To continue to support and practice patient-centered care, there is a need for music therapy clinicians to expand their understanding of cancer patients’ experience in order to meet the unique needs for this population. Regardless of all the benefits music therapy may be capable of bringing to each individual during hospitalization, the challenge of treatment rejection remains. One reason that contributes to this barrier to services is that integrative oncology may not yet be fully integrated into patients’ care for optimal benefit (Geffen, 2010). The purpose of this study is to explore perceptions of music therapy, needs during hospitalization, and potential factors that lead to service rejection from hospitalized oncology patients’ perspectives. Examining current service structures and challenges from the direct perspectives of cancer patients who are receiving inpatient care may be the first step in the attempt to improve accessibility to music therapy services. The knowledge learned from this study may also help clinicians gain insights while providing patient-centered care.
Chapter 3: Methods

The purpose of this study is to explore factors that are presented as barriers to music therapy service during hospitalization in cancer patients’ perspectives. Knowledge from patients’ perspectives and expectations can be valuable for clinicians in order to practice patient-centered care. A researcher-modified questionnaire that was based on surveys by Bruscia et al. (2009) and Burns et al. (2005) was utilized to collect data for this study.

Study Facility

The National Cancer Institute (NCI) has designated 69 cancer centers in 35 states and the District of Columbia in the United States (NCI, 2012). NCI-designated cancer centers are recognized by their leadership in scientific and clinical research, and they are further categorized as cancer centers, comprehensive cancer centers, or laboratory cancer centers, depending on the breadth and depth of research. Currently, there are 15 cancer centers, 47 comprehensive cancer centers, and seven basic laboratory cancer centers (NCI, 2012).

The current study was conducted at a freestanding cancer hospital in a midwestern state in the United States. This cancer hospital serves more than 10,000 patients annually, offering inpatient cancer care and outpatient clinics in addition to facilitating cancer research and clinical trials. There are four inpatient units at the study facility, including units for bone marrow transplant, medical oncology, surgical oncology, and gynecological oncology. Music therapy has been one of the complimentary services available to all patients in all inpatient care units as well as a number of outpatient clinics,
including an infusion clinic and an acute care clinic for patients with sickle cell anemia under the integrative oncology services.

**Study Population**

According to the Centers for Diseases Control and Prevention (2016), 20.3 million of adults in the United States have been diagnosed with cancer at some point in their lives, which is about 8.5% of the total adult population. The National Health Interview Survey (NHIS; 2016) reported that 242.5 million people aged 18 and over were living with cancer in 2015. According to the American Cancer Society (2016), it is estimated that 1,685,210 new cancer cases will be diagnosed in 2016. In the state of Ohio alone, it is estimated that there will be 66,020 new cases (American Cancer Society, 2016). However, other than the fact that 40% of all costs for cancer-related expenses were for inpatient hospital care, the actual number of patients receiving hospitalization in recent years was not clearly indicated in these reports (American Cancer Society, 2016).

All patients with a cancer diagnosis have a chance of being hospitalized at some point of their disease progress. Hospital admission may qualify as inpatient service when a physician provides certification that a patient’s condition may require at least a two-night stay in a hospital (Department of Health & Human Services, 2014). Reasons for hospital admissions may include diagnostic testing, acute symptom management, and surgical procedures (NCI, 2016).

**Study sample.** Data were collected from a convenience sample at the study facility. All adult patients with a cancer diagnosis who were admitted for inpatient care at the study facility were considered potential participants since every patient can potentially receive a music therapy consultation.
**Inclusion criteria.** Patients who were 18 years or older; admitted for inpatient care at the study facility; had a basic understanding of the English language; had no known cognitive, visual, and/or hearing impairments that might prohibit them from answering questions; and had no active symptoms of altered mental status, including delirium, psychosis, or severe brain metastasis, were approached for recruitment.

**Exclusion criteria.** Excluded from participation were patients who were under sedation or who might experience altered cognitive processing as a side effect from any medication; patients who were severely distressed or in pain, who were offered the choice to opt out from participation immediately and had their nursing staff notified immediately; patients who were actively dying; patients who had not received a concrete cancer diagnosis; and patients who were not available during data collection schedule, such as being off unit or asleep. The exclusion criteria were assessed and reported by either the clinical coordinator or patients’ self-reporting. If a patient had already participated in this study, he or she was then excluded.

**Study Design**

In order to identify factors that may have contributed to hospitalized patients’ declining music therapy, a quantitative survey study with cross-sectional design was utilized. Not only is there limited information on barriers to music therapy service during hospitalization for cancer patients, there is also a lack of standardized or validated assessment tools for capturing hospitalized patients’ opinions on music therapy services; therefore, a modified and expanded questionnaire was developed by the researcher. As a result, this study was also a pilot study to evaluate the feasibility of this researcher-modified questionnaire in an inpatient medical setting. The information gathered in this
pilot study will be used in guiding future research with a larger sample size (LaGasse, 2013). The normal procedures for approving research studies for the medical facility and the university were met (see Appendix A).

**Music Therapy Survey Development**

To explore hospitalized patients’ perception of needs, expected benefits of music therapy, and factors that influence their decision to engage in music therapy, this researcher developed a 15-item questionnaire based on studies by Bruscia et al. (2009) and Burns et al. (2005; see Appendix B).

Burns et al. (2005) developed a Likert-scale Music Therapy Interest and Preference Survey for patients receiving outpatient chemotherapy in order to identify levels of music preference, past musical experiences, interest in participating in music therapy, perceived intervention-specific benefits, perceived intervention-specific barriers, and self-efficacy. Participants for this study were also asked to complete multiple self-assessments on anxiety, affect, fatigue, and coping (Burns et al., 2005). Despite the ability to capture in-depth information on patients’ preferences and interests related to music therapy, the questionnaire for the Burns et al. (2005) study required a long time and high stamina to complete. Although the questionnaire was sufficient in collecting data from patients receiving treatment in an outpatient setting, it might not be appropriate for patients receiving inpatient care. If a patient requires a minimum two-night hospital stay, his or her status in inpatient care may imply more severe symptoms (CMS, 2014). Moreover, this questionnaire did not focus on factors that contribute to barriers to music therapy service, since participants were only asked to provide a rating on general barriers to service (Burns et al., 2005).
Bruscia et al. (2009) developed a questionnaire to evaluate hospitalized cancer and cardiac patients’ perception on benefits of music therapy by rating expected therapeutic benefits, effectiveness of music therapy interventions, and effectiveness of genres of music on a Likert scale. Histories of prior music study and music therapy experience were also collected along with other demographic information (Bruscia et al., 2009). The simplicity and clarity of this questionnaire provides are well suited for an inpatient setting; however, due to its focus on patients’ perceptions of the effectiveness and benefits of music therapy, the factors for service rejection are not captured.

This researcher combined the simplicity of questionnaire structure as well as items on the benefits of music therapy from Bruscia et al. (2009) and the more detailed approach toward inquiries about prior music experience from Burns et al. (2005) to create the current questionnaire for this study. In order to make this study more relevant to the study facility, the researcher combined reasons for music therapy referrals established in the inpatient electronic medical record (EMR) system at the study facility into items of the questionnaire as perceived benefits of music therapy and perceived needs during hospitalization. Due to potential misconceptions about music therapy, items that are not typically considered as music therapy goals or cannot be addressed by music therapy were included in the questionnaire items for perceived benefits and perceived needs, such as distraction, boredom, entertainment, and financial support.

In order to make this questionnaire most accessible to accommodate patients who were receiving inpatient care, the items were multiple choices, with either single choice or “check all that apply” for nominal and dichotomous variables. The only ordinal item in this questionnaire was on the likelihood of accepting music therapy services. Additional
space was provided when the “others” option was selected for any additional qualitative input. Since this researcher had no access to the original questionnaires from these two studies (Bruscia et al., 2009; Burns et al., 2005), the structure, wording, and presentation of the music therapy survey were edited and modified by the Office of Patient and Public Education at the study facility, as required by the hospital research protocol reviewers.

**Questionnaire description.** The researcher-developed questionnaire consisted of two major sections: demographic information and a music therapy survey.

**Demographic information.** This section examined the demographic characteristics of the participants, including age group, gender, race, ethnicity, level of education, length of hospitalization at data collection time, and perceived needs during hospitalization as well as participants’ background in music training and music preferences.

**Music therapy survey.** This section explored participants’ experience, knowledge, and perceptions of music therapy. Questions included prior experience in music therapy, music therapy referral status, level of willingness to participate in music therapy, perceived benefits of music therapy, and any potential barriers that might prompt declining participation in music therapy.

**Factors for barriers to service.** Due to a lack of resources from the literature on factors for barriers to music therapy service, studies on barriers to other services and populations were reviewed. Several researchers found that the reasons for service rejection were multidimensional, involving personal, social, physical, and medical reasons (Kelly, Kahler, & Humphreys, 2010; Tam & Law, 2007). For this reason, the
potential barriers to music therapy services were also organized in this way. Specific items for this section were collected from the team of music therapists at the study facility from their clinical experience. These potential barriers to service were also found to match the unique needs that cancer patients may have during hospitalization in the areas of physical, emotional, social, financial, and environmental aspects that were discussed in the previous chapter.

**Personal barriers.** Reasons that came from personal concerns that inhibited a patient’s participation in music therapy, included the cost of service, lack of interest in music, not enough musical skills, not knowing what music therapy is, desire for privacy or quiet room, control for emotional reaction, and time commitment for participation.

**Physical barriers.** Any symptoms or activities that come from a patient’s body or require bodily movement, such as not feeling well enough (including pain, nausea/emesis, and fatigue), need to rest/sleep, or the need to use the restroom, were categorized as physical barriers.

**Social barriers.** Any factors that involve the presence or concern of people other than the patients were considered social barriers. Examples from this questionnaire included the presence of visitor(s) and the concern of disturbing others.

**Medical barriers.** This involved factors that were related to a patient’s standard care, such receiving a procedure, receiving testing, the presence of physicians or other staff, or being transferred between units.

**Study Procedure**

There were three parts in the data collection procedure: (a) sample screening, (b) recruitment and consent, and (c) questionnaire administration. Each procedure was
designed to minimize interruption to patients’ standard care without sacrificing the study flow.

**Sample screening.** The clinical coordinator of each inpatient unit provided assistance for patient screening prior to data collection. Patients who met all inclusion criteria were approached for recruitment (see inclusion and exclusion criteria under Study Sample).

**Recruitment and consent.** Once potential participants were identified by the unit clinical coordinator, this investigator or the co-investigator approached patients for recruitment. Information was presented in the following order: self-introduction (of the investigator), purpose of visit, purpose of study, and estimated time of participation. More details on the study were provided to patients who expressed interest in participation, including the significance of the study, recruitment criteria, potential risks and benefits, the right to decline or withdraw, confidentiality precautions, and types of questions in the questionnaire. The choice to decline or withdraw from study with no impact on standard medical care or future access to services was emphasized, with extra time allowed for questions. If the patient agreed to participate, an informed consent form with detailed study information was then provided to acquire his or her signature as proof of consent.

In order to create as little interruption as possible to a patient’s standard care, some adjustments in data collection schedule were made. The researcher visited the unit in early afternoon to avoid the regular medical team’s rounds. If a patient was available in the room but conflicts of service were present at the time of visit, such as the presence of a medical team or if the patient was engaged in a session, the patient was still considered
eligible to participate but was not approached until the end of the data collection day. If the conflicts of service remained or the patient had become unavailable, the patient was excluded.

All consent forms and questionnaires were coded separately to ensure anonymity and confidentiality. Completed consent forms and questionnaires were stored separately in a locked cabinet to which only the principal investigator had access. In order to avoid dual relationships or soliciting responses from study participants, the co-investigator facilitated consent and data collection for any participants with an existing relationship with the principal investigator.

Sharing writing utensils or a tablet between participants can potentially spread infections. The investigator and the co-investigator followed all infections control protocol at the study facility at all time, including washing or sanitizing hands before and after each patient encounter. The tablet and writing utensils were thoroughly cleaned between each use with PDI Sani-Cloth® AF3 germicidal disposable wipes, which were available at the study facility with modifications, including switching to PDI Sani-Cloth® Bleach germicidal disposable wipes for those who were under precautions for clostridium difficile (C. diff) infection or Methicillin-resistant Staphylococcus aureus (MRSA) infection.

Since this investigator had no knowledge of any participant’s physical condition at the time of visit, minor physical discomfort from answering a questionnaire was a possibility due to muscle weaknesses resulting from a long hospitalization or other preexisting conditions. The principal investigator and co-investigator offered assistance
in completing the questionnaire on any participant’s behalf when assistance was requested.

**Questionnaire administration.** After identifying patients who were eligible for participation, the investigator then visited each potential participant following the recruitment and consent procedure. Options for filling out a questionnaire electronically or on paper were offered prior to administering the survey. After questionnaire completion, the investigator offered another opportunity for questions before thanking the participant and exiting the room.

Initially, the participants were offered the choice to fill out the survey on a tablet or on paper. However, this was modified to only paper after collecting 30 sets of data. There were several reasons for this change. First, the participants were already asked to make many decisions and were anticipating making more during the survey process. The investigator felt the addition of the paper/tablet option was a disruption to the flow with no constructive benefit to the study. Secondly, since only eight out of the first 30 participants chose to fill out surveys electronically (26.67%), the investigator decided to use only paper surveys to keep the process more consistent for the remainder of the study. Last but not least, some participants requested to keep the survey overnight and return on the next day instead of completing it immediately for reasons including anticipating a scheduled procedure or feeling physically unwell at the time of data collection. In order to honor these participants’ decision to participate regardless of the inconvenience and to respect participant autonomy, the paper survey was chosen for its convenience.

Therefore, the change to switch to only paper surveys was made to accommodate the individual needs of these participants while keeping the study consistent.
Since the investigator also provides clinical service at the study facility, a co-investigator was available during the study period to recruit, acquire consent, and administer questionnaires to avoid dual relationships between the investigator and any participants with whom she had had prior contact. Study procedures were communicated in detail with the co-investigator, and documents were provided to ensure the standardization of the study.

Bourdeau (2000) summarized the importance of ethical considerations when potential dual relationships may exist in the qualitative research process. Even though this was not a qualitative research study and involved no interviews, the replacement of the researcher was a precaution to protect participants and to increase reliability of this study by avoiding the potential imbalance in researcher-participant relationship resulting from the pre-established therapist-patient relationship.

**Data Analysis Plan**

The target number for this pilot study was 40 sets of complete data, as recommended by Johanson and Brooks (2010) for pilot studies. To achieve this number, the target number for total enrollment was 70 patients, with the projected number of 44 sets of completed surveys. This number was determined based on the research by Burns et al. (2005), who reported a 63% agreement for participation and a 95.5% survey completion rate.

Electronic questionnaires for this study were generated and managed through a secure web-based application for data collection hosted at the study facility – Research Electronic Data Capture ([REDCap]; Harris et al., 2009). REDCap was designed to
support research studies for data gathering, data managing, basic statistical computing, and data importing, when applicable.

Data was analyzed by using the software program IBM SPSS Statistics to code and recode data as needed. Descriptive statistics procedures, including N, standard deviation, frequency, and percentages, were used to analyze data collected from the questionnaires. Statistical analyses, including t-test and chi-squared procedures, were used and guided by the research questions.

**Demographics.** Demographic information collected in this study included age range, gender, race, ethnicity, educational background, length of stay (during data collection time), and musical training history. To further answer each research question, data were examined by cross-comparing and analyzing frequencies between demographic characteristics and the additional information on patients’ history with music therapy experience as well as the likelihood of accepting service.

**Constructs.** The research questions focused on three major items: (a) patient-perceived benefits of music therapy, (b) patient-perceived needs during hospitalization, and (c) patient-perceived barriers to music therapy. Each research question was addressed in one multiple-choice question. Constructs were created to group larger numbers of responses for statistical analysis purposes. The four constructs for perceived barriers were described under section “Factors for barriers to service” under the “Questionnaire Description” section above.

The questionnaire items that addressed perceived needs and perceived benefits were based on the music therapy goals established in the electronic medical record (EMR) system at the study facility, including anxiety reduction, pain management, mood
modification, coping, and so on. Options that were not music therapy goals but were frequently misunderstood as being such were added in these items to examine patients’ perceptions. These items were grouped in three constructs: (a) symptom management, (b) psychosocial support, and (c) non-music therapy goals.

**Symptom management.** This included the needs or music therapy goals that target the relief of symptoms resulting from the cancer disease progress or its treatment, including anxiety, pain, and depressed mood.

**Psychosocial support.** This included the needs or music therapy goals that focus on improving the wellbeing of a person, including spiritual support, emotional expression, sense of control, and coping.

**Non-music therapy goals.** This included the needs or goals that may be misunderstood as music therapy but are not music therapy goals, or hospitalization-related needs that cannot be addressed by music therapy, such as financial concerns, boredom, and entertainment.

**Reliability Procedures**

The following measures were taken to increase the reliability of the research process. First, in order to avoid researcher bias, a co-investigator was available during data collection period to provide recruitment and data collection to the participants who had an existing therapeutic relationship established with the principal investigator. Second, all eligible participants were presented with the same information in the same order, guided by a written script and a printed informed consent form, regardless of which researcher delivered the recruitment and data collection. The principal investigator and the co-investigator communicated and role-played with each other prior to data
collection. The principal investigator also provided all documents for consistency.

Thirdly, the questionnaire format was simplified to paper only instead of the electronic and paper options to increase the consistency of data collection procedure. The researcher also consulted with the thesis committee member at the research facility prior to making this adjustment in the research methods.
Chapter 4: Results

In order to achieve the goal of exploring the factors that contribute to patients’ declining participation in music therapy in an inpatient oncology setting, an expanded and modified questionnaire based on surveys by Bruscia et al. (2009) and Burns et al. (2005) was developed to understand the perspectives on music therapy of patients who were actively receiving inpatient treatment for cancer. Since this study utilized a new questionnaire, it was a pilot project that tested the feasibility of the survey developed, including the consistency of questions and the appropriateness of their number (LaGasse, 2013).

Research Sampling

Data was collected over 14 days during a four-week period at the study hospital. A structured data collection schedule was communicated to all unit care coordinators in order to provide simplicity for their involvements in participant eligibility screening. When the data collection was approaching completion, the researcher decided to allow one additional visit to the Gynecological Oncology unit to make up for the smaller numbers of eligible participants as compared to other units (see Table 1).

Table 1.

<table>
<thead>
<tr>
<th>Data Collection Schedule</th>
<th>Adult Inpatient Unit</th>
<th>Unit Capacity</th>
<th>Data Collection Frequencies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bone Marrow Transplant</td>
<td>26 beds</td>
<td></td>
<td>4 visits</td>
</tr>
<tr>
<td>Medical Oncology</td>
<td>30 beds</td>
<td></td>
<td>3 visits</td>
</tr>
<tr>
<td>Surgical Oncology</td>
<td>30 beds</td>
<td></td>
<td>3 visits</td>
</tr>
<tr>
<td>Gynecological Oncology</td>
<td>16 beds</td>
<td></td>
<td>4 visits</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>Total: 14 visits</td>
</tr>
</tbody>
</table>
Sample Participants

There were 332 patients admitted at the study facility during the research period. A total of 171 (51.5%) patients were identified as eligible, and 166 were approached for recruitment. Of all 166 eligible potential participants approached, 41 (24.7%) were found not available for participation, which left 125 patients eligible and available for participation. Among the 125 patients who were eligible and available to participate, 70 (56%) agreed to participate in the study, provided signed informed consent, and provided responses to either part of or the whole questionnaire (see Figure 1). Most of the study questionnaires were completed directly by participants, with the exception of three (4.29%) questionnaires that were completed by either a caregiver or a spouse due to the severity of illness or intensity of symptoms at the time of visit.

Of the 70 total responses, 52 (74.29%) questionnaires were completed with no missing responses, 10 (14.29%) missed one question, three (4.29%) missed two questions, one (1.43%) missed three questions, and four (5.71%) missed four or more questions.

Data collection was divided between the principal investigator and a co-investigator. The co-investigator provided informed consent forms and administered surveys to those participants who already had pre-established relationships with the principal investigator. The reasons for involving the co-investigator were to avoid dual relationships and ensure the reliability of the research process. The co-investigator obtained 16 (22.86%) out of the total 70 sets of data during the research process.
Demographic descriptions. The demographic information was collected as a part of the questionnaire. It included age range, gender, race, ethnicity, educational background, and length of stay.

Age and gender. All 70 participants responded to the age group question. The ages 45-54 group and the ages 75 and above group comprised the largest groups with 16 subjects (22.86%) in each age group, followed by the ages 55-64 group with 14 subjects (20%), 12 (17.14%) subjects in the ages 54-74 group, eight (11.43%) subjects in the ages 35-44 group, three (4.29%) subjects in the ages 25-34, and one (1.43%) subject in the ages 18-24 group (see Table 2). Of the 69 subjects who provided a response to the gender question, 28 identified as male (40.58%) and 41 identified as female (59.42%).
Table 2.

Sample Demographics – Age (N=70)

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Frequency</th>
<th>%</th>
<th>Cumulative Frequency</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-24</td>
<td>1</td>
<td>1.43</td>
<td>1</td>
<td>1.43</td>
</tr>
<tr>
<td>25-34</td>
<td>3</td>
<td>4.29</td>
<td>4</td>
<td>5.71</td>
</tr>
<tr>
<td>35-44</td>
<td>8</td>
<td>11.43</td>
<td>12</td>
<td>17.14</td>
</tr>
<tr>
<td>45-54</td>
<td>16</td>
<td>22.86</td>
<td>28</td>
<td>40.00</td>
</tr>
<tr>
<td>55-64</td>
<td>14</td>
<td>20.00</td>
<td>42</td>
<td>60.00</td>
</tr>
<tr>
<td>65-74</td>
<td>12</td>
<td>17.14</td>
<td>54</td>
<td>77.14</td>
</tr>
<tr>
<td>75+</td>
<td>16</td>
<td>22.86</td>
<td>70</td>
<td>100.00</td>
</tr>
</tbody>
</table>

**Race and ethnicity.** The majority of subjects identified themselves as White or Caucasian with 49 (70%) responses, followed by 15 (21.43%) who identified as Black or African American, two (2.86%) identified as Asian, two (2.86%) identified as other, and two (2.86%) expressed that they preferred not to answer this question. For ethnicity, the majority of subjects identified as non-Hispanic/non-Latino with 55 (87.3%) responses, one subject (1.59%) identified as Hispanic/Latino, and seven (11.11%) preferred not to answer. This was the question with the most missing data, with seven (10%) questionnaires not including a response to this question.

**Education.** Some subjects selected multiple responses to this question; therefore, only the highest level of education was utilized in calculating frequencies and percentages. Of the 68 who provided a response, 26 (38.24%) reported a college degree or higher, followed by 17 (25%) with some college level courses without a degree, seven (10.29%) reporting trade school or vocational training background, 14 (20.59%) reporting a high school diploma or GED, and three (4.41%) with some high school education. There were two (2.86%) missing responses to this question, and one (1.47%) preferred not to answer (see Table 3).
Table 3.

Sample Demographics – Education Background (N=68)

<table>
<thead>
<tr>
<th>Education Background</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some high school or less</td>
<td>3</td>
<td>4.41</td>
</tr>
<tr>
<td>High school diploma or GED</td>
<td>14</td>
<td>20.59</td>
</tr>
<tr>
<td>Trade school or vocational training</td>
<td>7</td>
<td>10.29</td>
</tr>
<tr>
<td>Some college Credits</td>
<td>17</td>
<td>25.00</td>
</tr>
<tr>
<td>College degree(s)</td>
<td>26</td>
<td>38.24</td>
</tr>
<tr>
<td>Prefer not to answer</td>
<td>1</td>
<td>1.47</td>
</tr>
</tbody>
</table>

Length of stay. A total of 68 participants responded to the length of stay question with 25 (36.76%) reported having been hospitalized for more than seven days, 24 (35.29%) reported having been hospitalized between three to seven days, and 19 (27.94%) had a length of stay that was less than three days. There were two (2.86%) subjects who did not provide a response to this question.

Musical preferences and training. When asked to select all preferred types of musical activities, in general, more subjects selected passive musical activities than active types. Of all 66 who provided a response to the music preference question, 63 (95.45%) selected “listening to music,” 35 (53.03%) chose “going to concerts,” 32 (48.48%) chose “singing,” 16 (24.24%) chose “playing instruments,” and three (4.55%) chose “writing music.” Only one subject chose “other” (1.52%), and none of the subjects who provided a response selected “none of the above” (see Table 4).

When asked about their history of formal musical training, 64 subjects provided a response. Among the 64, 14 (21.88%) reported having some form of music training and 50 (78.13%) reported no history of music training. Of the 14 who reported having formal music training, nine (64.29%) selected “band or orchestra,” eight (57.14%) selected
“private lessons,” six (42.86%) selected “singing groups,” three (21.43%) selected “other,” and none of the subjects selected “chamber ensemble” or “degree in music.” When asked to identify their preferred music activity, 66 subjects provided responses, with 63 (95.45%) identifying “listening to music,” followed by 35 (53.03%) for “going to concerts,” 32 (48.48%) for “singing,” 16 (24.24%) for “playing instruments,” and three (4.55%) for “writing music” (see Table 4).

Table 4.

Sample Demographics - Music

<table>
<thead>
<tr>
<th>History of Music Training</th>
<th>Frequency</th>
<th>%</th>
<th>Total N</th>
</tr>
</thead>
<tbody>
<tr>
<td>No</td>
<td>50</td>
<td>78.13</td>
<td>64</td>
</tr>
<tr>
<td>Yes</td>
<td>14</td>
<td>21.88</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of Music Training</th>
<th>Frequency</th>
<th>%</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Band or Orchestra</td>
<td>9</td>
<td>64.29</td>
<td></td>
</tr>
<tr>
<td>Private Lessons</td>
<td>8</td>
<td>57.14</td>
<td></td>
</tr>
<tr>
<td>Singing Groups</td>
<td>6</td>
<td>42.86</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>21.43</td>
<td>14</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Type of Preferred Music Activity</th>
<th>Frequency</th>
<th>%</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Active Type</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singing</td>
<td>32</td>
<td>48.48</td>
<td></td>
</tr>
<tr>
<td>Playing instruments</td>
<td>16</td>
<td>24.24</td>
<td></td>
</tr>
<tr>
<td>Writing music</td>
<td>3</td>
<td>4.55</td>
<td></td>
</tr>
<tr>
<td>Passive Type</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Listening</td>
<td>63</td>
<td>95.45</td>
<td>66</td>
</tr>
<tr>
<td>Going to Concerts</td>
<td>35</td>
<td>53.03</td>
<td></td>
</tr>
</tbody>
</table>

Music therapy experience and interest. All 70 subjects provided a response to the question inquiring about prior experience with music therapy, with 51 (72.86%) reporting no experience and 19 (27.14%) reporting having experienced music therapy through participation or observation. When asked if music therapy had been offered during this admission, 68 subjects provided a response, with 16 (23.53%) responding “yes,” 49
(72.06%) responding “no” and three (4.41%) not sure. When asked about their interest in learning more about music therapy, 40 out of 65 participants (61.54%) responded “yes,” and 25 (38.46%) responded “no.” When asked about the likelihood of accepting music therapy service, 22 out of 69 (31.88%) responded “very likely,” 19 (27.54%) responded “likely,” 14 (20.29%) responded “somewhat likely,” 10 (14.49%) responded “not at all likely,” and four (5.8%) responded “not sure” (see Table 5).

Table 5.

<table>
<thead>
<tr>
<th>Sample Demographics - Music Therapy</th>
<th>Frequency</th>
<th>%</th>
<th>Cumulative %</th>
<th>Total N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Music Therapy Experience</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>51</td>
<td>72.86</td>
<td>72.86</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>19</td>
<td>27.14</td>
<td>100</td>
<td>70</td>
</tr>
<tr>
<td><strong>Music Therapy Offered</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>49</td>
<td>72.06</td>
<td>72.06</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>16</td>
<td>23.53</td>
<td>95.59</td>
<td></td>
</tr>
<tr>
<td>Not sure</td>
<td>3</td>
<td>4.41</td>
<td>100</td>
<td>68</td>
</tr>
<tr>
<td><strong>Interest in Music Therapy</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>40</td>
<td>61.54</td>
<td>61.54</td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>25</td>
<td>38.46</td>
<td>100</td>
<td>65</td>
</tr>
<tr>
<td><strong>Likelihood of Accepting</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Likely</td>
<td>22</td>
<td>31.88</td>
<td>31.88</td>
<td></td>
</tr>
<tr>
<td>Likely</td>
<td>19</td>
<td>27.54</td>
<td>59.42</td>
<td></td>
</tr>
<tr>
<td>Somewhat Likely</td>
<td>14</td>
<td>20.29</td>
<td>79.71</td>
<td></td>
</tr>
<tr>
<td>Not at all Likely</td>
<td>10</td>
<td>14.49</td>
<td>94.2</td>
<td></td>
</tr>
<tr>
<td>Not sure</td>
<td>4</td>
<td>5.8</td>
<td>100</td>
<td>69</td>
</tr>
</tbody>
</table>

To sum up, the participants for this study were mostly over 45 years old, female, Caucasian, non-Hispanic, and had at least some college-level coursework. The length of stay was evenly distributed. The majority of participants had no experience in music therapy and had not been offered music therapy, but were at least somewhat likely to accept music therapy when offered (see Table 6).
Table 6.

**Sample Demographics - Summary**

<table>
<thead>
<tr>
<th>Demographic Characteristics</th>
<th>Frequency (%)</th>
<th>Total N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
</tr>
<tr>
<td>45 and over</td>
<td>58 (82.86)</td>
<td>70</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>41 (58.57)</td>
<td>69</td>
</tr>
<tr>
<td>Race</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>49 (70.00)</td>
<td>70</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-Hispanic/non-Latino</td>
<td>55 (87.30)</td>
<td>63</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Some college or higher</td>
<td>43 (63.24)</td>
<td>68</td>
</tr>
<tr>
<td>Music</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No music training</td>
<td>50 (78.13)</td>
<td>64</td>
</tr>
<tr>
<td>Music Therapy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No experience</td>
<td>51 (72.86)</td>
<td>70</td>
</tr>
<tr>
<td>Service Acceptance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Somewhat likely or higher</td>
<td>55 (79.71)</td>
<td>69</td>
</tr>
</tbody>
</table>

**Research Question 1: Perceived Benefits of Music Therapy**

The first research question asked: What are the perceived benefits of music therapy for hospitalized patients with cancer? To answer this question, all subjects were asked to select all ways that they felt a person could benefit from music therapy while hospitalized. All 13 aspects of potential music therapy benefits were then divided into three constructs: symptom management, psychosocial support, and non-music therapy goals.

All 70 participants provided responses to the question exploring perceptions of music therapy benefits. Sixty-eight (97.14%) subjects identified at least one item from the symptom management construct, 52 (74.29%) subject identified at least one item from the psychosocial support construct, and 62 (88.57%) subjects identified at least one aspect from the non-music therapy goal construct (see Table 7).
Table 7.

*Perceived Music Therapy Benefit (N=70)*

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Symptom Management</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worry/Stress</td>
<td>60</td>
<td>85.71</td>
</tr>
<tr>
<td>Pain</td>
<td>32</td>
<td>45.71</td>
</tr>
<tr>
<td>Mood</td>
<td>58</td>
<td>82.86</td>
</tr>
<tr>
<td>Relaxation/Sleep</td>
<td>56</td>
<td>80.00</td>
</tr>
<tr>
<td><strong>Non-MT Goal</strong></td>
<td>62</td>
<td>88.57</td>
</tr>
<tr>
<td>Distraction</td>
<td>57</td>
<td>81.43</td>
</tr>
<tr>
<td>Entertainment</td>
<td>43</td>
<td>61.43</td>
</tr>
<tr>
<td><strong>Psychosocial Support</strong></td>
<td>52</td>
<td>74.29</td>
</tr>
<tr>
<td>Coping</td>
<td>33</td>
<td>47.14</td>
</tr>
<tr>
<td>Expression</td>
<td>43</td>
<td>61.43</td>
</tr>
<tr>
<td>Control</td>
<td>18</td>
<td>25.71</td>
</tr>
<tr>
<td>Communication</td>
<td>20</td>
<td>28.57</td>
</tr>
<tr>
<td>Spiritual</td>
<td>36</td>
<td>51.43</td>
</tr>
<tr>
<td>Emotional</td>
<td>37</td>
<td>52.86</td>
</tr>
</tbody>
</table>

To examine the study participants’ common perceptions of music therapy benefits, the items were organized in order from the most frequently identified music therapy benefit to the least frequently identified one, with “manage worry or stress,” “help with relaxation and sleep,” and “improve mood” being the most frequently recognized benefits (see Table 8 and Figure 2).
Table 8.

*Rankings in Perceived Music Therapy Benefits (N=70)*

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Perceived Music Therapy Benefits</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Manage worry or stress</td>
<td>60</td>
<td>85.71</td>
</tr>
<tr>
<td>2</td>
<td>Improve mood</td>
<td>58</td>
<td>82.86</td>
</tr>
<tr>
<td>3</td>
<td>Help with relaxation &amp; sleep</td>
<td>56</td>
<td>80.00</td>
</tr>
<tr>
<td></td>
<td>Take their mind off things</td>
<td>56</td>
<td>80.00</td>
</tr>
<tr>
<td>4</td>
<td>Express thoughts and feelings</td>
<td>43</td>
<td>61.43</td>
</tr>
<tr>
<td></td>
<td>Entertainment</td>
<td>43</td>
<td>61.43</td>
</tr>
<tr>
<td>5</td>
<td>Get emotional support</td>
<td>37</td>
<td>52.86</td>
</tr>
<tr>
<td>6</td>
<td>Get spiritual support</td>
<td>36</td>
<td>51.43</td>
</tr>
<tr>
<td>7</td>
<td>Cope with health concerns</td>
<td>33</td>
<td>47.14</td>
</tr>
<tr>
<td>8</td>
<td>Reduce pain</td>
<td>32</td>
<td>45.71</td>
</tr>
<tr>
<td>9</td>
<td>Communicate with family &amp; friends</td>
<td>20</td>
<td>28.57</td>
</tr>
<tr>
<td>10</td>
<td>Gain more control of life</td>
<td>18</td>
<td>25.71</td>
</tr>
</tbody>
</table>

*Figure 2.* Bar graph of frequencies for perceived music therapy benefits.

A cross tabulation was organized to examine any overlapping characteristics in perceived music therapy benefits. Most participants (87.14%) who identified an item
under the symptom management construct also identified items in the non-music therapy construct (see Table 9).

Table 9.

Cross Tabulations of Perceived Music Therapy Benefits (N=70)

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Symptom</th>
<th>Psychosocial</th>
<th>Non-MT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptom</td>
<td>-</td>
<td>74.29% (52)</td>
<td><strong>87.14% (61)</strong></td>
</tr>
<tr>
<td>Psychosocial</td>
<td>74.29%* (52)</td>
<td>-</td>
<td>67.14% (47)</td>
</tr>
<tr>
<td>Non-MT</td>
<td><strong>87.14% (61)</strong></td>
<td>67.14% (47)</td>
<td>-</td>
</tr>
</tbody>
</table>

A table of the total numbers of music therapy benefits each participant identified was organized to examine the breadth of participants’ perceptions of music therapy benefits. Among all 70 responses, 15 (22.6%) identified three benefits, 10 (14.71%) identified eight benefits, 10 (14.71%) identified 10 benefits, nine (13.24%) identified seven benefits, six (8.81%) identified four benefits, six (8.82%) identified two benefits, three (4.41%) identified six benefits, and two (2.94%) identified nine benefits (see Table 10).

Table 10.

Summation of Patient-Perceived Music Therapy Benefits by Participant

<table>
<thead>
<tr>
<th>Number of Benefits</th>
<th>Frequency</th>
<th>%</th>
<th>Cumulative Frequency</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>6</td>
<td>8.82</td>
<td>8</td>
<td>8.82</td>
</tr>
<tr>
<td><strong>3</strong></td>
<td><strong>15</strong></td>
<td><strong>22.06</strong></td>
<td><strong>23</strong></td>
<td><strong>30.88</strong></td>
</tr>
<tr>
<td>4</td>
<td>6</td>
<td>8.82</td>
<td>29</td>
<td>39.7</td>
</tr>
<tr>
<td>5</td>
<td>7</td>
<td>10.29</td>
<td>36</td>
<td>49.99</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
<td>4.41</td>
<td>39</td>
<td>54.4</td>
</tr>
<tr>
<td>7</td>
<td>9</td>
<td>13.24</td>
<td>48</td>
<td>67.64</td>
</tr>
<tr>
<td>8</td>
<td>10</td>
<td>14.71</td>
<td>58</td>
<td>82.35</td>
</tr>
<tr>
<td>9</td>
<td>2</td>
<td>2.94</td>
<td>60</td>
<td>85.29</td>
</tr>
<tr>
<td>10</td>
<td>10</td>
<td>14.71</td>
<td>70</td>
<td>100.00</td>
</tr>
</tbody>
</table>
Statistical procedures were performed to examine the central tendencies in perceived music therapy benefits between demographic characteristics. A significant difference ($p < .0001$) was found between genders, with females identifying significantly more benefits and males identifying significantly fewer benefits (see Table 11).

In summary, the majority of participants believed that music therapy can benefit symptom management, psychosocial support, and areas that are not typically considered as music therapy goals, such as taking their minds off things. Gender difference was found to be significant ($p < .0001$) in the total number of benefits, with males recognizing fewer benefits and females recognizing more benefits from music therapy.

**Research Question 2: Perceived Needs during Hospitalization**

The second research question asked: What are the perceived needs of hospitalized patients with cancer? To answer this question, all participants were asked to identify the types of support needed while receiving inpatient care. Fifteen choices were listed under the multiple-choice question, including an “other” option with an open space for comments. Similarly to the first research question, the reasons for music therapy referral established in the EMR at the study facility, combined with reasons that were not typically considered to be music therapy goals were organized into items for this survey.

### Table 11.

<table>
<thead>
<tr>
<th>T-Test of Association between Gender in Summation of Perceived Benefits</th>
<th>Means Difference</th>
<th>Df</th>
<th>t Value</th>
<th>p Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male Compared to Female</td>
<td>-2.67</td>
<td>67</td>
<td>-4.29</td>
<td>&lt; .0001</td>
</tr>
</tbody>
</table>

In summary, the majority of participants believed that music therapy can benefit symptom management, psychosocial support, and areas that are not typically considered as music therapy goals, such as taking their minds off things. Gender difference was found to be significant ($p < .0001$) in the total number of benefits, with males recognizing fewer benefits and females recognizing more benefits from music therapy.

**Research Question 2: Perceived Needs during Hospitalization**

The second research question asked: What are the perceived needs of hospitalized patients with cancer? To answer this question, all participants were asked to identify the types of support needed while receiving inpatient care. Fifteen choices were listed under the multiple-choice question, including an “other” option with an open space for comments. Similarly to the first research question, the reasons for music therapy referral established in the EMR at the study facility, combined with reasons that were not typically considered to be music therapy goals were organized into items for this survey.
question. All 15 items were divided into three constructs for analysis purpose: symptom management, psychosocial support, and non-music therapy goals.

Among the 67 subjects who provided a response to the survey question in response to the second research question, all three constructs of need were identified by study participants. Fifty (74.63%) identified at least one item from the symptom management construct, 31 (46.27%) identified at least one from the psychosocial construct, 39 (58.21%) identified at least one from the non-music therapy goal construct, and 12 (17.91%) identified no support needed during hospitalization (see Table 12).

When looking at each single item, pain (50.75%) was the most frequently identified need by the study participants, followed by “relaxation and sleep” (43.28%) and “distraction” (40.30%).

Table 12.

*Perceived Needs during Hospitalization (N=67)*

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Symptom Management</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pain</td>
<td>34</td>
<td>50.75</td>
</tr>
<tr>
<td>Relaxation/Sleep</td>
<td>29</td>
<td>43.28</td>
</tr>
<tr>
<td>Worry/Stress</td>
<td>24</td>
<td>35.82</td>
</tr>
<tr>
<td>Mood</td>
<td>16</td>
<td>23.88</td>
</tr>
<tr>
<td><strong>Psychosocial Support</strong></td>
<td>31</td>
<td>46.27</td>
</tr>
<tr>
<td>Emotional</td>
<td>19</td>
<td>28.36</td>
</tr>
<tr>
<td>Coping</td>
<td>18</td>
<td>26.87</td>
</tr>
<tr>
<td>Expression</td>
<td>10</td>
<td>14.93</td>
</tr>
<tr>
<td>Control</td>
<td>9</td>
<td>13.43</td>
</tr>
<tr>
<td>Spiritual</td>
<td>9</td>
<td>13.43</td>
</tr>
<tr>
<td>Communication</td>
<td>5</td>
<td>7.46</td>
</tr>
<tr>
<td><strong>Non-MT Goal</strong></td>
<td>39</td>
<td>58.21</td>
</tr>
<tr>
<td>Distraction</td>
<td>27</td>
<td>40.30</td>
</tr>
<tr>
<td>Boredom</td>
<td>20</td>
<td>29.85</td>
</tr>
<tr>
<td>Financial</td>
<td>15</td>
<td>22.39</td>
</tr>
<tr>
<td><strong>No Support Needed</strong></td>
<td>12</td>
<td>17.91</td>
</tr>
</tbody>
</table>
All responses received for this question were organized in order by their frequencies (see Table 13 and Figure 3). The result showed that pain (50.75%) was the most identified need during hospitalization for oncology patients, followed by anxiety reduction and emotional needs. The items of “taking my mind off things (distraction)” and “boredom” were both identified as needs during hospitalization, even though they were not typically considered music therapy goals.

Table 13.

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Needs during Hospitalization</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reduce Pain</td>
<td>34</td>
<td>50.75</td>
</tr>
<tr>
<td>2</td>
<td>Help with Relaxation and Sleep</td>
<td>29</td>
<td>43.28</td>
</tr>
<tr>
<td>3</td>
<td>Distraction</td>
<td>27</td>
<td>40.30</td>
</tr>
<tr>
<td>4</td>
<td>Manage Worry or Stress</td>
<td>24</td>
<td>35.82</td>
</tr>
<tr>
<td>5</td>
<td>Boredom</td>
<td>20</td>
<td>29.85</td>
</tr>
<tr>
<td>6</td>
<td>Get Emotional Support</td>
<td>19</td>
<td>28.36</td>
</tr>
<tr>
<td>7</td>
<td>Coping</td>
<td>18</td>
<td>26.87</td>
</tr>
<tr>
<td>8</td>
<td>Improve mood</td>
<td>16</td>
<td>23.88</td>
</tr>
<tr>
<td>9</td>
<td>Financial Concerns</td>
<td>15</td>
<td>22.39</td>
</tr>
<tr>
<td>10</td>
<td>Don’t Need Support</td>
<td>12</td>
<td>17.91</td>
</tr>
<tr>
<td>11</td>
<td>Express thoughts and Feelings</td>
<td>10</td>
<td>14.93</td>
</tr>
<tr>
<td>12</td>
<td>Gain more Control</td>
<td>9</td>
<td>13.43</td>
</tr>
<tr>
<td></td>
<td>Get Spiritual Support</td>
<td>9</td>
<td>13.43</td>
</tr>
<tr>
<td>14</td>
<td>Communication</td>
<td>5</td>
<td>7.46</td>
</tr>
<tr>
<td>15</td>
<td>Other</td>
<td>1</td>
<td>1.49</td>
</tr>
</tbody>
</table>
Figure 3. Bar graph of perceived needs during hospitalization.

A table of the total number of needs identified by each participant was organized to examine the breadth of needs (Table 14). The result showed that out of the 67 who responded to this question, eight (11.94%) subjects identified that no support was needed. For those who identified needs, 14 (20.9%) identified three needs, 10 (14.93%) identified one need, eight (11.94%) identified two needs, seven (10.45%) identified four needs, six (8.96%) identified five needs, and fewer than 11 identified six needs or more.
A cross tabulation was organized to examine any overlapping constructs identified by participants. Most participants (74.19%) who recognized needs in psychosocial support also recognized needs in the non-music therapy construct (see Table 15).

Table 14.

Summation of Needs during Hospitalization (N=67)

<table>
<thead>
<tr>
<th>Number of Needs</th>
<th>Frequency</th>
<th>%</th>
<th>Cumulative Frequency</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>8</td>
<td>11.94</td>
<td>8</td>
<td>11.94</td>
</tr>
<tr>
<td>1</td>
<td>10</td>
<td>14.93</td>
<td>18</td>
<td>26.87</td>
</tr>
<tr>
<td>2</td>
<td>8</td>
<td>11.94</td>
<td>26</td>
<td>38.81</td>
</tr>
<tr>
<td>3</td>
<td>14</td>
<td><strong>20.90</strong></td>
<td><strong>40</strong></td>
<td><strong>59.70</strong></td>
</tr>
<tr>
<td>4</td>
<td>7</td>
<td>10.45</td>
<td>47</td>
<td>70.15</td>
</tr>
<tr>
<td>5</td>
<td>6</td>
<td>8.96</td>
<td>53</td>
<td>79.10</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
<td>4.48</td>
<td>56</td>
<td>83.58</td>
</tr>
<tr>
<td>7</td>
<td>2</td>
<td>2.99</td>
<td>58</td>
<td>86.57</td>
</tr>
<tr>
<td>8</td>
<td>3</td>
<td>4.48</td>
<td>61</td>
<td>91.04</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>1.49</td>
<td>62</td>
<td>92.54</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>4.48</td>
<td>65</td>
<td>97.01</td>
</tr>
<tr>
<td>12</td>
<td>1</td>
<td>1.49</td>
<td>66</td>
<td>98.51</td>
</tr>
<tr>
<td>13</td>
<td>1</td>
<td>1.49</td>
<td>67</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Statistical procedures were performed to compare the central tendencies in demographic characteristics to the perception of needs during hospitalization. Gender
difference was statistically significant ($p = .04$) in the number of needs expressed, with males expressing fewer needs and females expressing more needs (see Table 16).

Table 16.

<table>
<thead>
<tr>
<th>T-Test of Association between Gender and Number of Needs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male Compared to Female</td>
</tr>
<tr>
<td>--------------------------</td>
</tr>
<tr>
<td>Male Compared to Female</td>
</tr>
</tbody>
</table>

Gender differences were specifically evident in the expression of psychosocial needs with more females (60.98%) expressing a need for psychosocial support and more males (76%) denying a need for psychosocial support (see Table 17).

Table 17.

<table>
<thead>
<tr>
<th>Chi-Squared Test of Association between Gender and Psychosocial Support*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
</tr>
<tr>
<td>------</td>
</tr>
<tr>
<td>Male</td>
</tr>
<tr>
<td>Female</td>
</tr>
</tbody>
</table>

$*X^2 = 8.52, p = .004$

Other than gender difference, prior music therapy experience was identified to be significant ($p = .04$) in the awareness of psychosocial needs (see Table 18).

Table 18.

<table>
<thead>
<tr>
<th>Chi-Squared Test of Association between Having MT and Psychological Support*</th>
</tr>
</thead>
<tbody>
<tr>
<td>No MT Experience</td>
</tr>
<tr>
<td>-------------------</td>
</tr>
<tr>
<td>No MT Experience</td>
</tr>
<tr>
<td>MT Experience</td>
</tr>
</tbody>
</table>

$*X^2 = 4.12, p = .04$
In summary, patients expressed needs in regards to symptom management, psychosocial support, and distraction. Gender was found to be significantly different in the overall number of needs identified \((p = .04)\) and the awareness of psychosocial needs \((X^2 = 8.52, p = .004)\). The presence or absence of music therapy experience was found to be significant in the awareness of psychosocial needs as well \((X^2 = 4.12, p = .04)\).

**Research Question 3: Perceived Barriers to Music Therapy.**

The third research question asked: What are the perceived personal, physical, social, and medical barriers to music therapy for hospitalized patients with cancer? To answer this question, all participants were asked to identify factors that would prompt a rejection of music therapy services when offered through a multiple-choice question.

Among the 65 subjects who provided a response to this question, 23 (35.38%) reported no barriers to service, 34 (52.31%) recognized at least one item from the personal barrier construct, 25 (38.46%) recognized at least one item from the physical barrier construct, 18 (27.69%) recognized at least one item from the medical barrier construct, and 25 (38.46%) recognized at least one item from the social barrier construct (see Table 19). The definitions of constructs were provided under Music Therapy Survey Development section in Chapter 3.
Table 19.

*Table Perceived Barriers to Music Therapy (N=65)*

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Personal Barriers</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cost of Service</td>
<td>11</td>
<td>16.92</td>
</tr>
<tr>
<td>Don’t Like Music</td>
<td>3</td>
<td>4.62</td>
</tr>
<tr>
<td>Lack of Musical Skills</td>
<td>8</td>
<td>12.31</td>
</tr>
<tr>
<td>Don’t Know what MT is</td>
<td>9</td>
<td>13.85</td>
</tr>
<tr>
<td>Don’t Think Music can Help</td>
<td>1</td>
<td>1.54</td>
</tr>
<tr>
<td>Don’t Need Therapy</td>
<td>1</td>
<td>1.54</td>
</tr>
<tr>
<td>Concerned About Time</td>
<td>3</td>
<td>4.62</td>
</tr>
<tr>
<td><strong>Physical Barriers</strong></td>
<td>25</td>
<td>38.46</td>
</tr>
<tr>
<td>Don’t Feel Well</td>
<td>22</td>
<td>33.85</td>
</tr>
<tr>
<td>Restroom Needs</td>
<td>8</td>
<td>12.31</td>
</tr>
<tr>
<td><strong>Medical Barriers</strong></td>
<td>18</td>
<td>27.69</td>
</tr>
<tr>
<td>Schedule Conflict</td>
<td>14</td>
<td>21.54</td>
</tr>
<tr>
<td>Visitors/Staff Present*</td>
<td>8</td>
<td>12.31</td>
</tr>
<tr>
<td><strong>Social Barriers</strong></td>
<td>25</td>
<td>38.46</td>
</tr>
<tr>
<td>Don’t Want to Disturb Others</td>
<td>8</td>
<td>12.31</td>
</tr>
<tr>
<td>Prefer to Rest in a Quiet Room</td>
<td>13</td>
<td>20.00</td>
</tr>
<tr>
<td>Don’t Want to be Emotional</td>
<td>4</td>
<td>6.15</td>
</tr>
<tr>
<td>Don’t Need Entertainment</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td><strong>No Barriers</strong></td>
<td>23</td>
<td>35.38</td>
</tr>
</tbody>
</table>

*Variable also represented in Social Construct*

In order to examine the most commonly recognized barriers, a table was organized by listing each individual barrier in order of frequency. The most recognized barriers to music therapy participation identified by the study participants were “don’t feel well” (33.85%), “schedule conflict” (21.54%), “prefer to rest in a quiet room” (20%), and “cost of service” (16.92%; see Table 20).
Table 20.

**Rankings of Barriers to Music Therapy Service (N=65)**

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Barriers to Music Therapy</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Don’t feel well</td>
<td>22</td>
<td>33.85</td>
</tr>
<tr>
<td>2</td>
<td>Schedule conflict</td>
<td>14</td>
<td>21.54</td>
</tr>
<tr>
<td>3</td>
<td>Prefer quiet room</td>
<td>13</td>
<td>20.00</td>
</tr>
<tr>
<td>4</td>
<td>Cost of service</td>
<td>11</td>
<td>16.92</td>
</tr>
<tr>
<td>5</td>
<td>Don’t know what MT is</td>
<td>9</td>
<td>13.85</td>
</tr>
<tr>
<td>6</td>
<td>Lack of music skill</td>
<td>8</td>
<td>12.31</td>
</tr>
<tr>
<td></td>
<td>Visitors/Staff present</td>
<td>8</td>
<td>12.31</td>
</tr>
<tr>
<td></td>
<td>Don’t want to disturb others</td>
<td>8</td>
<td>12.31</td>
</tr>
<tr>
<td></td>
<td>Restroom needs</td>
<td>8</td>
<td>12.31</td>
</tr>
</tbody>
</table>

A table of the total number of barriers identified by each participant was organized to examine the scale of barriers that may hinder music therapy participation as identified by study participants. The majority of participants recognized two barriers to service (15.38%), and most subjects identified four or fewer barriers to music therapy participation (see Table 21).

Table 21.

**Summation of Barriers to Music Therapy (N=65)**

<table>
<thead>
<tr>
<th>Number of Barriers</th>
<th>Frequency</th>
<th>%</th>
<th>Cumulative Frequency</th>
<th>Cumulative %</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12</td>
<td>18.46</td>
<td>31</td>
<td>47.69</td>
</tr>
<tr>
<td>2</td>
<td>10</td>
<td>15.38</td>
<td>41</td>
<td>63.08</td>
</tr>
<tr>
<td>3</td>
<td>9</td>
<td>13.85</td>
<td>50</td>
<td>76.92</td>
</tr>
<tr>
<td>4</td>
<td>9</td>
<td>13.85</td>
<td>59</td>
<td>90.77</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>3.08</td>
<td>61</td>
<td>93.85</td>
</tr>
<tr>
<td>6</td>
<td>2</td>
<td>3.08</td>
<td>63</td>
<td>96.92</td>
</tr>
<tr>
<td>8</td>
<td>1</td>
<td>1.54</td>
<td>64</td>
<td>98.46</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
<td>1.54</td>
<td>65</td>
<td>100.00</td>
</tr>
</tbody>
</table>

In order to examine whether there was any overlapping characteristics between constructs in participants’ responses, a cross tabulation was organized (see Table 22). The
overlap between personal-social construct (32.21%) was the most frequent, followed by personal-physical construct (23.8%), and social-physical construct (23.08%), and medical-social construct (15.38%).

Table 22.

<table>
<thead>
<tr>
<th>Barriers</th>
<th>Physical</th>
<th>Social</th>
<th>Medical</th>
<th>Personal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical</td>
<td>-</td>
<td>23.08%</td>
<td>20.00%</td>
<td>23.08%</td>
</tr>
<tr>
<td>Social</td>
<td>23.08%</td>
<td>-</td>
<td>15.38%</td>
<td>32.21%</td>
</tr>
<tr>
<td>Medical</td>
<td>20.00%</td>
<td>15.38%</td>
<td>-</td>
<td>16.92%</td>
</tr>
<tr>
<td>Personal</td>
<td>23.08%</td>
<td>32.21%</td>
<td>16.92%</td>
<td>-</td>
</tr>
</tbody>
</table>

Statistical procedures were performed to determine the relationship between demographic characteristics and perceived barriers. Through a chi-squared test, a significant difference was found between pre-existing music therapy experience and the awareness of personal barriers (see Table 23).

Table 23.

<table>
<thead>
<tr>
<th></th>
<th>No Perceived Personal Barriers</th>
<th>Perceived Personal Barriers</th>
</tr>
</thead>
<tbody>
<tr>
<td>No MT Experience</td>
<td>39.58% (19)</td>
<td>60.42% (29)</td>
</tr>
<tr>
<td>MT Experience</td>
<td><strong>70.59% (12)</strong></td>
<td>29.41% (5)</td>
</tr>
</tbody>
</table>

\( *X^2 = 4.84, p = .03 \)

In summary, the majority of participants identified no barriers to music therapy participation (35.38%). The most frequently identified reason to decline music therapy was “not feeling well” (33.85%), and whether or not a participant had had prior music
therapy experience was found to significantly influence the perceptions of personal barriers \( (X^2 = 4.84, p = .03) \).

**Likelihood of Accepting Music Therapy**

Even though the initial focus of this study was to explore rejection of music therapy services, the data collected made it possible to analyze factors connected to the likelihood of accepting music therapy. Analysis was guided by the research questions, and the findings were organized in the following order: perceived music therapy benefits, perceived needs, and perceived barriers.

**Perceived benefit in psychosocial support.** When examining the psychosocial construct for perceived music therapy benefit, those who recognized psychosocial benefits from music therapy responded as significantly more likely to accept music therapy services (Table 24). On the contrary, those who did not recognize psychosocial benefits of music therapy also expressed a lower likelihood of accepting services.

**Table 24.**

*Chi-Squared Test for Association between Likelihood of Accepting Music Therapy and Perceived Psychosocial* Benefits

<table>
<thead>
<tr>
<th>Psychosocial Construct</th>
<th>Very Likely</th>
<th>Likely</th>
<th>Somewhat Likely</th>
<th>Not at all Likely/Not Sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Benefits</td>
<td>11.11% (2)</td>
<td>16.67% (3)</td>
<td>33.33% (6)</td>
<td>38.89% (7)</td>
</tr>
<tr>
<td>Benefits</td>
<td>38.46% (20)</td>
<td>30.77% (16)</td>
<td>15.38% (8)</td>
<td>15.38% (8)</td>
</tr>
</tbody>
</table>

* \( X^2 = 9.76, p = .02 \)

**Perceived needs in psychosocial support.** When examining the psychosocial construct for perceived needs during hospitalization, those who were significantly more
likely to accept services were also those who expressed higher needs in psychosocial support (see Table 25).

Table 25.

Chi-Squared Test for Association between Likelihood of Accepting Music Therapy and Perceived Psychosocial* Needs

<table>
<thead>
<tr>
<th>Psychosocial Needs</th>
<th>Very Likely</th>
<th>Likely</th>
<th>Somewhat</th>
<th>Not at all Likely/</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Needs</td>
<td>16.67% (6)</td>
<td>27.78% (10)</td>
<td>30.56% (11)</td>
<td>25.00% (9)</td>
</tr>
<tr>
<td>Needs</td>
<td>51.61% (16)</td>
<td>29.03% (9)</td>
<td>9.68% (3)</td>
<td>9.68% (3)</td>
</tr>
</tbody>
</table>

* Χ² = 11.86, p = .008

Perceived personal barriers. When examining the construct of perceived personal barriers, those who expressed no personal barriers were significantly more likely to accept music therapy service (see Table 26).

Table 26.

Chi-Squared Test for Association between Likelihood of Accepting Music Therapy and Perceived Personal Barriers*

<table>
<thead>
<tr>
<th>Personal Barriers</th>
<th>Very Likely</th>
<th>Likely</th>
<th>Somewhat</th>
<th>Not at all Likely/</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Barriers</td>
<td>45.16% (14)</td>
<td>35.48% (11)</td>
<td>12.90% (4)</td>
<td>6.45% (2)</td>
</tr>
<tr>
<td>Barriers</td>
<td>20.59% (7)</td>
<td>38.89% (7)</td>
<td>26.47% (9)</td>
<td>32.35% (11)</td>
</tr>
</tbody>
</table>

* Χ² = 11.26, p = .01

In summary, the likelihood of accepting music therapy was significantly influenced by perceived psychosocial benefits from music therapy (Χ² = 9.76, p = .02), the awareness of psychosocial needs (Χ² = 11.86, p = .008), and the absence of personal barriers (Χ² = 11.26, p = .01).
Chapter 5: Discussion

The results of this study provided insights on oncology patients’ perspectives on music therapy and revealed the significance of gender differences and prior experience on the perception and acceptance to music therapy in an inpatient setting. Discussions on how the research findings may provide clinically significant information that can enhance music therapy clinical practice and guide new directions for music therapy researchers were given.

Study Participation and Questionnaire Completion

The principal investigator and co-investigator approached 166 patients who met the inclusion criteria, and found 125 available for participation. A total of 70 individuals agreed to participate in this study, which made a 56% agreement rate for participation. This participation rate was 7% lower than the 63% reported by Burns et al. (2005). The main difference between this research and the study by Burns et al. (2005) was in the research setting. This study was conducted in an inpatient setting as opposed to the outpatient setting study conducted by Burns et al. (2005). The need for inpatient care may imply more severe symptoms or worse conditions, since the criteria for inpatient admission is the need for hospital stay of more than two nights in length, as evaluated by a physician (CMS, 2014). The physical challenges prompting the inpatient admission may have discouraged patients from participating in a session (O’Callaghan & Colegrove, 1998), let alone the additional decision-making required for participating in this study. Within the 70 responses received, 52 out of the 70 (74.29%) were complete responses, which was 21.21% lower than the 95.5% survey completion rate reported by Burns et al. (2005). Considering patients receiving inpatient care may experience more
severe symptoms or may have a more critical condition, participation in a research study was understandably more demanding in this case. Even though the patients’ conditions in an inpatient setting were taken into consideration when the study was being designed, which led to a lower number of questions, the reduced number and simplified question structure could still be overwhelming to some participants.

The timing for administering the survey may also have contributed to the lower completion rate. Most medical teams go on rounds in the morning, and most procedures and testing were scheduled during earlier in the day; therefore, the researcher visited the unit for recruitment and data collection in the mid-to-late afternoon in order to minimize interruption to standard care. The researcher, however, had no control of or knowledge regarding anything happening prior to visiting any participant. Patients may just have received results from a scan, undergone a bedside procedure, had an emesis, received visitors, or had other medical/social related events occur prior to the researcher’s visit. Some patients’ conditions may have changed between the eligibility screening, which took place earlier in a data collection day, and when the researcher visited. These are just some examples of the unpredictability inherent within an inpatient setting that present challenges for this type of research.

Another reason that may have contributed to the lower participation rate and survey completion rate was the physical condition of the participants. During the data collection period, the researcher observed intense physical or psychosocial distress from several patients who were eligible to participate, such as experiencing aversive symptoms, actively dying, or feeling overwhelmed. Some of these patients were so fragile that even a simple request to introduce the study was over-stimulating. Therefore,
the severity of symptoms may have contributed to the rejection of participation (Burns et al., 2005), or it may have created barriers for the study participants to complete the questionnaire and resulted in a lower completion rate.

There were a few participants who agreed to participate in the study even though their condition was critical, and most of these participants asked their spouse or a family member to complete the questionnaires for them. For example, one of the participants who agreed to participate allowed her mother to complete the questionnaire on her behalf. The participant appeared weak, lay flat in bed, and spoke with a very soft voice. What the researcher (or her mother) did not realize was that this participant was actively dying when she was recruited for the study. She passed away the following day. Even though this was a more extreme case, as most participants who appeared weak declined participation, the severity and complexity of patients’ symptoms in an inpatient setting create a barrier that cannot be overlooked. The range of physical and psychosocial wellbeing needs to be carefully evaluated while recruiting and conducting research with such a fragile population. Therefore, clinical experience and training in assessment and observation are crucial for any researchers conducting research with an oncology population in an inpatient setting.

**Accessibility to music therapy.** A majority of participants reported that they either had no experience in music therapy or had not received a music therapy consultation. Even though music therapy has been available at the study facility for over 30 years, the data suggest that patients’ access to services was still limited. Currently, music therapy is a referral-based service at the study facility. Physicians and nurses are typically the major source for music therapy referrals. However, due to a high turnover
rate in these two positions in a medical system, the care providers may not have enough resources or knowledge in music therapy to fully utilize the service. Regardless of the lack of experience or knowledge in music therapy, the majority of participants (61.54%) expressed interest in learning more about music therapy. With the limitation in music therapy knowledge and experience from the study participants in mind, the results on perceived music therapy benefit, needs during hospitalization, and barriers to music therapy participation will be discussed in the following sections.

**Patient-Perceived Benefit for Music Therapy**

A majority of participants (97.14%) reported at least one benefit of music therapy from the symptom management construct, which makes it the most frequently selected construct. The second most frequently selected construct fell under the non-music therapy goal construct with 88.57% of participants selecting at least one aspect in this construct. A majority of participants expressed that music therapy may be beneficial for more than just one construct. The most frequently overlapping benefits were in the symptom management construct and non-music therapy constructs (see Table 9). The participants’ lack of experience with music therapy may have had an influence on their choices for music therapy benefits. With 72.86% of total participants claiming no previous music therapy experience and more than 70% of these participants not having been offered music therapy, it was highly unlikely that these participants had had any discussion about music therapy or its potential benefits on their healthcare with any healthcare professionals prior to participating in this study. Therefore, even though “distraction” was what the participants thought that music therapy could deliver, a music therapist might identify the participants’ needs in a different way, such as coping or anxiety reduction.
A t-test procedure found a significant difference ($p < .0001$) between males and females in the summation of perceived benefits by participants with (see Table 11). The significant result in gender difference supported the importance of examining intra-subject variables in the future agenda of music therapy research, as recommended by Dileo and Bradt (2005). The differences between genders on music therapy perception and the potential of gender difference influencing research outcomes will be an area worth exploring for future studies. For music therapy clinicians, it may be just as important to take gender differences into consideration in assessment and acknowledge the differences in treatment implementation.

**Patient-Perceived Needs during Hospitalization**

When asked to identify supports needed while receiving inpatient care, 12 participants shared that they did not need support. Among those who recognized needs during hospitalization, 74.63% recognized at least one need in the symptom management construct, followed by 58.21% in the non-music therapy goal construct and 46.27% in the psychosocial support construct (see Table 12). To further understand the data, a cross tabulation was organized to examine any overlapping constructs in perceived needs during hospitalization (see Table 15). The result indicated that most participants (74.19%) who identified needs in symptom management also identified needs in the non-music therapy goals construct. The crossover between the symptom management construct and the non-music therapy construct matched the result from perceived benefits in music therapy (Table 9), which confirmed this researcher’s suspicion that “distraction” might be the participants’ way of describing a clinical need. The need for distraction may have been a way to cope with the anxiety associated with hospitalization, since anxiety
has the potential to turn into a refusal of reality (Miller & O’Callaghan, 2010). An example that happened during the data collection may provide some support to this argument. A participant specifically explained to the researcher that boredom was a trigger for his anxiety. He was hospitalized for treatment for leukemia, which involves bone marrow transplants and a long waiting time in a controlled environment. He shared with the researcher that music would have been a nice coping option filling in the wait time for his treatment. It may have appeared to be boredom to the participant, but what he expressed was a clinical need for coping that can be successfully addressed by music therapy. This case shows the complexity of patient needs during hospitalization. Even though what patients recognize is a non-clinical need, such as boredom, the patient may actually have an underlying need that requires support during hospitalization. This is an argument for the importance of assessment in music therapy. A music therapy session often includes the whole treatment process, which includes assessment, treatment, and evaluation and will be completed with documentation in the patient’s medical chart (Gallagher, 2011). A music therapist will need to assess a patient’s need in the moment, which could include different issues than the patient was initially referred. The assessment process will inform the therapist whether the patient’s need is still present, has changed, or if service is no longer needed.

Statistical tests were performed to examine the association between demographic characteristics and needs during hospitalization. A chi-squared test indicates that prior music therapy experience did have an impact on perceived psychosocial needs (see Table 18). Among those who previously had an experience with music therapy, 66.67% shared that they needed psychosocial support, whereas among those who had no music therapy
experience, 61.22% expressed needing no psychosocial support. Since the majority of
participants (72.86%) from this study had no previous experience in music therapy (Table
5), the results may reflect the reality that the majority of patients music therapy clinicians
encounter in an inpatient medical setting are new to music therapy; therefore, according
to the data acquired in this study, these patients may not have the insights or awareness
for psychosocial needs. As a result, the lack of awareness of psychosocial needs can
create a conflict between a patient’s self-evaluation and a clinician’s assessment, leading
to service rejection (Baker-Glenn et al., 2011).

Gender differences were evident in participants’ awareness of psychosocial needs.
Females expressed significantly more awareness of psychosocial support than males ($X^2$
= 8.52, $p = .004$; see Table 17). Since male patients were more likely to deny needs for
psychosocial support, the emphasis on psychosocial support during rapport-building
phase may be a reason why male patients decline service. A t-test that examined the
summation of needs between demographic characteristics found a significant difference
($p = .04$) between males and females in terms of the number of supports needed (see
Table 16). There was a similar tendency between the needs expressed by participants and
the perceived music therapy benefits, with symptom management being the most
frequently expressed construct, followed by non-music therapy construct, and with
psychosocial support being the least frequently recognized construct. The only difference
was that the participants expected anxiety and mood for music therapy benefits, while
pain and sleep were the most frequently expressed needs. Even though the constructs
showed a match between need and benefits, if the need and perceived benefit had also
matched, acceptance-to-service rate might have been higher. Therefore, the perceived barriers to music therapy participation will be discussed in the following sections.

**Patient-Perceived Barriers to Music Therapy**

The participants were asked a multiple-choice question: if you were to decline music therapy service, what would have been the reason? Sixteen potential barriers were listed; for analysis, they are divided into physical, personal, medical, and social constructs (see Table 19).

Personal barriers were the most frequently identified barrier construct (52.31%), followed by physical and social barriers (38.46% each), and medical barriers (27.69%). The responses received within the personal barrier construct again reflected the lack of understanding of music therapy service due to lack of experience at the study facility, as 11 (16.92%) participants felt that the cost of service would be a barrier to them. Music therapy is offered as a complementary service at the study facility, and patients are not directly billed for the service if offered and received. However, with 15 (22.39%) participants identifying financial concern as a need during hospitalization, it was understandable that the cost of service became a barrier to the service for some participants. Ongoing efforts in advocacy and education for the medical staff may be a solution to this specific barrier.

Analyzing the barriers to service was challenging due to the larger number of items under this question and the small sample size, which limited statistical analysis. Therefore, analyses were performed between constructs instead of individual items. A chi-squared test showed a statistical difference ($X^2 = 4.84, p = .03$) for perceived personal barriers if the participants had prior music therapy experiences. This suggested that
participating in or observing a music therapy session may have changed the perception of barriers to service. When examining the items within the personal barrier construct more closely, five out of the seven total items were music- or music therapy-related (see Table 19), which is understandable if participating in or observing a music therapy session may cause a person’s perception of these barriers to significantly decrease.

A specific barrier that was not listed in the questionnaire but was frequently reported by participants during the data collection process was the feeling of being overwhelmed during hospitalization. Some participants shared verbally that it was “just too much” when the service was offered. A patient may be overwhelmed by the information presented regarding healthcare, disease, and decisions that he or she has to make within a short time frame. Due to patient-center care becoming the focus of the medical system, patients are increasingly involved in the decision-making process for their own healthcare. While this allows more autonomy for patients, the amount of information and responsibility that follows the decision-making can impair a person in many ways. A person’s compromised physical wellbeing may consequently impair his or her cognitive, psychological, and social wellbeing (Dileo & Bradt, 2005). This is an important factor that all music therapy clinicians should take into consideration when gathering assessment information and offering service.

**The role of arts in medicine programs.** Medical music therapy is defined as “an established health profession using music and music interventions to address physical, emotional, cognitive, and social needs of children and adults with disabilities or illnesses” (Florida State University, 2009). The involvement of a music therapist has also been emphasized in the definition by AMTA (2017). The needs expressed by the study
participants included boredom (29.85%) and distraction (40.3%), which may not be typically considered as clinical goals by music therapists, since they do not fall within physical, emotional, cognitive, or social needs. This creates a dilemma between patients’ needs and a clinician’s scope of practice. Even though music therapy is often associated with boredom, due to the association between music and entertainment, the priority of music therapists is to address symptom management and psychosocial needs. Therefore, the needs of boredom and entertainment may be overlooked. This does not mean that these were needs not worth addressing, as they may be an indication of hidden psychosocial needs. A solution that many hospital systems are starting to incorporate into their patient care is the implementation of music medicine or arts in medicine (Gregory, 2014). An arts in medicine program offers normalization for a hospital environment through displaying or interactive programming in arts, including art, music, dance, or other forms of fine arts (Gregory, 2014). Music medicine is the use of recorded music provided by healthcare providers without the involvement of therapeutic process (Bradt et al., 2015). The major differences between arts in medicine or music medicine and music therapy include three major components: (a) the training of a music therapist, (b) the therapeutic process, and (c) documentation (Gregory, 2014). One program cannot be replaced by another, as they all have their role in providing patient care. These programs provide artistic and social stimuli that offer normalization to healthcare environments without the need to explore in-depth therapeutic processing or discussions that may not be appropriate for every patient.
Likelihood of Accepting Music Therapy

Even though this study has focused on factors that may have contributed to hospitalized cancer patients’ rejection of music therapy service, the data collected provide some insights on factors that may have motivated patients to accept music therapy. Overall, 79.71% of participants expressed that they were at least somewhat likely to accept music therapy service. When looking at individual barriers alone, the highest identified item was “wouldn’t decline music therapy,” with 23 responses (35.38% of total responses). This result matched the 22 responses that identified as “very likely” to accept music therapy service when offered. This information shows that music therapy is a highly preferred service among the oncology population, which presents strong evidence for hospital administrations when an expansion of services is under consideration.

In summary, the likelihood of accepting music therapy service during hospitalization in this study was primarily influenced by patient demographic characteristics and patients’ prior experience with music therapy. Gender differences were identified as a factor in patients’ perceptions of the benefits of music therapy ($p < .0001$) and the awareness of psychosocial needs ($p = .04$). Males who participated in the study were more likely to identify as not needing psychosocial support (76%), and females were more likely to identify needs for psychosocial support (60.98%). The presence or lack of experience in music therapy was associated with the awareness of psychosocial needs ($X^2 = 4.12, p = .04$) and the perceptions of personal barriers ($X^2 = 4.84, p = .03$). The perception of the psychosocial benefits of music therapy, the awareness of psychosocial needs, and the lack of perceived personal barriers were all associated with a higher likelihood of acceptance of music therapy service. Based on the
results of this study, a preliminary theory for the likelihood of accepting music therapy is illustrated in Figure 4.

![Figure 4. The preliminary theory of likelihood of accepting music therapy.](image)

Limitations of Study

The results of this study do not generalize to the oncology population in an inpatient setting due to the limitation of a convenience sample, a small sample size, and the use of a questionnaire that was not validated.

This study was the first survey study conducted that targeted hospitalized patients at this study facility. However, since this study only focused on the patients with a cancer diagnosis, many patients who were admitted for diagnostic procedures had to be excluded from this study. Literature on psychosocial needs for oncology patients suggested that psychosocial symptoms that cancer patients commonly experience, such as anxiety and stress from the uncertainty and the unpredictability of disease progression, begin from
receiving a diagnosis (Marzani-Nissen & Baum, 2009). A patient who is undergoing diagnostic procedures may also experience similar anxiety and stress and can potentially benefit from music therapy, even though pre-diagnosis anxiety is not specified in the literature for this population.

Due to the lack of previously validated research instruments for collecting hospitalized patients’ perceptions on music therapy, the investigator needed to create a questionnaire based on prior research on similar topics (Bruscia et al., 2009; Burns et al., 2005). As a result, the questionnaire needs further development in the following areas. One area that the questionnaire lacks is a clear structure. The researcher observed that several participants had challenges in answering the questionnaire due to it being printed on both sided of the paper, which may have contributed to missing values in the questionnaire. While analyzing the data, the researcher found that age range was an ambiguous item for statistical analysis. Therefore, collecting the actual age of a participant instead of an age range may allow more options for statistical analysis, such as the median, range of the sample, and the freedom to group the age ranges in various intervals. In order to ensure simplicity, the type of cancer and reasons for hospitalization were not collected in this questionnaire; however, these variables may have the potential to reveal insights as to the specific needs or reasons for declining music therapy. For example, needs for patients hospitalized for surgical intervention to remove malignant tumors may be different from the needs of patients hospitalized for management of dyspnea or shortness of breath.

Due to the structure of the research design, participants joined the study at various points of their hospitalization, from just being admitted to waiting testing results to post-
operation recovery to awaiting discharge paperwork or being transferred to hospice. As a result, participants’ response to the questionnaire may have reflected where they were in terms of their hospital stay. For more detailed analysis, it is recommended that a patient’s hospitalization status should be documented along with his or her length of stay. One possible concern is that these recommendations involve adding items to the questionnaire, which may increase the burden on participants in their fragile state. A solution to address this consideration may be to include medical chart review in addition to questionnaire administration in order to gather all the information for further analysis.

During recruitment and data collection, while multiple participants verbally expressed that the reason for declining participation or declining service was that they were feeling overwhelmed, this had not been included in the questionnaire under barriers to service. A feeling of being overwhelmed has also been recognized in similar studies (Burns et al., 2005). It will be noteworthy for future studies to examine the weight of this single factor on patients’ acceptance or rejection of services and compare this factor to the “feeling unwell” factor, which was the most frequently identified reason for service rejection in the current study. The question that explored barriers to music therapy service was the weakest of the whole questionnaire from an analysis standpoint. There were an unequal number of variables under each construct, and the number of responses received was not enough for a meaningful analysis. Separating the musical construct will also make it possible to run statistical testing to see whether it has any relationship with a patient’s music training history or preferred type of musical activities.
Recommendations

Based on the results of this study, several recommendations for improving and modifying questionnaire items and research procedures are given for future studies. First of all, the questionnaire needs further development, validation, and reliability testing. Once the validation of the instrument is achieved, this study can be improved and expanded by an increased sample size and an improved sampling strategy, such as expanding study inclusion criteria to those who are admitted for diagnostic procedures. Including those who are hospitalized for diagnostic purpose may increase the researcher’s insights to pre-diagnostic psychosocial needs and may provide more evidence to inform music therapy clinicians.

Another way to improve this study is to modify the current design to a mixed-method design by adding a qualitative section. A mixed-method design on this topic may enhance the depth of knowledge on patients’ perspective and other factors that may hinder music therapy participation in an inpatient oncology setting.

Conclusion

Understanding patients’ perspectives on music therapy service can help increase insights and awareness for music therapists’ clinical judgment and strengthen evidence-based practice in music therapy (AMTA, 2010). In this study, gender and previous experience in music therapy were found to be the main characteristics that influenced the likelihood of accepting music therapy. The result of this study indicated that music therapy is a desired service for the oncology population during hospitalization. With the capacity to address multidimensional needs during hospitalization while benefitting the medical facility at the same time, music therapy has the potential to be a valuable
addition to standard care for the oncology population. Ongoing research in understanding the perceptions of patients and healthcare providers as well as the effectiveness of music therapy interventions will continue to establish evidence to support patient-specific needs, support medical facilities, and strengthen the music therapy profession.
References


Person-centered care: Reforming services and bringing older citizens back to the heart of society: Hearing before the Special Committee on Aging of the United States Senate, 110th Cong. 103 (2008).


therapy: A model program for clinical practice, education, training, and research (pp. 3-10). Silver Spring, MD: American Music Therapy Association.


Appendix A: Ohio University IRB Approval Notice

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<td>Committee:</td>
<td>Biomedical IRB</td>
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<tr>
<td>Compliance Contact:</td>
<td>Robin Stack (<a href="mailto:stack@ohio.edu">stack@ohio.edu</a>)</td>
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<tr>
<td>Primary Investigator:</td>
<td>Yu-Ching Chen</td>
</tr>
<tr>
<td>Project Title:</td>
<td>Cancer Patients' Concerns for Music Therapy during Hospitalization</td>
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<tr>
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The Biomedical IRB reviewed and approved by expedited review the above referenced research. The Board was able to provide expedited approval under 45 CFR 46.110(b)(1) because the research meets the applicability criteria and one or more categories of research eligible for expedited review, as indicated below.

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**Waivers:** N/A

If applicable, informed consent (and HIPAA research authorization) must be obtained from subjects or their legally authorized representatives and documented prior to research involvement. In addition, FERPA, PPRA, and other authorizations must be obtained, if needed. The IRB-approved consent form and process must be used. Any changes in the research (e.g., recruitment procedures, advertisements, enrollment numbers, etc.) or informed consent process must be approved by the IRB before they are implemented (except where necessary to eliminate apparent immediate hazards to subjects).

The approval will no longer be in effect on the date listed above as the IRB expiration date. A Periodic Review application must be approved within this interval to avoid expiration of the IRB approval and cessation of all research activities. All records...
relating to the research (including signed consent forms) must be retained and available for audit for at least three (3) years after the research has ended.

It is the responsibility of all investigators and research staff to promptly report to the Office of Research Compliance / IRB any serious, unexpected and related adverse and potential unanticipated problems involving risks to subjects or others.

This approval is issued under the Ohio University OHRP Federalwide Assurance #00000095. Please feel free to contact the Office of Research Compliance staff contact listed above with any questions or concerns.

Research Compliance
117 Research and Technology Center 740.593.0664
compliance@ohio.edu
Appendix B: Music Therapy Survey

Music Therapy Survey

Music therapy supports all patients in managing emotional and physical challenges through all levels of engagement in music. If you have agreed to take part in this study, please complete the survey below. It should take about 5 minutes. You can skip any questions that you do not want to answer.

1. Have you ever taken part in or watched a music therapy session? □ Yes □ No

2. Have you been offered music therapy during this stay? □ Yes □ No □ Not sure

3. How likely are you to accept music therapy when offered?
   □ Very likely □ Likely □ Somewhat likely □ Not at all likely □ Not sure

4. You may choose more than one answer for this statement:
   I think a person in the hospital might use music therapy to...
   □ Manage worry or stress □ Communicate with family and friends
   □ Reduce pain □ Get spiritual support
   □ Improve mood □ Get emotional support
   □ Help with relaxation and sleep □ Take their mind off things
   □ Cope with health concerns □ Entertain myself
   □ Express thoughts and feelings □ Other: __________________________
   □ Gain more control of life

Page 1 of 4
5. What are reasons you might say no to music therapy?  
Check all that apply.

- □ Concerns about cost of service
- □ Don’t like music
- □ Don’t have music skills
- □ Don’t know what music therapy is
- □ Don’t think music can help me
- □ Don’t feel well
- □ Visitor(s) or staff are present
- □ Worried it may disturb others
- □ Prefer resting in a quiet room
- □ Schedule conflict
- □ Don’t want to be too emotional
- □ May need to use the restroom during visit
- □ Don’t need entertainment
- □ Don’t need therapy
- □ Concerns about how much time it takes
- □ Other reasons:

6. Would you like to learn more about how music therapy can help you? □ Yes □ No

Please tell us about you

7. What is your age range?

- □ 18-24
- □ 25-34
- □ 34-44
- □ 45-54
- □ 55-64
- □ 65-74
- □ 75+

8. What is your gender?  □ Male □ Female

9. What is your race?

- □ Black or African American
- □ White or Caucasian
- □ Native American or Alaska Native
- □ Asian
- □ Pacific Islander or Hawaii Native
- □ Prefer not to answer
10. What is your ethnicity?
   - Hispanic or Latino
   - Non-Hispanic or Non-Latino
   - Prefer not to answer

11. What is your educational background?
   - Some high school or less
   - High school diploma or GED
   - Trade school or vocational training
   - Some college
   - College degree(s)
   - Prefer not to answer

12. How long have you been in the hospital?
   - Less than 3 days
   - 3 to 7 days
   - More than 7 days

13. What areas do you need support with while you are in the hospital?
    Please check all that apply.
    - Managing worry or stress
    - Reducing pain
    - Improving my mood
    - Help with relaxation and sleep
    - Coping with health concerns
    - Expressing thoughts and feelings
    - Gaining more control of life
    - Spiritual support
    - Ways to communicate better with family and friends
    - Emotional support
    - Help taking my mind off things
    - Boredom
    - Concerns about bills/money
    - Other: ____________________________
    - I do not need support right now
14. What type of music activities do you enjoy?
Check all that apply.

☐ Singing
☐ Playing instruments
☐ Listening to music
☐ Going to concerts
☐ Writing music/songs
☐ Other: ______________________
☐ None of the above

15. Do you have any formal music training?  ☐ Yes  ☐ No
If yes, what type of training do you have?
Check all that apply.

☐ Private music lessons
☐ Band or orchestra
☐ Chamber music ensemble
☐ Chorus, barber shop quartet, choir or other singing groups
☐ Degree in music
☐ Other: ______________________

Thank you for your time and feedback. A staff member from the research team will collect your survey soon. If you would like a copy of this survey, please let the research team member know.

If you would like a visit from a music therapist during your stay, please tell your nurse.