Implementing an Aromatherapy Program for Hospice Patients

Janet M. Tomaino

University of Minnesota

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Abstract

Hospice patients faced with a terminal illness often have difficulty with unrelieved symptoms related to a variety of causes. This DNP project adapted, implemented, and evaluated an aromatherapy pilot program in a 12-bed hospice facility using inhaled and topically applied essential oils. The administration of essentials oil was rated effective by 90% of both patients and nurses. Lavender, the most frequently used essential oil was used 44% of the time. Cotton balls for direct inhalation were the preferred delivery method, used for 51% of essential oil administrations. Of the nurses who responded to the survey, 66% indicated that using aromatherapy increased their satisfaction in caring for hospice patients and 100% agreed that aromatherapy was effective and easily used. Evaluations indicated the program was effective, easily implemented with the guidance of a clinical aromatherapist, and readily accepted as an additional tool for nurses to use for hospice patient symptom management and overall comfort. It also provided a pleasing environment for patients, families, and staff in a hospice facility.

Executive Summary

Purpose

This DNP project was implemented in a hospice residence/inpatient facility. The hospice philosophy of quality, compassionate care for those facing the end of life offers patients a team approach for symptom management, and spiritual and emotional care. Unrelieved symptoms, despite administration of numerous medications, in addition to emotionally charged situations experienced by many hospice patients are not only stressful for them, but often stressful for their families and caregivers, including nurses. Additional treatment adjuncts using an integrative therapy approach such as aromatherapy, the use of essential oils to provide a therapeutic response, may be an effective measure to care for the whole person: body, mind, and spirit. Furthermore, aromatherapy may provide nurses with an additional tool for patients' overall comfort and a way to provide a pleasing environment for staff, patients, and families.

Background

This project adapted, implemented, and evaluated an aromatherapy pilot program in a 12-bed hospice facility. Primary aims of the program were to 1) improve hospice patients' symptom management, 2) increase end-of-life comfort, and 3) increase caregiver satisfaction with end-of-life care utilizing aromatherapy. Literature reviews supported the concept of using aromatherapy with end of life care for patient symptom management, overall comfort, and encouragement of family participation with cares. Five single or essential oil blends were used with one of four delivery methods: hand/foot massage using the 'M' Technique, direct inhalation from a cotton ball or an aromastick, or indirectly diffused or applied to an outer wound dressing for odor control. Lavender, Bergamot and Comfort Blend (Roman chamomile, rose, blue cypress) were primarily used for anxiety, sleeplessness, pain, or overall comfort. Uplifting Blend (peppermint,

ginger, lemon) was used for nausea and fatigue. Pleasant Blend (thyme, tea tree, lemon, eucalyptus) was used for odor control. Effectiveness of administration of the essential oils was measured by patients or family and nurses using a simple scale: -1= worse or dislikes; 0= no difference; +1 = effective. Nurses were surveyed at the conclusion of the 3-month period as to their overall satisfaction with the program, and effectiveness, convenience, and usefulness of using essential oils with their hospice patients.

Summary of Results

Overall effectiveness of and satisfaction with the pilot program was evaluated. Twenty of 37 admissions over a 3- month period consented to participate in the aromatherapy program. Of those patients who consented, 15 (75%) used aromatherapy a total of 197 times. Administration of an essential oil was rated as effective (+1) by 90% of both patients and nurses. Lavender, the most frequently used essential oil was used 44% of the time. Cotton balls for direct inhalation were the preferred delivery method, used for 51% in essential oil administrations. Of the nurses who responded to the survey, 66% indicated that using aromatherapy increased their satisfaction of caring for hospice patients and 100% agreed that aromatherapy was effective and easily used. Evaluations indicated the program was effective, easily implemented with the guidance of a clinical aromatherapist, and readily accepted as an additional tool for nurses to use for hospice patient symptom management and overall comfort. The program also provided a pleasing environment for patients, families, and staff in a hospice facility. Five months after the completion of the program's data collection period, the aromatherapy program appears to be highly sustainable as it continues with ongoing nurse and administrative support.

Implementing an Aromatherapy Program for Hospice Patients

Chapter 1: Introduction

Problem Identification

Patients near the end-of-life and those with incurable health conditions often struggle with symptom control and comfort. The National Hospice and Palliative Care Organization (NHPCO) (2007), "recognizes that a peaceful and comfortable death is an essential goal of health care…this interdisciplinary approach to care focuses on the individual's physical symptoms and the emotional and spiritual concerns of the patient and family." Psychological, and spiritual symptoms experienced by hospice patients are often as troublesome as physical symptoms for those at the end-of life (Nelson, 2006). Patients' decreased comfort and well-being levels often create stressful situations for families and caregivers, including nurses.

Nurses often cite frustration and stress when patients' symptoms are difficult to control. While many factors contribute to nurses' stress, perceived barriers of managing hospice patients' symptoms may certainly be a contributing factor. A survey of hospice nurses identified that hospice nurses report multiple barriers with effectively managing common symptoms in terminally ill patients, and that implementation of treatments for shortness of breath, pain, nausea, and agitation were all rated as high stressors for nurses (Johnson, Kassner, House, & Kutner's, 2005). Additionally, hospice nurses play a complex multifaceted role in caring not only for the physical needs of the patient, but also for patients and family spiritual needs; and are also drawn into family dynamics (Seed & Walton, 2012). Although there is a hospice team to help address many of these issues, nurses are the constant at the bedside in a hospice inpatient or residential facility, and often don't have the team's immediate presence.

This DNP project adapted, implemented, and evaluated an aromatherapy protocol for a Midwest hospice facility as a way for nurses and staff to provide an additional tool for patients'

symptom management, overall well-being, and to provide comfort at the end of life. Due to the psychological and physical effects of essential oils, the basis of aromatherapy, they can be a vital adjunct for use in hospice as they target end-of life symptoms (Gilliland, 1999; Buckle, 2003) while giving nurses an additional "tool" to use. The use of aromatherapy may also provide a calm environment for nurses, and ancillary staff, family, and visitors. Additionally, aromatherapy can encourage family involvement when they are guided to use essential oils for hand and foot massages of their loved ones, thus providing the combined effect of inhalation and touch.

The Hospice and Palliative Nurses Association (2008) asserts that the goal of complementary therapies used in professional nursing practice is reducing hospice patients' suffering, enhancing comfort, and promoting dimensions of healing in the face of terminal illnesses. Complementary therapies, also known as integrative therapies, are considered viable treatment options for end-of-life care as an additional tool for nurses to use as well as encouraging patient and family participation with cares. Literature reviews, case reports, and surveys indicate that complementary therapies, including aromatherapy, are being offered in hospices across the United States. During the late 1990s, end-of-life issues garnered public and research attention simultaneously as the Institute of Medicine began shifting its focus on comfort and quality of life. During that same time period, the use of CAM therapies in the United States has continued to grow. A study of family members of patients in community settings who died of natural causes indicated 54% of them used some form of CAM (Horowitz, 2009). Another survey of 36 inpatient and outpatient hospices in the state of Washington showed that 86% of the organizations offered complementary and alternative services for their patients. Of these, 46% offered aromatherapy (Kozak, 2009).

Background

Hospice.

Hospice is a philosophy of quality, compassionate care for those facing a life-limiting illness or injury that accepts death as a natural part of life. Hospice focuses on caring, not curing with a team approach to offer quality of life support that offers expert medical care with pain and symptom management, and emotional and spiritual support. Support is provided to patients and their families by a team typically consisting of hospice physicians, nurses, aides, social workers, chaplains, bereavement counselors, and trained volunteers. Speech, physical, and occupational therapists are also available for patients as needed. Hospice care is available to patients of any age, religion, or race, provided in patients' homes, hospitals, long-term care facilities, and freestanding hospice centers with services covered under Medicare, Medicaid, and most private insurance plans (NHPCO, n.d. b).

The Hospice and Palliative Nurse Association (2009), states that "the principles of hospice and palliative care have changed the face of health care by encouraging a holistic focus on comfort and improving quality of life for those with life-limiting illness". They assert that increased access to high-quality palliative and hospice care is a national priority and is integral to improving the quality of health care in the United States. While the hospice team approach is extraordinary, hospice nurses play an important role with the care of hospice patients since they are often the constant at the patient's bedside or are the most frequently seen team member for hospice home patients. The Hospice and Palliative Nurse Association (n.d.) recognizes the strong relationship between nursing practice and quality patient care. They support the need for hospice nurses to be prepared to provide high quality care and evaluate outcomes by utilizing current research and evidence-based practice standards.

Aromatherapy.

While the term aromatherapy may invoke a number of meanings, for the purpose of this paper aromatherapy is the use of essential oils for a therapeutic purpose (Buckle, 2003). Aromatherapy origins were in herbal medicine dating back thousands of years; modern aromatherapy began in the 1930's by a French chemist, Gattefosse, with his interest and subsequent research following the healing of his own burn wounds with the use of lavender (*Lavandula angustifolia)* essential oil. He was also credited with using a variety of essential oils to treat wounds of soldiers in WWI (Buckle, 2003). Aromatherapy is used for pharmacological and biophysical actions as well as for psychotherapeutic action where the scent of the essential oils is considered an important component for healing (Battaglia, 2003). Due to the psychological and physical effects of essential oils, they can be an important adjunct for use in hospice for symptoms such as pain, nausea, anxiety, agitation, bronchodilation, indigestion, itching, constipation, loss of appetite, inflammation, slow wound healing, and terminal secretions. Additionally, many essential oils are also known for their antibacterial, antifungal, and antiviral properties (Gilliland, 1999; Buckle, 2003).

Essential oils for aromatherapy purposes are obtained from various parts of plants, by either steam distillation or expression (pressing) (Price & Price, 2007). Chemists have identified more than 3,000 different terpenic molecules falling into 10 major functional groups in essential oils that determine their pharmacological effects. The lipophilic nature of essential oils allows molecules to enter the capillary system through the skin, olfactory, or respiratory systems. Essential oils delivered via inhalation are readily absorbed into the circulation due to the lungs large surface area, thin epithelial layer, lipophilic absorbing surface, and high blood flow (Bowles, 2003). Additionally, inhalation of essential oil molecules allow the hundreds of receptor cells in the nose to relay smells to the brain where they may promote the release of

neurotransmitters including encephalin, endorphins, serotonin and noradrenalin. These neurotransmitters are responsible for reducing pain, creating a sense of well-being, relaxation, and stimulation (Kyle, 2006). There are differing opinions about whether those with anosmia (inability to smell) receive the inhaled effect of essential oils. Jellinek (as cited in Battaglia, 2003) suggests that the odor of the essential oil is not a factor in its pharmacological effects at the synapses, so those with anosmia receive the same effects as those with a normal sense of smell. The sense of smell also has an effect on the limbic system, causing an emotional response which is different than the pharmacological response. The odor may cause a cascade of events through stored memories leading to hormonal changes within the body. In this case, those with anosmia would not expect to receive the same result as those with a normal sense of smell (Battaglia).

Topical delivery of administering essential oils requires the essential oil to be highly diluted in a carrier oil, a lotion or oil that will allow its absorption into the skin, thus entering the cutaneous capillaries. The lipophilic nature of essential oils allows for the small molecules to enter the capillaries, leading to systemic absorption. The rate of dermal absorption of essential oils is slower than that of inhalation, however if left on the skin, it has the chance for a continual, slow absorption. Rate of dermal absorption, plasma concentration, and excretion is dependent on the specific chemical constituents; some known to be detected in the blood within 5 minutes of being massaged into the skin (Bowles, 2003). Certain areas of the body have varying permeability of the skin. The soles of the feet and palms of the hands are relatively permeable and easily accessed for administration of essential oils (Battaglia, 2003). It is interesting to note that administering essential oils topically is also being delivered via inhalation. A combination of inhalation and topical application may be done with a water bath, such as a foot soak. While the essential oils are entering the capillaries of the feet, the aroma is also wafting to the nose.

Consequence of Problem

As previously discussed, hospice patients often experience physical, emotional, and spiritual symptoms that are difficult to control at the end of their life thereby decreasing their comfort and well-being. This often leads to increased stress for families, caregivers, and nurses as they struggle to assist patients to die with comfort and dignity. Although physical symptoms are most often treated with pharmacological products, emotional and spiritual symptoms rely on guidance from the hospice team members in addition to personal support already in place. While a number of patients are able to have many of their physical, emotional, and spiritual needs met and related symptoms controlled, some never find this relief; often leading to added stress for them, their families, caregivers, and nurses. Additional treatment options that have merit in providing comfort would be a welcome benefit for all stakeholders.

Significance and Proposed Solution

Literature reviews indicated that aromatherapy could be useful for the hospice population along with their usual treatment to provide additional relief and increased comfort. The addition of aromatherapy to patients' treatment plans would give patients and families a non-pharmacological option that may help decrease distressing symptoms and enhance comfort. Education provided by an RN certified clinical aromatherapist for the hospice residence nurses, aides, and volunteers on the use of aromatherapy would enable them to administer and guide hospice patients and families on safe and potentially beneficial uses of aromatherapy for symptom management of pain, anxiety, agitation, nausea, and overall well-being and thereby increasing comfort levels. It was concluded that implementation of an aromatherapy program would also provide needed education to patients and families who may already be using aromatherapy without the appropriate guidance. Furthermore, use of aromatherapy would give hospice nurses more options with providing for physical, emotional, and spiritual needs,

encourage family participation with patient cares, and provide a more peaceful environment for all.

The Preamble to the National Hospice and Palliative Care Organization's Standards of Practice (2007) quotes Eric Cassel, M.D. from the March 30, 1989 issue of the *New England Journal of Medicine*:

> As sickness progresses toward death, measures to minimize suffering should be intensified. Dying patients require palliative care of an intensity that rivals even that of curative efforts even though aggressive curative techniques are no longer indicated, professionals and families are still called on to use *intensive* measures, extreme responsibility, extraordinary sensitivity and heroic compassion.

While these *intensive* measures could be defined in a number of ways, it is clear that they are not measures to cure. Caring for patients as they approach death often require a plethora of measures to treat the whole person; body, mind, and spirit. Because nursing has long embraced the individual as a "whole," caring for the physical, mental, emotional, and spiritual aspects of patients, the use of complementary therapies is a natural fit for nurses to use. Despite some lack of high level empirical evidence of CAM, the Hospice and Palliative Nurse Association (HPNA) supports CAM use to care for hospice patients with goals to reduce suffering, and enhance patient comfort and well-being. Additionally, the Minnesota Board of Nursing (2010), states that "integrative therapies may address health needs by promoting comfort, healing and well-being." Both the HPNA (2008) and the National Hospice and Palliative Organization (NHPCO) (n.d.a) cite aromatherapy as a CAM modality that could be beneficial for end-of-life care. Credible information of aromatherapy use for symptom management can also be found on the National Cancer Institute (NCI) Physician's Data Query's (PDQ®) (2012) website which provides an aromatherapy overview and comprehensive peer-reviewed evidence-based database. While the

PDQ® does not provide formal guidelines for clinicians, it serves as a useful resource and is regularly reviewed and updated by the PDQ Cancer Complementary and Alternative Medicine Editorial Board.

San Diego Hospice began using aromatherapy with the implementation of CAM in 1996 as a way of enhancing comfort care (Lewis, Vedia, Reuer, Schwan, & Tourin, 2003). Their program's goal was to provide comfort care in addition to emotional and spiritual healing for the patient, family, and caregivers with the use of various CAM modalities, including aromatherapy. As they provided options for modalities in addition to standard medical practices, they found that integrative modalities allowed for greater patient autonomy and bridged gaps between the patients and providers. An initial trial for using aromatherapy using lavender baths for patients resulted in a noticeable relief of symptoms of agitation and restlessness and led to the expansion of the aromatherapy program to include other essential oils for patient comfort. Customized blends of essential oils were developed to use for various patient and family situations involved in various stages of the dying process. Although these blends were not tested for efficacy or compared to single essential oils, they concluded that the results received enough positive feedback to justify continuing their program. The success of San Diego Hospice's aromatherapy program is suggested by their website citing that four thousand essential oil blends were dispensed through their pharmacy in 2008 (San Diego Hospice and The Institute of Palliative Medicine, 2011).

Practice Knowledge Gap

Although some home hospice patients use aromatherapy on their own, there was no formal or sanctioned aromatherapy program at the hospice residence or any other department of the parent institution. Some nurses and other hospice staff were familiar with aromatherapy or used it for self-care but lacked the knowledge to use it with patients. Although there is an abundance of

aromatherapy literature available, there are limited systematic program evaluations of its use in hospice organizations. Implementation of an aromatherapy pilot program in a hospice residence provided a process to replicate an aromatherapy program institution wide and also provided a process for other hospices to replicate the program.

Education of nurses was recognized as the key practice knowledge gap. Nurses who use integrative therapies in their nursing practice do so under their nursing license. The Minnesota Board of Nursing's (2010) Statement of Accountability for Utilization of Integrative Therapies in Nursing Practice (Appendix A) requires all Minnesota nurses acquire specialized training from a recognized body of knowledge relative to nursing for using integrative therapies with their patients. Furthermore, the statement requires nurses to maintain clinical competence in the integrative therapy by staying current with research and literature, and provide patients with education, risks, and benefits of the therapy. This statement asserts that nurses who use integrative therapies in their nursing practice are held to the same accountability for reasonable skill and safety as they are with conventional treatments. With education and guidance in the use of aromatherapy for hospice patients, this project incorporated the best available evidence in adapting, implementing, and evaluating an aromatherapy service in a hospice setting, thereby addressing the practice knowledge gap and assuring that this integrative modality followed the Minnesota Board of Nursing practice regarding integrative therapies.

Needs Assessment

The 12-bed hospice residence offers respite, inpatient, and residential care for a large hospice program in the Midwest. Hospice patients continue to be managed and followed by the hospice homecare program's RN case managers and the entire hospice team, but are cared for on a daily basis by the hospice residence staff. Informal interviews conducted with more than half of the hospice program's RN case managers and physician and four of the hospice residence

nurses revealed they were often asked by patients and their families to provide information on the use of aromatherapy. Families requested "something more" to provide comfort when medications were not effective, or for a complementary therapy to be added to the current plan of care. A few nurses cited instances when patients were guided by outside sources to use aromatherapy for a variety of symptoms and the nurses were not familiar with the essential oils or delivery methods. In these situations, a staff RN Certified Clinical Aromatherapist was consulted. Although the interviews were informal conversations with individuals or groups of 2-3 at a time, the following specific questions were woven into the conversation:

- Do you know anything about aromatherapy?
- Do you use aromatherapy?
- Are you aware of any of your patients using aromatherapy? If so, for what reasons?
- What benefits do you think aromatherapy may provide for your patients?
- Would you like to see aromatherapy available for your patients?

Eight of the interviewed nurses said that they thought aromatherapy would provide potential benefits for anxiety, restlessness, nausea, and the dying process. Furthermore, the four hospice residence nurses and two of the homecare nurses said that aromatherapy would be a good option for wound and patient room odor control, thus providing a more pleasing environment for patients, families, and staff. All of those interviewed expressed a desire for aromatherapy education and the implementation of an aromatherapy program.

Project Overview

Project Scope.

This project adapted, implemented, and evaluated an aromatherapy program to educate patients, families, and the hospice residence staff on the safe use of essential oils in a 12-bed hospice residence located in a medium sized city in the Midwest. The hospice residence nurses,

aides and volunteers were provided education on essential oils, delivery methods, and safety. Additionally, the nurses were provided instruction on which essential oils and delivery methods to use for specific indication and situations. Patients in the hospice residence, all part of a local homecare hospice program with an average daily census of 145 patients, were there as inpatients for symptom management, residents (residing there until death,) or respite care (home caregivers requiring a break). The average daily census in the hospice residence was 5-6 with patients having a variety of diagnosis including, but not limited to cancer, heart disease, lung disease, and end-stage dementia. This project was adapted from an aromatherapy program that has been successfully used for many years in the San Diego Hospice and The Institute for Palliative Medicine (SDHIPM) (C. Carr, personal communication, July 18, 2011) to fit the needs of the patients served in this hospice.

Education. Education for all of the hospice nurses, aides and for those volunteers who chose to participate was conducted over six-week period prior to implementation of the aromatherapy program. There were a few additional training sessions after the implementation date for a few of the staff and volunteers who were unable to attend the initial ones. Initial education was offered with an on-line aromatherapy module and a hand/foot 'M'Technique® massage video which were completed prior to the hands-on sessions. While the homecare staff did not participate in the education, or in the administration of the essential oils, they were informed by ongoing discussion and with emails of the program. They were updated by the hospice residence nurses when aromatherapy was added to the care plan.

Implementation. All hospice patients 18 years and older admitted to the hospice residence were invited to participate in the aromatherapy pilot program over a three-month period from August 27, 2012, through November 27, 2012. Patients who consented to participate in the aromatherapy program were offered essential oils as determined by the nurse as

an adjunct to their medications and plans of care to provide physical, emotional, and spiritual comfort. Aromatherapy (Table 1) was offered by direct inhalation of a single or blended essential oil on a cotton ball or an aromastick, a blended essential oil as a topical hand and/or foot massage, or a blended essential oil as a deodorizer placed on the outer wound dressing or used with a fan diffuser for odor control in the patient's room.

Outcomes. Evaluations (Appendixes B & C) were conducted using identical post evaluation forms completed by the nurses and patients or their family members. The evaluations rated the overall effectiveness of the aromatherapy using a simple rating of -1= worse, 0= no change, or +1= improved comfort. These forms also included space for "comments" related to the aromatherapy used. Evaluations were to be completed each time aromatherapy was used, except in the event it was ongoing throughout the day, such as a diffuser for odor control. In those situations, one evaluation was completed per day. At the completion of the pilot program, nurses were invited to participate in an on-line survey (Appendix D) to rate the overall effectiveness and their satisfaction with the aromatherapy program.

Table 1

Project Essential Oils

Name	Essential Oil /Blend	Delivery Method	Uses/Indications
Bergamot	Bergamot (*Citrus bergamia*)	Direct Inhalation Diffuser	Discomfort related to: Anxiety Agitation Insomnia
Comfort Blend	Chamomile, Roman (*Anthemis nobili*) Rose (*Rosa damascena)* Blue Cypress (*Callitris intratropica*) (3% blend in Jojoba oil)	Hand/foot Massage	Discomfort related to: Pain Grief Anxiety Insomnia
Lavender	Lavender (*Lavandula angustifolia)* (undiluted)	Inhalation	
	Lavender (*Lavandula angustifolia)* 3% in Jojoba oil	Hand/foot Massage	
Pleasant Blend	Eucalyptus globulus (*Eucalyptus glubulus*) Lemon (*Citrus limon)* Tea Tree *(Melaleuca alternifolia*) Thyme linalol (*Thymus vulgaris linalool)*	Room diffuser Applied to outer dressing	Room deodorizer wound dressing deodorizer
Uplifting Blend	Ginger (*Zingiber officinale)* Lemon (*Citrus limon)* Peppermint (*Mentha piperita*)	Direct Inhalation	Discomfort related to: Nausea Constipation Fatigue

People Involved.

Stakeholders. The community partner was the institution's hospice director who oversaw both the homecare department and the hospice residence. She gave the initial approval and provided support for the program prior to her retirement and before the implementation took place. The new director remained involved by lending support and continued approval with the program. Other stakeholders included the hospice medical director, hospice physicians, hospice nurse practitioner, hospice residence nurse manager, hospice homecare manager, hospice RN case managers, hospice social workers, hospice bereavement counselors, hospice chaplains, hospice patients and their families.

The physicians and nurse practitioner offered support for the program by approving the use and at times ordering aromatherapy (although a physician's order was not required) for symptom management for patients. The nurse managers of the homecare staff and the hospice residence granted approval and provided continual support for the program. The hospice homecare RN case managers, social workers, bereavement staff, chaplains, and volunteer coordinators were kept informed and updated of the aromatherapy program as it involved the hospice patients they followed. The hospice residence nurses, aides and volunteers, patients and families or other caregivers were key stakeholders as they were all at the center of the program.

Project Team. The project team was comprised of key stakeholders with direct involvement in the aromatherapy program. The team was developed with a minimum number of people to assist with the process and implementation and to provide ongoing feedback process from beginning to end. They were instrumental in the project as they provided organizational and departmental administrative support, planning and implementation support, review of symptom management and input of the teaching plan, input and assistance for training, and assistance with forms, filing, and labels. Led by the DNP student project leader, the team was comprised of the clinical hospice director, hospice residence nurse manager, hospice homecare nurse manager, 2 hospice residence RNs, 2 hospice homecare RN case managers, hospice homecare volunteer coordinator, hospice social worker, hospice secretary, and the hospice residence secretary.

Resources Needed.

This project required several resources from education to supplies. Resources used for planning and education included meeting rooms, DVD and TV/DVD player, paper for printed education, evaluation, and information forms, sample aromatherapy products, and access to a computer and printer. Training of staff included paid time for education as well as times included

within their work shift to administer, document, evaluate, and collect data for the aromatherapy program. Supplies needed for program implementation were storage space, essential oils, diffusers, cotton balls, cotton ball containers, med cups, tape, labels, laminated matrix guides, patient consent forms, aromatherapy information forms, evaluation forms, file folders, and clipboards.

Budget.

Startup costs included all supplies as listed previously in the "Resources Needed" section, in addition to anticipated costs for program sustainability. Much of the expenses, including personnel time for staff education and pre-planning were absorbed by the hospice residence; and other items were already available at no cost. The largest expense was the essential oils. The DNP student/project leader obtained a $2,000 grant from the organization's foundation with a $2000 grant. The budget estimate was imprecise because the number of participants and thus the amount of aromatherapy supplies were unknown; however, the remaining funds were made available to the hospice residence to continue the aromatherapy program once the pilot project was completed. Details of the budget are included in Table 2.

Table 2

Budgeted Expenses for Personnel and Supplies

Resources and Supplies	Cost Center	Amount (in dollars)
Personnel: time for self-education modules and in-service; 2.5 hrs x 21 nurses, 5 aides, and 1 social worker	Cost absorbed by Hospice House	$2,000
Paper products	Cost absorbed by Hospice House	$20
Video	Provided by project leader	$50
Video Equipment, computers, printer	Available at Hospice House	$1,500
Cotton balls, bandaids, containers	Available at Hospice House	$5
Clipboards and supply container	Provided by project leader	$30
Diffusers	Provided by project leader	$50
Essential oils: Plant Extracts, Inc.	Foundation Grant	$576
Project Total		$4,231

Project Goal, Process Objectives and Outcomes

The project goals, process objectives, and outcome objectives were formulated after reviewing the literature and completing a needs assessment.

Goal

- To improve hospice patients' symptom management, increase overall comfort, and improve caregiver satisfaction with end-of-life care utilizing non-pharmacological methods.

Process Objectives

- By July 1, 2012, 100% of staff aromatherapy educational materials (printed, online tutorials, power point) will be prepared.

- By July 15, 2012, 100% of aromatherapy staff and patient forms will be prepared.
- By August 1, 2012, needed aromatherapy supplies will be available and stored in the hospice residence.
- By August 15, 2012, 100% of hospice residence nurses, aides and participating hospice volunteers will have completed aromatherapy training.
- By September 1, 2012, aromatherapy protocol will be finalized and implemented.

Outcome objectives

- 100% of staff who completed the aromatherapy online module will score at least 72% or better on the post test.
- By September 1, 2012, 100% of the hospice residence nurses, aides, and participating volunteers will be competent to offer aromatherapy as evidenced by their verbal understanding of the aromatherapy program after completion of the education.
- By December 1, 2012, 40 hospice residence patients will have agreed to participate in the aromatherapy program.
- By December 1, 2012, 50% of the hospice residence patients who used aromatherapy will demonstrate improved symptom management and/or overall wellbeing as indicated on nurse and patient evaluation forms.
- By February 1, 50% of hospice residence staff will demonstrate increased satisfaction of caring for hospice patients with the addition of aromatherapy use as demonstrated by responses of “satisfaction increased a great deal,” “satisfaction increased a moderate amount,” or “satisfaction increased a little” on the *Nurse Survey of Aromatherapy Program*.

Chapter 2: Supporting Literature and Project Framework

Nursing Theory

Comfort Theory, a middle-range nursing theory was used to guide the implementation of aromatherapy in hospice. This theory developed by Katharine Kolcaba (2008) began with the simple concept of comfort as it was so engrained within the history of the nursing profession. Kolcaba found that as nursing progressed from the era of Florence Nightingale, a time when comfort was associated with overall health, it slowly became a term used with physical sensations or symptoms such as pain. The non-physical dimensions were left out of the picture. Kolcaba's definition of comfort incorporates the physical as well as the non-physical aspects. She describes comfort as existing in 3 forms: relief, ease, and transcendence, and within 4 contexts—physical, psychospiritual, sociocultural, and environmental. The "*relief*" need may be met by administering pain or nausea mediations, or by applying an ice pack or heating pad. The *"ease"* need may be met by addressing issues causing a state of anxiety or depression. The "*transcendence"* need may be met by patients rising above their challenges (Current Nursing, 2010). Comfort Theory combines several key concepts as described below and shown as it relates to the aromatherapy program in Figure 1.

Comfort Theory Concepts

- Health care needs: those needs identified by the patient/family in a particular practice setting
- Comfort interventions: actions of the health care team that enhance patients'/families' comfort
- Intervening variables: factors unlikely to change and that providers have little control over (prognosis, social support, financial situation)
- Enhanced comfort: realized with comfort interventions delivered consistently over time

- Health-seeking behaviors (HSB):
    - Internal such as improved symptoms
    - External such as health related activities, improved functional outcomes
    - Peaceful death
- Institutional integrity: values, financial stability, and wholeness of health care organizations at local, regional, state, and national levels.
- Best Policies: protocols and procedures developed by an institution for overall use after collecting evidence
- Best Practice: protocols and procedures developed by an institution for specific patient/family applications (or types of patients) after collecting evidence (Comfort Line, 2010; Kolcaba, 2008).

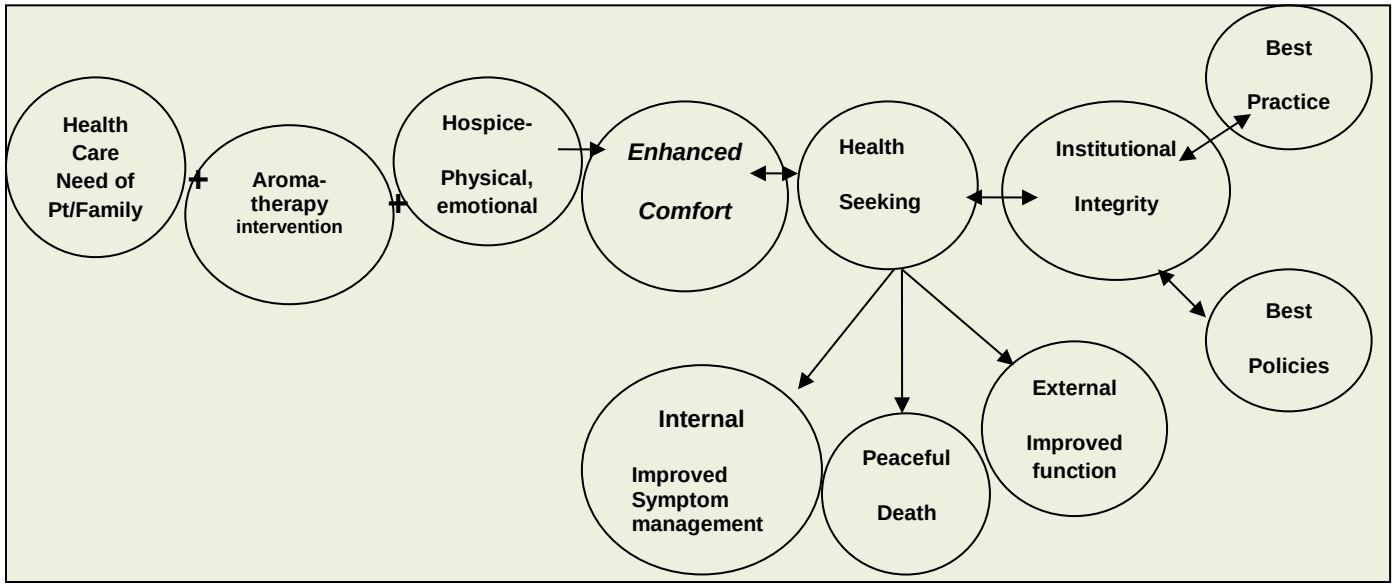
Using this model, nurses, other health care members, patients, and family members first identify the comfort needs of patients. Nurses must also identify their own needs, enabling which enable them to work toward patient/family needs along with the health care team. Once these needs are identified, the intervening variables are taken into consideration as comfort interventions are planned. When the interventions are carried out in a caring manner and found to be effective, the immediate outcome of enhanced comfort is achieved.

In Comfort Theory, health-seeking behaviors are bi-directional. First, nurses and the health care team plan and agree upon realistic health-seeking behaviors. Once realized, enhanced comfort is achieved, which in turn strengthens the patients, families, and nurses, thereby further enhancing comfort. Secondly, as patients and families engage in health-seeking behaviors as a result of being strengthened by comfort interventions, they as well as nurses are more satisfied with health care which lead to better health-related and institutional outcomes. As this occurs, public knowledge expands from the institution system to region, state, or even country, thereby

leading to the institution remaining viable and successful. Best practices and policies are guided by this theoretical framework (Kolcaba, 2008). The operational model of the Comfort Theory (Figure 2) illustrates a hospice patient with physical, emotional, or spiritual symptoms using aromatherapy as the intervention. Concepts and sub-concepts identify the interconnectedness of the patient, family, relief of symptoms, and enhanced comfort—all leading to institutional integrity, which in turn lead to best practice and best policy.

Figure 1

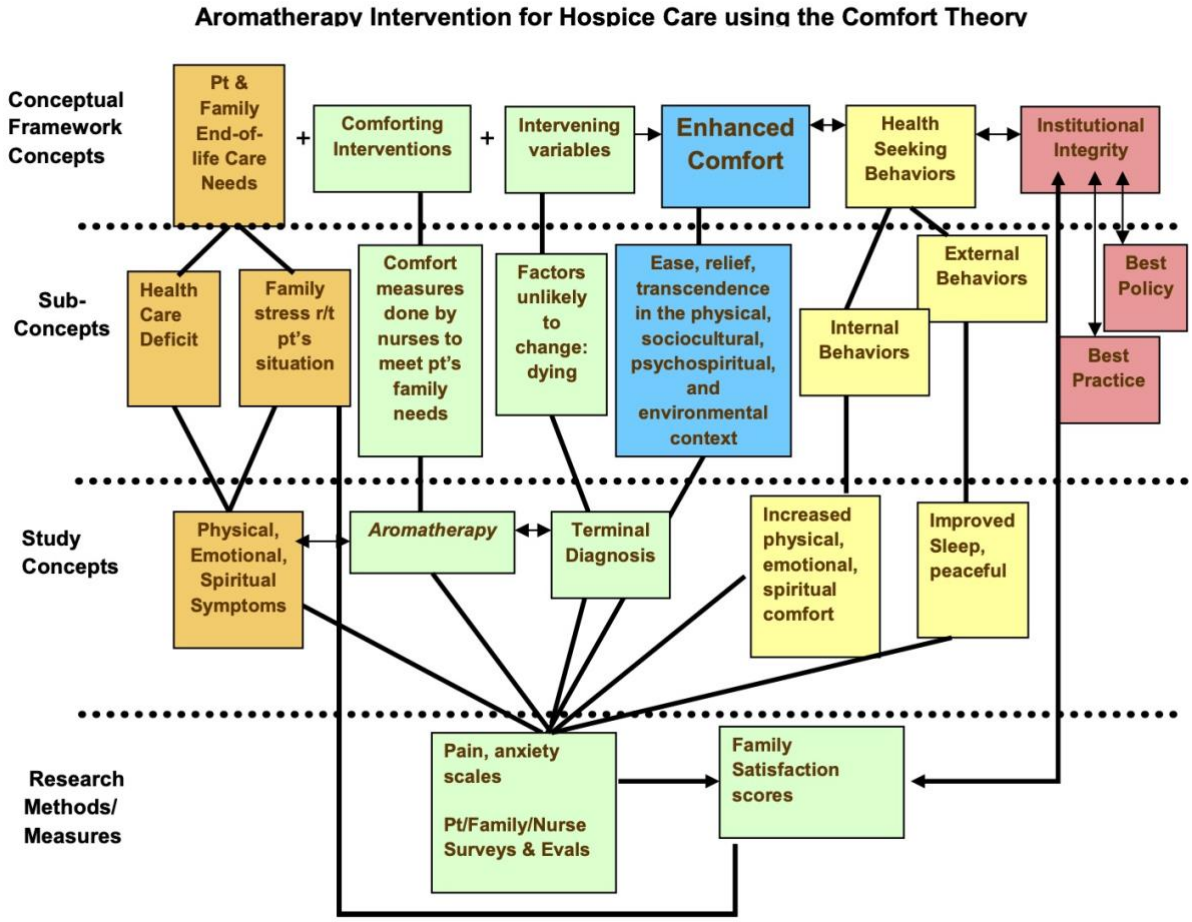
Comfort Theory key concepts as it relates to the aromatherapy program



Kolcaba, 2008

Figure 2

Conceptual framework of Aromatherapy Program using Kolcaba's (2008) Comfort Theory



Synthesis of Supporting Literature

The following key words were used to access the supporting literature in databases including CINAHL, OVID Medline, PubMed, and Google Scholar: aromatherapy, essential oils, volatile oils, pain, anxiety, agitation, relaxation, stress, nausea, hospice, terminal care, palliative care, specific essential oils and plant species. Additional literature was found in retrieved articles bibliographies. Since articles and studies of the hospice and palliative population were limited, the following literature synthesis includes studies of various other patient populations using essential oils for a variety of symptoms that hospice patients may experience.

While most of these studies had many limitations and were less than robust, they did suggest that aromatherapy may be considered a safe adjunct for patients' symptom management and overall well-being. Lavender (*Lavandula angustifolia)* was noted to be the most frequently studied essential oil for a variety of symptoms, including anxiety and/or agitation; however other essential oils including sweet orange (*Citrus sinensis*), basil (*Ocimum basilicum*), juniper (*Juniperus communis*), and sweet marjoram (*Origanum marjorana*) (Buckle, 2003; Lehrner, Marwinski, Lehr, Johren, & Deecke, 2005; Cannard, 1996; Holmes, et al.,2002; & Lin, Chan & Lam (2007) have also been investigated for their use in decreasing anxiety and/or agitation.

In Katz's study (as cited in Buckle, 2003), 20 patients in the active dying process experiencing terminal agitation or anxiety using 1% *Lavandula angustifolia* (lavender) on the hands and feet with a light massage technique showed 75% of the patients were observed to have decreased agitation. Furthermore, all 20 patients displayed physical relaxation as measured by unclenching their hands, and decreased pulse and respiration rates. While this study was small and had the combined effect of massage, the results suggested that lavender may be very suitable to use with hospice patients.

A study done by Ocampo (as cited in Buckle, 2007) at Beth Israel Hospice in New York used diluted frankincense (*Boswellia carteri*) for light hand massage on terminally ill patients who were experiencing moderate to severe pain with conventional analgesia. Although the study was small (n=6), results suggested that touch plus aroma reduced the perception of pain more than touch alone, and aromatherapy is now used in this facility.

Another study of hospice patients using lavender with 17 home hospice cancer patients found small positive results when plain humidified water was compared to 3% humidified lavender (*Lavandula angustifolia*). Although the study was small and the measured differences of pulse, blood pressure, anxiety, depression, sense of well-being were not statistically

significant, it was important to note that most of the participants continued to use the lavender after the completion of the study. Additionally, the researchers also noted a calmer atmosphere and environment after the lavender treatments (Louis & Kowalski,2002).

A case study by Gilliland (1999) discussed her care of an elderly hospice patient diagnosed with colon cancer with a history of a resection and subsequent colostomy. The despondent patient was counting down her remaining days, communicated very little and experienced anxiety related to the odor from her colostomy. A blend of lemongrass (*Cymbopogon citratus*) and rosemary (*Rosmarinus officinalis*) was diffused in the room and also used in a diluted concentration for hand massages. The patient was reported to have an obvious improvement in her quality of life as she no longer feared the odor from her colostomy, and her despondency subsided. She was reported to experience a sense of acceptance, peace and happiness before her death a year later. While this was only a case study, it holds some importance in that it highlights the use of essential oils to provide increased quality of life for a terminally ill patient.

Lavender (*Lavandula angustifolia*) was used in an essential oil blend along with basil (*Ocimum basilicum*), juniper (*Juniperus communis*), and sweet marjoram (*Origanum majorana*) in a small study of 10 elderly patients with sleep difficulties. Data gathered each night after drops of the essential oils blend were placed on the top corners of the patient's mattresses and in a hand massage blend for some, showed an increase from 73% of a refreshing night's sleep to 97% (Cannard, 1996). Although this study was also small, it prompted the Coronary Care Unit (CCU) in the same hospital to use the same blend of essential oils vaporized at night and a stress blend comprised of basil, juniper, lavender, and sandalwood vaporized during the day. While this study was not conducted with hospice patients and it was very small, it garnished interest to increase aromatherapy use in the institution.

Holms, et al. (2002) and Lin, Chan & Lam (2007) investigated lavender for patients with agitated behavior. While neither of these studies were conducted with hospice patients, it is important to note that agitated behavior can be a distressing symptom for some hospice patients. The first study investigated a diffusion delivery of 2% lavender (unidentified genus/species) concentration compared to a placebo with 15 dementia patients with agitation. The results showed 9 patients (60%) with modest improvements in agitated behavior, 5 patients (33%) with no change in behavior, and one patient (7%) with worsening of agitated behavior (Holmes, et al.,2002) . The other study (Lin, Chan & Lam, 2007) investigated lavender (*Lavandula angustifolia*) inhalation in a cross-over randomized trial of 70 dementia patients with agitated behaviors over a 6-week period. Outcomes were assessed using a Chinese version of the CNPI and the Cohen-Mansfield Agitation Inventory (CCMAI) showing a significant reduction in agitation, irritability, and agitated night-time behavior.

Lavender and orange essential oils have been investigated for its use for anxiety and mood changes in outpatient dental settings. Results of a study using orange (*Citrus sinensis*) and lavender (unidentified genus/species) diffused separately through a hidden electric dispenser in a dental waiting room as participants were waiting for a dental procedure indicated that the essential oils were effective for influencing anxiety and moods (Lehrner, Marwinski, Lehr, Johren, & Deecke, 2005). When compared to a control group using no intervention, patients exposed to either the diffused lavender or orange had a lower level of state anxiety (short-term effect), a more positive mood, and a higher level of calmness. The authors suggested that lavender was effective due to its ability to modulate the activity of cyclic adenosine monophosphate (cAMP) which is associated with sedation. Furthermore, they cited evidence of olfactory stimulation being linked to emotional changes via the limbic system. While it is difficult to compare the use of essential oils for participants in this study with hospice patients, it

is important to note that there could be some benefits with specific diffused essential oils providing some relief of anxiety as well as a pleasing environment for patients, families, and caregivers.

Nausea, often a common symptom with hospice patients related to medication adverse effects, pathophysiological causes, or anxiety can be very distressing to the patient and family. Peppermint and ginger are two common essential oils used for nausea. Tate (1997) compared peppermint essential oil, peppermint essence (placebo) and a control group (no treatment) on the effects of post-operative nausea. Although this was a small study and results were not statistically significant, the experimental group reported a 67% nausea incidence rate as compared to 100% of the placebo and control groups. Despite some of the experimental group having more extensive surgeries and using more opioids than the other group participants, they used fewer antiemetics. Geiger (2005) investigated a 5 % ginger (*Zingiber officinale*) solution applied to both wrists of patients at high risk for postoperative nausea and instructed to smell liberally as desired immediately prior to surgery. The six-month study showed those patients who received ginger required an antiemetic less, 20% of the time as compared to the control group who required antiemetics 50% of the time. Although these studies did not involve hospice patients, postoperative nausea is often related to medications given during surgery. While hospice patients are not receiving anesthesia, most are receiving opioid medications which also causes nausea for several patients.

Aromatherapy massage has been shown to decrease anxiety and depression scores. A massage blend using orange (*Citrus aurantium*), lavender (*Lavandula angustifolia*), and sandalwood (*Santalum album*) used for biweekly massages over a 4-week period with breast cancer patients was shown to be effective for anxiety and depression (Imanishi, et al., 2007). While past studies have found similar results, this study found that trait anxiety (long-term

effect) was gradually reduced over the study's four-week period. This study had limitations with its small size and no control group. Roman chamomile, chosen for its chemical properties known for reducing anxiety and pain, was also used to study the effects of aromatherapy massage as compared to plain massage in a randomized controlled study of 103 palliative care patients (Wilkinson, Aldridge, Salmon, Crain, & Wilson, 1999). While the study suggested that massages with and without the essential oil were both found to be effective in reducing patients' anxiety levels, the aromatherapy massage patients showed a significantly better quality of life using the Rotterdam Symptom Checklist. Both of these studies were conducted with cancer patients, a common diagnosis for hospice patients. It is difficult to separate the effects of a plain massage from the effects of added essential oils, however these two studies suggest there may be at least some benefits of adding essential oils.

The previous literature review touched on several potential uses for essential oils for a variety of symptoms common to hospice patients. While most of the studies had limitations and were less than robust, it is important to note the value an adjunct therapy such as aromatherapy may provide in the hospice setting. Providing any additional comfort measures at a small price may enhance the overall care of many. As with any complementary or integrative therapy, it is important to note that aromatherapy should be considered as an adjunct to the treatment plan, not used instead of usual care; and should also be considered as a way to treat a person as a "whole;" body, mind, and spirit. The aromatherapy hospice program was not implemented as a research study to determine which essential oil provided relief from which symptoms but was set up to investigate its effect on patients' symptom management and overall comfort, and the satisfaction of patients, families, caregivers, and nurses using essential oils in a hospice residence, adapting the program at San Diego Hospice (San Diego Hospice and The Institute of Palliative Medicine, 2011).

Chapter 3: Work Plan

A work plan (Figure 3) was developed to show the tasks and to estimate time and cost involvement from the beginning planning phase through final implementation. This visual aide was helpful to capture the order in which many of the tasks required attention. A Gantt chart (Table 3) was developed to visualize the start and end dates, and milestones of the project. As the project's timeline was much longer than initially planned, the Gantt chart was exceptionally helpful to analyze the entire process from beginning to end.

Figure 3

Work Structure to Show Tasks, Subtasks, and Milestones

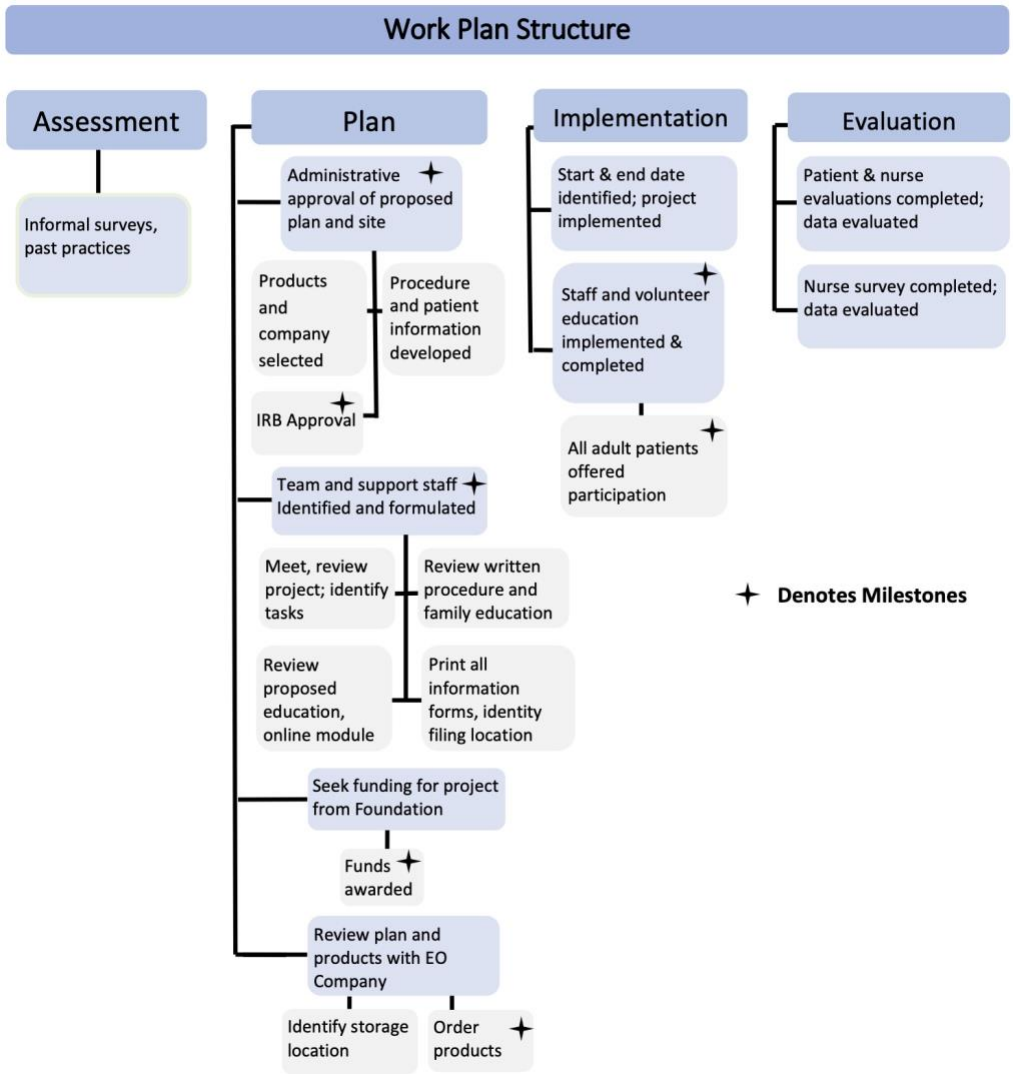
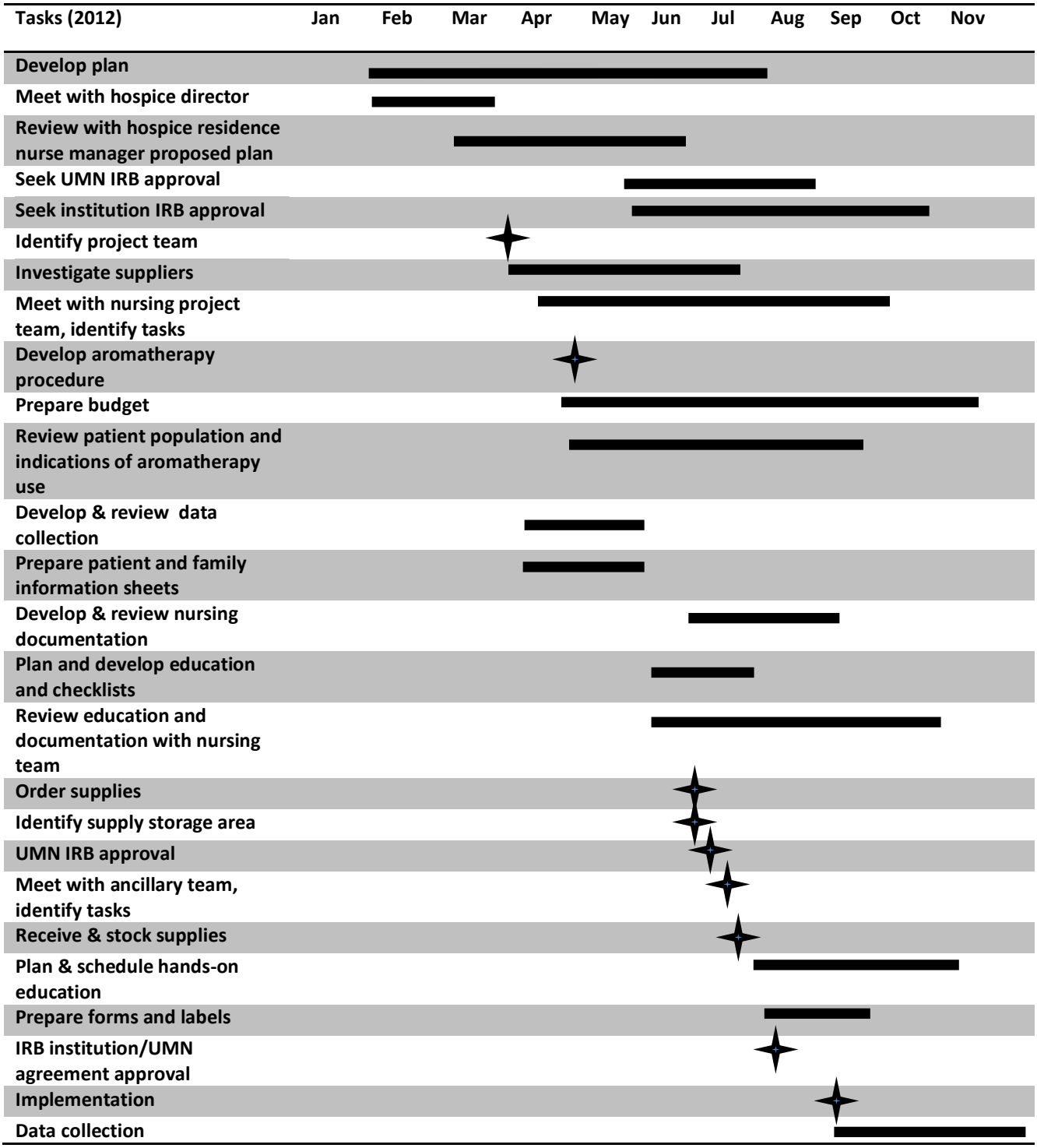


Table 3

Project Timeline and Milestones



Implementation Methods

This project was implemented in a 12-bed stand-alone hospice residence located in an urban area of the Midwest for hospice patients. The hospice residence staff provides residential, inpatient, and respite care to support hospice patients and their families in a peaceful environment. Participants were adult patients, 18 years and older of both genders with various diagnoses who were determined to have a prognosis of six months or less to live and were enrolled in the organization's hospice program. All patients admitted, or already patients, at the hospice residence between August 27, 2012, and November 27, 2012, had the opportunity to use aromatherapy as per an established protocol. With an average daily census of 5-6 patients, it was anticipated that 40 would use aromatherapy over the three-month data gathering period. Human subjects' approval was obtained from the University of Minnesota's Institutional Review Board (IRB) with a formal IRB agreement between the UMN and hospice residence parent institution.

Staff Education. Education was provided over a six-week period for 21 nurses (RNs and LPNs), 5 aides, and 6 volunteers, and 1 social worker who cared for patients at the hospice residence. Completed educational components were documented on a checklist that was regularly emailed to all participants. Some of the education components were also completed, although not required, by a few of the homecare staff who chose to learn more about the aromatherapy program. Educational material was planned and formulated for all involved staff and volunteers. First they were to complete the Clinical Aromatherapy online module from the University of Minnesota's Center for Spirituality and Healing (Halcon & Bashara, 2008) and to watch the 'M' Technique® hand/foot massage video (R. J. Buckle Associates, 2009) which was available at the project site. The Clinical Aromatherapy online tutorial included the following information:

- Definition of aromatherapy and essential oils

- Reasons for healthcare professionals to know some basic information about aromatherapy Information of clinical trials on the use of essential oils are being conducted
- Historical background of essential oils
- Application methods of essential oils and how they enter the body
- Types of disorders best treated with inhalation and/or external methods of application
- Conditions that the literature shows may benefit from treatment with essential oils
- Issues in conducting research on the therapeutic properties of essential oils
- Safety factors with administering essential oils
- Regulatory factors that influence the quality of essential oils
- Laboratory testing methods of essential oils
- Storage of essential oils
- Certification guidelines and no national aromatherapy licensure requirement for aromatherapy practitioners
- Case studies

Participants also viewed parts of the hand and foot 'M' Technique® video (R. J. Buckle Associates) which included an introduction to the 5-minute method and rational of providing relaxation, background of the technique developed, use of the technique for hospice patients, and demonstrations of hand and foot massages using the technique. Some participants completed this part of the education during work time, while others completed it on their own time. Each participant filed the aromatherapy module completion certificate in a set location in addition to communicating completion of both components with the project leader through email and in-person. Following the completion of the first two educational components, several in-services were scheduled to allow for the majority of participants to attend. Individual times were scheduled for those unable to meet at group times.

The in-service education component was 30-90 minutes in length, depending on the number of participants present. Material covered was a brief review of the online module and massage video, patient and staff information sheets including Protocol and Procedure (Appendix F), Aromatherapy Patient Information (Appendix G), Individual Essential Oil Information (Appendix H), Patient and Nurse Evaluations (Appendix B & C), Aromatherapy Guidelines Use grid (Appendix I), Patient Consents (IRB related), and safe use of essential oils. Some of the sessions included the 'M' Technique® demonstration and practice for those who were not yet competent with the technique. The nurses received additional information including: Nurse Consents (required by IRB for post-completion nurse survey); selection process for appropriate aromatherapy; determining the need for, process of, and documentation of skin patch tests; how to contact the project leader for patient consents; filing of documents; and documentation of aromatherapy use for symptom management in the patient's electronic health record.

Aromatherapy Products. With experience as a clinical aromatherapist, the author/ project leader explored various essential oil companies from which to obtain products. Plant Extracts International, Inc. was chosen due to their expertise in the field of essential oils, experience with supplying other healthcare institutions with aromatherapy products, and their willingness to work with the project leader in preparing blended essential oils in the sizes and delivery methods chosen. The company provided assurance that each essential oil was 100% pure by sourcing and chemical analysis, and also supplied material safety data sheets (MSDS) that contained safety information for each essential oil. Single essential oils and blends (named by the project leader for this aromatherapy program) were used as previously noted in Table 1.

Essential oils were administered by inhalation using aromasticks, cotton balls, diffusers, and topically by massage. The essential oils used by direct inhalation from a cotton ball taped on a patient's gown or with a handheld aromastick were Bergamot (*Citrus bergamia*), Lavender

(*Lavandula angustifolia*), and Uplifting Aroma Blend—Ginger (*Zingiber officinale*), Lemon (*Citrus limon*), and Peppermint (*Mentha piperita*). The two massage blends used for hand and foot massages were Comfort Aroma Blend—a 3% blend of Roman chamomile (*Anthemis nobile*), Rose (*Rosa damascena*), and Blue Cypress (*Callitris intratropica*) in Jojoba oil, and Lavender (*Lavandula angustifolia*), also diluted at a 3% dilution in Jojoba oil.Pleasant Aroma Blend was used to lessen odors from unpleasant odorous wounds and to provide a more pleasing environment. It was comprised of Eucalyptus globulus (*Eucalyptus glubulus*), Lemon (*Citrus limon*), Tea Tree (*Melaleuca alternifolia*), and Thyme linalol (*Thymus vulgaris CT linalool*). This blend was used undiluted on an electric diffuser that provided the entire patient's room with a pleasing aroma, in addition to having anti-bacterial chemical properties. The blend could also be used directly on outer wound dressings to combat odor.

Trumelange compact electric diffusers were used for this project. These portable 6-inch diffusers work by gently blowing air over a disposable pad that drops of essential oils are placed on. The hospice residence was in possession of these diffusers prior to the start of this project for previous use with odor control using other essential oils. Once the project started, only the Pleasant Aroma Blend was used in the diffuser for those consenting to be a part of the program.

Aromatherapy Protocol Implemented. The aromatherapy program was implemented with voluntary participation. All patients and families or designated primary caregivers of patients with cognitive impairment (i.e., dementia, unresponsive) were given full information of the aromatherapy pilot program. Informed written consents were signed by the patient or designated primary caregiver after full information was given and before participation in the pilot program was initiated. The protocol and patient information forms for those who completed informed consents are found in Appendix D & E. The nurses were guided in selecting

essential oil(s) for these patients with a chart showing each oil or blend for specific physical or emotional symptoms and directions for use (Appendix G).

Evaluation Plan. Data were collected from nurses and patients or their family members using evaluation tools (Appendixes B & C) completed after each aromatherapy session. Evaluation tools from nurses and patients were collected and filed together at the end of each day. At the completion of the aromatherapy pilot program, all of the hospice residence nurses were invited to complete an anonymous survey of the overall program using SurveyMonkey® (Appendix H).

Evaluations were designed using a simple format to increase the likelihood that both patients and nurses would take the time to complete them. It is well known that hospice patients and their families are in the midst of an extremely stressful event, and those desiring to use aromatherapy may be doing so to help manage various symptoms. It is also well known that nurses often have busy, stressful workdays, particularly caring for dying patients, and that increased documentation creates more work for them. These factors led to the decision of to create a simple evaluation tool.

The patient and nurse evaluation tools included the date and patient demographics of age, gender, and hospice diagnosis. Columns included space for the essential oil or blend used, indication for use, rated effectiveness using **-1**, **0**, or **+1**, and comments (Appendixes B & C). Data from these forms were transferred to an Excel spreadsheet for analysis. Written comments were transcribed onto a spreadsheet to look for any patterns of use, or similar comments that might give further insight on the overall aromatherapy program.

Upon completion of the aromatherapy program, a link to SurveyMonkey® was emailed to all of the hospice residence nurses. Although, aromatherapy was also administered and supported by aides and volunteers, the nurses were held responsible for selecting the appropriate

essential oil, delivery method, checking for skin sensitivities, and documenting use in the patients' electronic health records. These factors supported a decision to survey only the nurses.

Chapter 4: Results and Interpretation

Process Evaluation

The process of planning and implementing the aromatherapy pilot project extended over an 18-month period due to delays in the planning process. A significant amount of time was spent investigating various organizations' use of aromatherapy, essential oil products and companies, reviewing the literature, and developing the final plan. Once the plan was formulated and Institutional Review Board approval was granted, the process outcomes were achieved with significant assistance from the project team and willingness of the hospice residence staff and volunteers to complete their education. By the beginning of July, 2012 all of the educational material was prepared, and by the middle of July, the staff and patient forms were ready. The majority of the hospice residence staff and participating volunteers completed the aromatherapy training by the expected mid-August date with the remainder completing it at later dates. Once the planning and education was complete, the project began by the expected date was completed within the 3-month projected timeline.

Outcomes Evaluation

Education Outcomes. The expectation of 100% of the staff and participating volunteers scored at least 72% on the aromatherapy online module. Most of the staff and participating volunteers completed the required online training and massage video prior to the start date of August 27, 2012, while a few part-time nurses and aides who worked very few shifts on a casual basis completed their training after the start date. For those who worked a shift prior to the completion of their training, there was always trained staff available to administer aromatherapy. While the objective was not met by the stated date, all of the nurses and aides were trained in a

timely manner and no one administered aromatherapy without the training complete. Of the 12 nurses who responded to the nurse survey after the completion of the pilot program, 100% indicated that the aromatherapy education was moderate, very, or extremely effective.

Patient Outcomes. During the 3-month period between August 27 and November 27, 2012, 37 adult hospice patients were admitted or were already patients prior to the aromatherapy program start date. Of the 20 (5 men and 15 women) who consented to participate in the program, 15 (2 men and 13 women) used aromatherapy a total of 197 times. Nurse and patient ratings were identical indicating that aromatherapy was effective 90% of the time, while 9 % indicated *no change* and 1% indicated *worse or dislike*. Nurse and patient evaluation results are shown in Table 4. Based on Fisher's exact test (Table 5) there was no significant association between the oil that was used and the nurses rating ($p = 0.5992$), and no significant association between the delivery method that was used and the patient rating ($p = 0.3501$). Results were similar for the patient rating (no significant results).

Anxiety and comfort were listed as the most frequent indications for use (49%), followed by nausea, malodor, and pain/anxiety (Figure 4). Lavender essential oil was used the most frequently (44%), followed by Uplifting Blend (22%), bergamot (16%), Pleasant Blend (11%), and Comfort Blend (7%) (Figure 5). Cotton Balls were the most frequently used delivery method (51%), followed by aromastick (19%), massage (17%), and diffuser (7%) (Figure 6). Several comments from patients, family members, or nurses indicated that aromatherapy provided relaxation and some symptom relief in addition to "liking the scent." Most comments noted on both the patient and nurse evaluation forms were related to using lavender via inhalation from a cotton ball or with hand and foot massage. Some common descriptors were: "slept well", "relaxing", "likes the scent", "relief", and "enjoys."

Nurse Satisfaction Outcomes. At the completion of the aromatherapy pilot program, 12 of the 21 hospice resident nurses responded to an anonymous survey administered as a SurveyMonkey® questionnaire sent by email (Appendix D). Of the 12 nurses who responded, 9 (75%) indicated that using aromatherapy was effective for increasing patient's overall comfort a *moderate amount* or a *great deal*; 3(25%) agreed it was effective a little (Figure 7). All 21 of the responding nurses (100%) agreed that using aromatherapy was *moderately* to *extremely* convenient to use (Figure 8). Nurse satisfaction in caring for hospice patients since the aromatherapy program was implemented increased *a little* to a *great deal* for 8 (66%) of the respondents, while satisfaction *neither increased nor decreased* for 4(33%) of them (Figure 9). The nurses also had the opportunity to comment on what worked well and what did not work well. Responses to *what worked well* included comments such as patients being happy with it; "worked well for cancer related odors making a better environment for patients, families, and visitors"; essential oils were readily available"; and "was good to have another option for nausea, anxiety, etc." Responses regarding *what did not work well* included comments about documentation being tough and cumbersome, patients' documentation easily misplaced, and that it was difficult to introduce aromatherapy during a busy admission.

Table 4

Aromatherapy Nurse and Patient Evaluation Results

	N (%)
Gender	
Female (n=13)	185 (92%)
Male (n=2)	16 (8%)
Total Uses	
What was the aromatherapy used for?	
- 1 (Depression)	3 (1%)
- 2 (Anxiety)	44 (24%)
- 3 (Nausea)	32 (17%)
- 4 (Comfort)	47 (25%)
- 5 (Malodor)	20 (11%)
- 6 (Uplift mood and decrease nausea)	2 (1%)
- 7 (Fatigue)	2 (1%)
- 8 (Pain)	12 (6%)
- 9 (Pain and Anxiety)	20 (11%)
- 10 (Nausea, fatigue, and mood)	5 (3%)
How did the nurses rate the therapy?	
- 0 (No Change)	12 (9%)
- 1 (Effective)	120 (90%)
- 3 (Worse or Dislike)	2 (1%)
How did the patients rate the therapy?	
- 0 (No Change)	6 (9%)
- 1 (Effective)	64 (90%)
- 3 (Worse or Dislike)	1 (1%)
What oil was used?	
- 1 (Comfort Blend)	14 (7%)
- 2 (B bergamot)	31 (16%)
- 3 (Uplifting Blend)	44 (22%)
- 4 (Lavender)	85 (44%)
- 5 (Pleasant Blend)	22 (11%)
What delivery method was used?	
- 1 (Massage)	33 (17%)
- 2 (Aromastick)	37 (19%)
- 3 (Cotton Ball)	98 (51%)
- 4 (Diffuser)	26 (13%)

Table 5

Analysis of Difference in Effectiveness of Essential Oils and Delivery Methods

	No Change % (N)	Effective % (N)	Worse or Dislike % (N)	P-value
What oil was used?				0.5992*
Comfort Blend	0% (0)	5% (6)	0% (0)	
Bergamot	17% (2)	17% (21)	50% (1)	
Uplifting Blend)	17% (2)	25% (30)	50% (1)	
Lavender	66% (8)	43% (51)	0% (0)	
Pleasant Blend	0% (0)	10% (12)	0% (0)	
What method was used?				0.3501*
Massage	0% (0)	19% (22)	0% (0)	
Aromastick	42% (5)	19% (23)	50% (1)	
Cotton Ball	50% (6)	50% (59)	50% (1)	
Diffuser	8% (1)	12% (14)	0% (0)	

* Based on Fisher's exact test

Figure 4

Nurse and Patient Evaluation of Most Frequent Indication for Aromatherapy

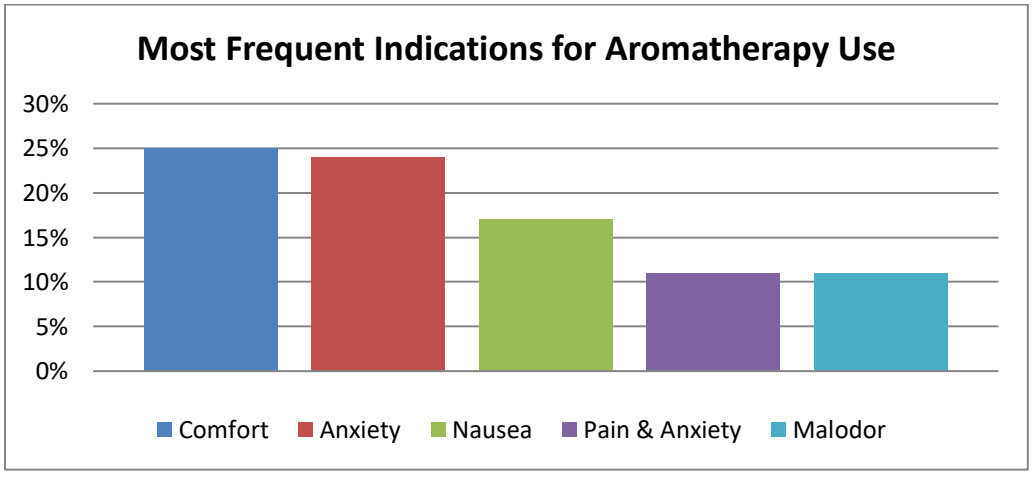


Figure 5

Frequency of Essential Oil Use

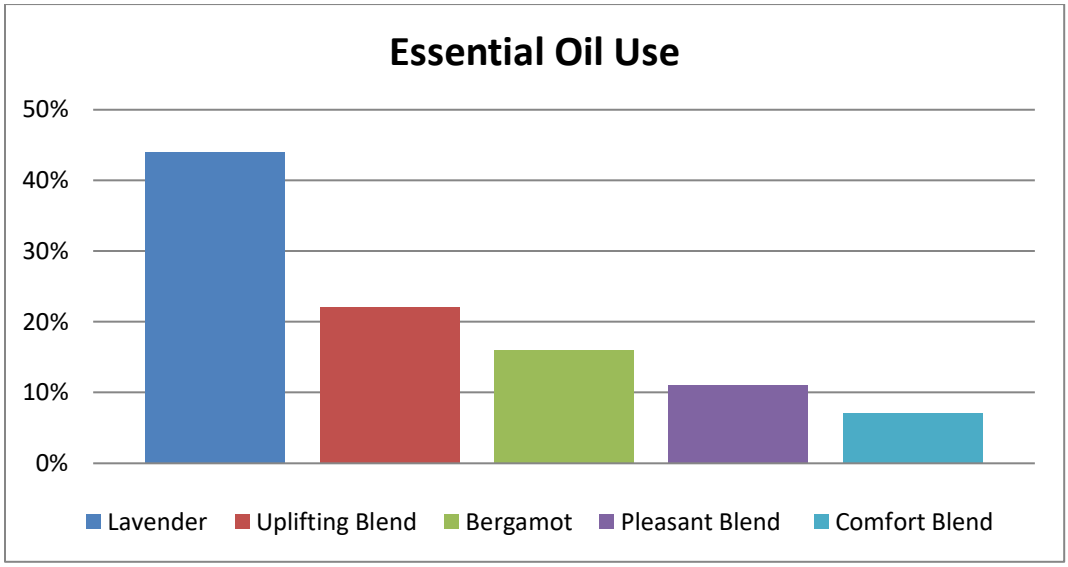


Figure 6

Frequency of Aromatherapy Delivery Method Used

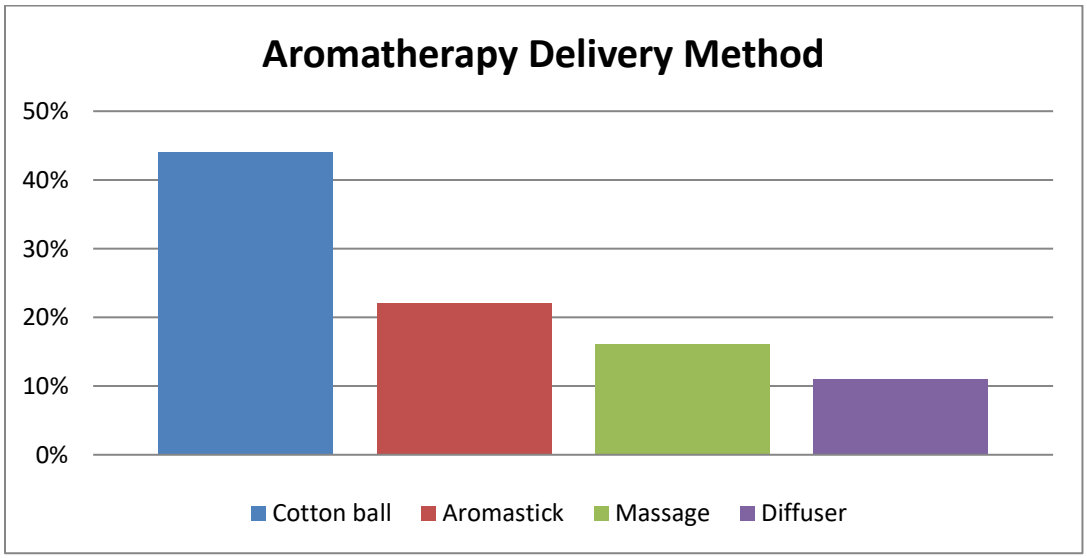


Figure 7

Nurses Reported Evaluation of Aromatherapy Effectiveness in Increasing Patients' Overall Comfort

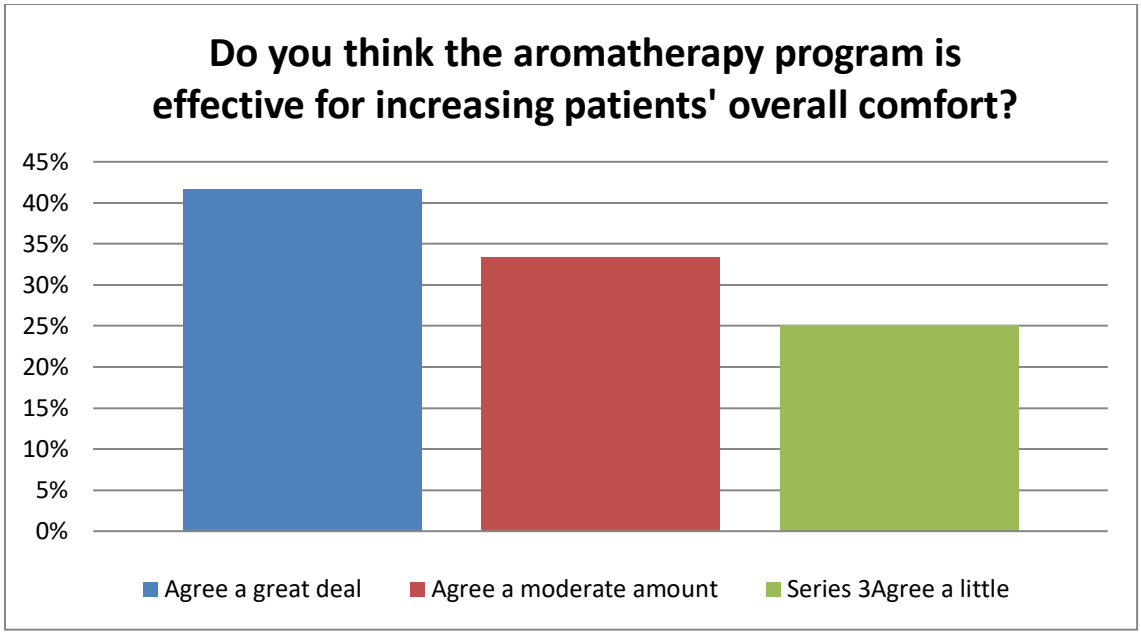


Figure 8

Nurses' Survey Response Regarding Convenience of Aromatherapy Use

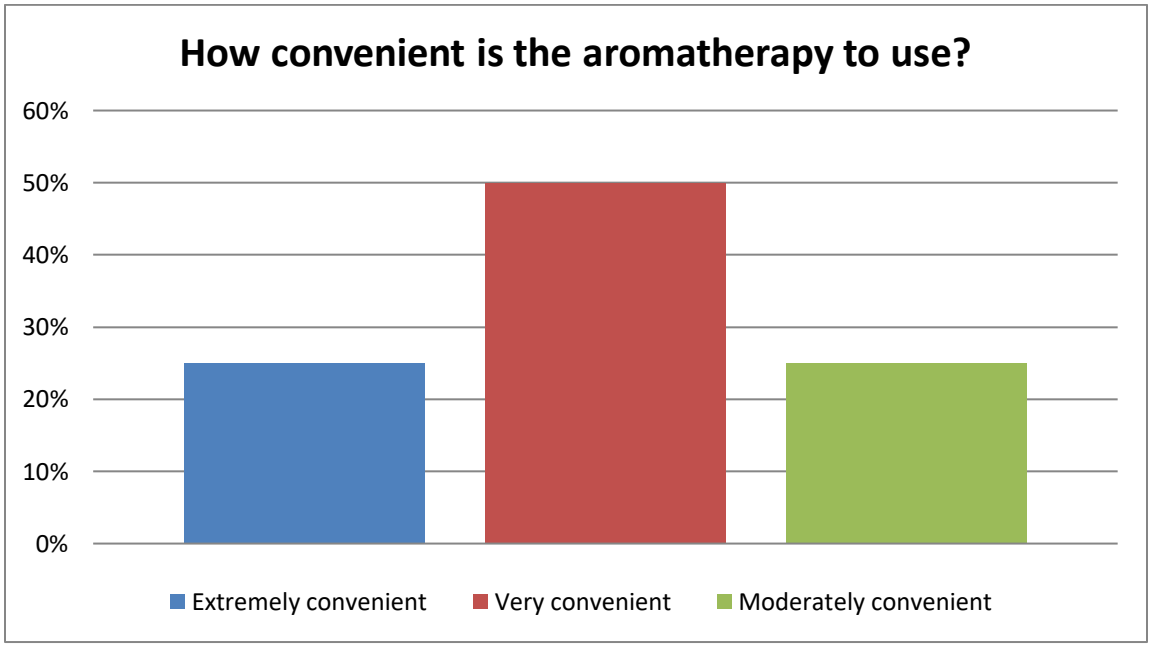
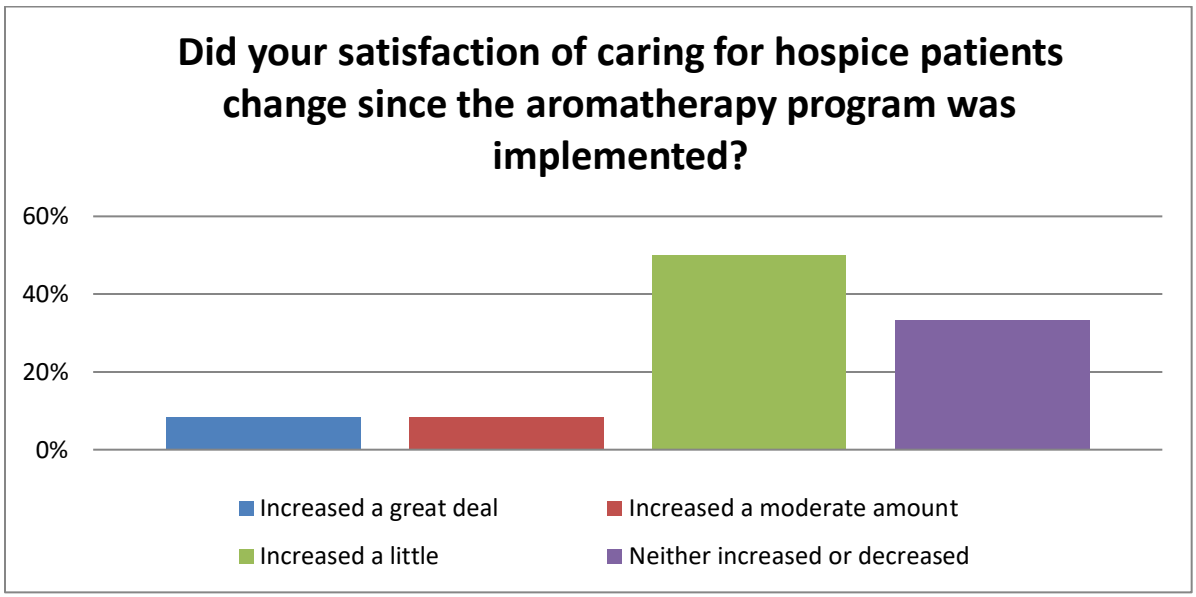


Figure 9

Nurses' Increased Satisfaction in Caring for Hospice Patients Since Aromatherapy Program Implemented



Chapter 5: Leadership and Management

Organizational Culture

Knowing the organization's mission and values helps to understand the underlying organizational culture, which is critical before implementing any significant changes. While there are varying definitions of organizational culture, many of them focus on attributes of values, assumptions, and beliefs. It may be defined as the underlying control mechanism that guides and shapes the behavior and strengthens the members through maintaining equilibrium (Scott-Findlay and Estabrooks, 2006).

The hospice residence is part of a large expanding organization with several clinics and hospitals in four states. The parent organization has four regional organizations, all carrying the same mission, vision, and values. This organization's mission is related to making a healthy difference in people's lives with values of quality, hospitality, respect, justice, stewardship, and

teamwork. Using Schneider's, (1994) "Core Culture Questionnaire" to examine the core culture of this organization, it indicated it has both *control* and *competence* cultures. Characteristics of *control culture* are predictability, accuracy, safety, and certainty with the leadership style described as authoritative, directive, commanding, and firm. Characteristics of *competence culture* are distinction, goal attainment, and accomplishment with leadership style described as standard setter, visionary, and challenger of others (Paradigm Shift International, 2005).

According to their written materials, the organization asserts their vision is to be a national leader in providing high quality, cost effective, integrated healthcare services by finding innovative solutions to challenges and forming partnerships with patients and their families. They describe their commitment to providing integration among all of its clinics and hospitals, rural and urban, through physicians and care providers working together in areas of quality, patient safety, technology, and research.

While the characteristics of control and competence cultures are not one in the same, the organization appears to have a blend of some of these characteristics within the mission, values and beliefs. Control culture characteristics of accuracy, and safety are highlighted within their areas of quality and patient safety. The competence characteristics of distinction, goal attainment, and accomplishment are strongly highlighted within their stated commitment to becoming a national leader and finding innovative ways to serve patients and families as they fully integrate the many clinics and hospitals. They also highlight both control and competence through their ongoing medical research and education which is noted on their website and organizational newsletters.

While the hospice residence carries the same mission, values, and beliefs of the parent organization, it is important to look at its purpose in addition to the entire organizational culture. It is a small 12-bed facility that provides 24-hour expertise of high quality end-of-life care that

offers a peaceful place for patients and families, and where patients, families, and their friends feel supported. While their purpose is very distinct, they maintain their structure and leadership under the same umbrella as the parent organization. The overall characteristics of control and competence are evident, however personal experience has given this author a perspective that it is an island with its own culture. The larger hospital-based hospice department that oversees the hospice residence has a specific philosophy regarding caring for hospice patients as stated in their printed and online literature. These include accepting all patients with a terminal prognosis regardless of disease process or ability to pay; patient/family centered care with caregivers supporting and empowering their involvement; providing necessary medical services to provide comfort and treatment that supports a quality end of life; and offering the hospice team as a community resource for grief and loss issues, education, and end of life research. The characteristics of control and competence culture are evident within this philosophy in similar ways as the parent organization.

Implementing the aromatherapy program at the hospice residence fit within the mission, values, beliefs, and hospice philosophy of the organization in addition to adding to the comfort measures offered as the mainstay of the hospice residence. The cultures of control and competence were taken into account in determining the project's leadership style and interprofessional collaboration.

Change Strategy

Change theories can be helpful when conducting projects that incorporate changes within an organization. Wheatley's Change Model uses stories, essays, and poetry to discuss and teach a living systems model of change. As we are surrounded by *living systems,* we can't help but notice that change occurs at all times--all around us. As previously noted, aromatherapy has been used successfully in many organizations. Implementing an aromatherapy program for

hospice patients is a significant change in this organization, yet it can draw from those organizations and practices (*living systems)* that have already made changes at the administrative and practice levels. Wheatley's change theory was a useful guide as this project was planned and implemented. This theory uses concepts to discover what is meaningful: continually noticing that something needs to be changed; identifying others who also notice the same necessary change; developing new communication networks and relationships; and learning as you go. The four principles of practice identified in Wheatley's change theory are: participation is not a choice--people support what they create; life always reacts to directives, it never obeys them; we each create our own interpretation of what's real; and to create better health in a living system, connect it to more of itself (Wheatley, M. J., Kellner-Rogers, M., 1998).

Use of this theory seemed appropriate when one considers that aromatherapy has been used by many people outside of mainstream medicine and also within many other healthcare organizations. As the project leader brought forth this idea, many staff members welcomed it and brought forth their own and their patients' experiences with aromatherapy. As it was identified that *something needed to be changed*, and as more people discussed it, there was acknowledgement that aromatherapy could be a viable treatment option for hospice patients. New networks were formed and communication about this project grew to include more people. By including many people within this stage and with the planning of the project, it was theorized that more people would support what they helped create. Spending time and effort in the planning stage to mitigate unintended effects once the project was implemented helped to alleviate any untoward reactions from those who did not participate in decision making or planning of the project.

While Wheatley's theory fits, it is best intended for use with a longer time period of planning and implementing changes, so it was be unrealistic to use only this theory for this

particular project due to the short timeline of the DNP project. Lewin's Three -Step Change Theory (Current Nursing, 2011) highlights the dynamics of an organizational change through driving forces that push in a direction that causes change to occur, facilitates the change as people are pushed in the desired direction, and finally shifts the equilibrium toward the change. The first step is *unfreezing* or becoming motivated to change. Using this step for this project was getting others involved and motivated through communication and examples of how aromatherapy could be effective for hospice patients. The second step is *moving*, or changing what needs to be changed. This step involved the planning and implementation phase of the project once there was enough support from administration and staff from the *unfreezing* phase. The third step is *refreezing* or making the change permanent. This phase is extremely important as it defines sustainability for the project. It is impossible to make the change permanent or *refreeze* without the effort of the first two steps working toward sustainability.

Combining the two theories as described above gave insight as to the need for a continued driving force as in Lewin's model, and for encouraging many participants in the process of change as in Wheatley's living system model. Both theories led to a project that appears to be sustainable.

Leadership

Organizational leadership style was identified with the Core Culture Questionnaire as previously cited. The determinate characteristics were control culture characteristics—authoritative, directive, commanding, and firm; and competence culture characteristics—standard setter, visionary, and challenger of others. While both sets of characteristics are distinct, they offered a blend that appeared to be evident within the organization. The competence culture characteristics were more evident within the mission, values, and beliefs of the organization. It was difficult to assess the leadership style without being a part of the

organization. Personal experience led this author to see both sets of leadership characteristics in play. As a long-time employee of this organization, the commitment to their mission, values, and beliefs is apparent, yet there have also been many employees affected by several organizational structure changes, including nursing. As the integration of this organization has unfolded in the past few years, changes in the overall nursing leadership evolved with a new Chief Nursing Officer now leading and providing stability within the nursing department. Although this structural change did not occur until this project was implemented, the continued support from the nursing leadership including the hospice directors and managers was imperative for this project to reach its goal and objectives, and to support sustainability.

The hospice nursing director's leadership style included characteristics of the competence culture. She was visionary and a challenger of others and gave insight on how best to deal with conflicts and change within the organization. The direct leadership of the hospice residence included the medical director, department director, and nurse manager. As changes continued to take place within the parent organization, the leadership of the hospice residence remained unchanged. The hospice residence leadership also displayed characteristics of a *competence culture*, providing strong support for this project and assistance with incorporating this style of leadership while working with the project team.

Three defining characteristics of advanced practice nurses (APNs) leadership are mentoring and empowerment, innovation and change agency, and activism (Hamric, Spross, & Hanson, 2009). It is necessary to examine one's own leadership style as it fits within the proposed changes of the organization.Several assessment tools and frameworks are available to leaders to understand their current style and/or to guide strategies that will help develop and strengthen leadership skills. Goleman (1998), identified that the most effective leaders are alike in that they all have a high degree of emotional intelligence which consist of five components:

self-awareness, self-regulation, motivation, empathy, and social skill. While there is evidence that people are born with varying degrees of emotional intelligence; and it does increase with age, however those without the traits can learn them with persistence and practice. A leader will be more effective if he or she recognizes which components need strengthening and practice. Identifying characteristics of nursing leadership, emotional intelligence components, and knowing the organizational culture helped guide this author to be an effective project leader.

Interprofessional Collaboration

While common sense tells us that collaboration creates an environment for teamwork, research also has shown support for interprofessional collaboration as it leads to better patient outcomes, increased patient satisfaction, and clinician's improved personal and professional satisfaction (Hamric, Spross, & Hanson, 2009). As changes in healthcare continue to occur, it is evident that increased interprofessional collaboration is necessary to provide excellent care and to provide assistance to patients and families with healthcare decisions and plans across the spectrum.

Interprofessional collaboration was critical in implementing this project. Collaboration was required with stakeholders at different hierarchal levels within the organization at various junctures with the planning, implementation, and evaluation of this project. The project leader was responsible for assisting with collaboration team members during planning and implementation and with all staff during the implementation process. As the iterative process continued, feedback from all staff involved was imperative to ensure this project continued as a sustainable practice.

Conflict Management

As a past member of a committee with a focus on implementing complementary therapies in one of this organization's hospitals, this author learned how difficult it is to implement

changes. No complementary therapies have been implemented, and the committee has been in a holding pattern for a several years. Lessons learned through this committee have been helpful in planning this aromatherapy project with the goal of full implementation and sustainability. Conflict arose in the fact that the original project needed to be changed due to the organization's continued growth and departmental changes. Working with the director of the hospice homecare department where the project was originally planned to be implemented was helpful in retaining the same concepts of the project while changing its scope and location.

Risk Management

Essential Oil Safety. Staff and volunteer education regarding the safe use of aromatherapy was provided to ensure patients' safety. Safety issues are were also addressed with patients and families. While aromatherapy is generally considered safe, it must be used in small amounts for topical treatments and care must be taken to assess patients for skin reactions and to prevent accidental eye exposure. Instructions for rinsing exposed eyes and for skin patch testing for those with known dermal sensitivities were included in the written protocol in addition to verbal education provided. Material Safety Data Sheets (MSDS) were on file for each essential oil. While the essential oils used have a pleasing aroma to many, it was acknowledged that some people may not appreciate a specific smell. If those circumstances arose, staff, patients and families were instructed to remove the essential oil from the patient's room and refrain from using that particular essential oil. Since aroma of essential oils may be detected outside of a room, care was also taken to keep the door closed while using an essential oil dispersed with a diffuser.

Ethical Considerations. Care was taken to ensure that all patients were included in this project as stated and in accord with the Institutional Review Boards of both the hospice organization and the University of Minnesota. At times there were are unforeseeable situations

that created a hectic work environment for nurses and ancillary staff. During those busy times additional work, such as would be with providing patients and families with aromatherapy options or completing required evaluations for a project may not be in the forefront of staff's mind. With this in mind, the planning and education of this project was well coordinated. Furthermore, there was continued administrative support in addition to the project leader's support to ensure staff and volunteers were able to offer aromatherapy as part of a patient's plan of care.

Care was taken to ensure that patients' privacy was protected while obtaining data with the written evaluations. All patient identifiers were removed prior to collecting evaluations for analysis.

Chapter 6: Discussion

The aromatherapy pilot program was designed to evaluate the effectiveness, ease of use, and satisfaction of using aromatherapy as an adjunct treatment in the care of hospice patients. It was planned with the goal of creating a sustainable program. The hospice residence staff and volunteers readily embraced aromatherapy as a treatment option and have continued to use it since the completion of the pilot study. Although some of the nurses expressed dissatisfaction with increased paperwork during the pilot period, their overall response to the effectiveness and ease of use was positive. Since the completion of the pilot, nurses document aromatherapy administration only in the electronic health record, just as they do for any other treatments.

Since Lavender is a commonly known scent, it was not surprising to see it used more frequently than Comfort Blend or Bergamot for comfort measures. It was equally predictable that cotton balls would be used most often, due to the ease of administration. It could be surmised that aromasticks were too difficult for this group of patients to hold as compared to taping a cotton ball to their gown. However, aromasticks are appropriate for many patients

wishing to be independent and who desire to take an active role in their treatments. Regardless of which delivery method was used more frequently, having options available is often quite significant for patients.

Hand and/or foot massages were not conducted as frequently by family members or volunteers as was anticipated. Although documentation of some qualitative comments identified that some family members gave their loved ones hand massages, there was no set evaluation process that identified who administered any aromatherapy. As the program continues, it is suggested that more encouragement of family and volunteer participation take place.

The total number of participants (20) was half of the number that was initially anticipated. This reason may be related to the challenge of obtaining consents to participate in the aromatherapy pilot program from family members of patients who were so near death. A few patients died prior to receiving information of the aromatherapy program; so it was unknown if any of them would have chosen to use it. Since the consent process was only related to participation in the pilot study, this is no longer a concern and aromatherapy may be offered to anyone with a verbal consent.

The aromatherapy and 'M' Technique® education provided for this program was sufficient to provide staff with the training needed to safely use both with competence and comfort. Verbal comments and written comments in the nurse survey provided feedback that staff felt comfortable and knowledgeable with using aromatherapy and massage with cares for the hospice patients.

Reviewing the overall program and use of each of the essential oils or blends, some changes are recommended for future use. The massage blends were reported by a few staff or patients to have too strong of an aroma. Blends will be changed to 2% versus the current 3% dilution. As interest continues, there have been requests to add other essential oils. It is

recommended that this be done slowly, to keep the program manageable and allow time for staff to receive increased education on any new product.

Future high-quality research using essential oils is essential for its growing use in healthcare with many different patient populations. For the hospice population, it would be helpful to study the use of medications for pain, anxiety, or nausea while hospice patients are using essential oils.

Chapter 7: Conclusion

The most significant result of adding aromatherapy as an option for hospice patients was the positive responses of patients, families, and staff. As was noted, the use of aromatherapy is easily added to provide additional comfort measures and create a pleasing environment. Although it was not reflected in the evaluations, the use of essential oils for odor control was commented on the most by the hospice residence staff and the homecare staff during their visits to patients. The goal of providing a non-pharmacological measure to provide increased comfort for hospice patients and to increase the satisfaction of nurses caring for these patients was met. Although nurse satisfaction increased marginally, or not at all, the effectiveness of using aromatherapy with hospice patients was noted to be quite significant by both patients and nurses. Additionally, the use of aromatherapy is rather inexpensive when compared to the cost of medications, while at the same time adds to staff and patient satisfaction levels.

As this aromatherapy program has remained sustainable, there is considerable interest in expanding it throughout the entire hospice program. Although not initially planned, it was noted that the aromatherapy program meets the framework of the Institute for Healthcare Improvement's Triple Aim (population health, patient experience, and cost) by adding to quality care and increasing patient satisfaction, while using cost-effective measures. With current plans in place to establish a system-wide policy that could be used in all areas of the institution, this

program would add to the strength of the institution. A program such as the one implemented, requires a leader with clinical aromatherapy knowledge to provide guidance and to safely educate staff. It is recommended that organizations desiring to implement such a program receive guidance and ongoing consultation from a clinical aromatherapist.

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Appendix A

MINNESOTA BOARD OF NURSING

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Statement of Accountability for Utilization of Integrative Therapies in Nursing Practice

The Minnesota Board of Nursing acknowledges the increasing prevalence of alternative and complementary care being offered in conventional healthcare settings and the number of nurses wishing to incorporate complementary care into their nursing practice. The Board believes the implementation of integrative therapies[1] and alternative health care practices with the practice of nursing should be consistent with the consumer expectation for public safety without undue regulation or restriction on the integrative therapies desired by consumers. Nurses who employ integrative therapies in their nursing practice to meet nursing and patient goals developed through the nursing process are held to the same accountability for reasonable skill and safety as they are with the implementation of conventional treatment modalities.[2] The statements which follow are particularly salient in the utilization of integrative therapies in nursing and therefore are emphasized here for the consumer and nurse.

Nurses who employ integrative therapies in their nursing practice to meet nursing and patient goals developed through the nursing process are accountable to:

- Ensure patient safety is of primary importance by implementing appropriate interventions (conventional and integrative) as required by the circumstances; refraining from harmful interventions; being skilled in the interventions they employ and well-informed about their use, benefits, and possible negative outcomes.
- Assure any therapy or modality used by the nurse emanates from a recognized body of knowledge relative to nursing which supports the validity and efficacy of these practices as therapeutic treatment modalities.
- Provide patients with information needed to make informed decisions about their health and health care. This information includes the nature and consequences of the therapy, associated risks, possible side effects or contraindications, and the purposes, benefits, intended effects of the therapy, expected duration, and financial costs to the patient, if known.

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2 Integrative therapies are also known as complementary or alternative therapies or medicine or "CAM."

[2]These guidelines do not alter the requirements of Minn. Stat. ch 146A which defines unlicensed complementary and alternative practitioners to include licensed nurses if the nurse does not hold him or herself out to the public as being licensed or registered by the commissioner or a health-related licensing board when engaging in complementary and alternative health care. Other requirements apply to nurses practicing under the provisions of Minn. Stat. Ch. 146A.

- Personally possess specialized nursing knowledge, judgment and skill and current clinical competence to perform the act with reasonable skill and safety. The nurse is accountable to maintain current clinical competence, including awareness of current research and literature, in the integrative therapy.
- Work collaboratively with other health care providers and within the limits of the nurse's education and competence.
- Maintain ethical and quality standards of care as in other nursing interventions; the care that would be provided, and the manner in which a reasonable and prudent nurse would provide it, in accordance with generally accepted standards of nursing practice, the laws and rules governing nursing and any other applicable regulations.
- Inquire about and document the use of integrative therapies by patients as part of health assessment and history taking.
- Ensure the integrative therapy is included in the patient's plan of care and is consistent with their mutually established goals and the overall treatment plan.
- Document the integrative therapy provided and the outcome in the nursing context using standard nursing diagnosis and outcomes.
- Ensure the therapy is consistent with any existing employing organization's mission, goals, policies and procedures.
- Abide by regulations for those therapies that require a separate license or certificate. Examples: acupuncture requires separate credential; massage in some locations is regulated by local ordinance.
- Refrain from engaging in a function or procedure that is prohibited by any other law or rule.

Adopted April 2003

Appendix B

PATIENT Aromatherapy Evaluation Form

Date_____ Age:___ Gender_____ Hospice Diagnosis_____

Essential oil/blend	Used For	Effectiveness			Comments
		-1	0	+1	

Appendix C

Nurse Aromatherapy Evaluation Form

Date_____ Age:___ Gender_____ Hospice Diagnosis_____

Essential oil/blend	Used For	Effectiveness			Comments
		-1	0	+1	

Appendix D

Nurse Survey of Aromatherapy Program (Survey Monkey)

1. Do you like the aromatherapy program, neither like nor dislike it, or dislike it?

- Like a great deal
- Like a moderate amount
- Like a little
- Neither like nor dislike
- Dislike a little
- Dislike a moderate amount
- Dislike a great deal

2. Do you think the aromatherapy program is effective for increasing patients' overall comfort?

- Agree a great deal
- Agree a moderate amount
- Agree a little
- Neither agree or disagree
- Disagree a little
- Disagree a moderate amount
- Disagree a great deal

3. Did your satisfaction of caring for hospice patients change since the aromatherapy program was implemented?

- Satisfaction increased a great deal
- Satisfaction increased a moderate amount
- Satisfaction increased a little
- Satisfaction neither increased or decreased
- Satisfaction decreased a little
- Satisfaction decreased a moderate amount
- Satisfaction decreased a great deal

4. How convenient is the aromatherapy to use?

- Extremely convenient
- Very convenient
- Moderately convenient
- Slightly convenient
- Not at all convenient

5. How useful is aromatherapy?

- Extremely useful
- Very useful
- Moderately useful
- Slightly useful
- Not at all useful

6. How effective was the aromatherapy education you received?

- Extremely effective
- Very effective
- Moderately effective
- Slightly effective
- Not at all effective

Appendix E

Aromatherapy Protocol and Procedure

1. All Hospice nurses, certified nurse aides (CNA), designated volunteers and the Hospice House social worker will complete aromatherapy education provided. Training for each staff will be documented as completed on a check-off list.

2. All hospice patients 18 years and older admitted to the Hospice House will be invited to participate in the aromatherapy pilot program within 48 hours of admission. If the patient or designated primary caregiver chooses to participate, he/she must sign a written informed consent prior to implementation of using aromatherapy.

3. Aromatherapy protocol for patients who have completed informed consent:

    - No physician order is required.

    - Aromatherapy will be offered to all patients with the nurse assessment indicating symptoms of anxiety, agitation, fatigue, grief, nausea, insomnia, pain, or odors related to wounds.

    - Written information explaining aromatherapy and each essential oil or blend will be given to the patient and family.

    - Specific essential oil(s) and delivery methods will be determined by the nurse and included in the patient's plan of care.

    - The patient and/or family (if patient is unable to respond) will be given choices of specific essential oil(s) fragrances and delivery methods as chosen for specific indications by the nurse.

4. Patient or designated family member will be given a daily evaluation tool to be completed after each aromatherapy session. Evaluation tools will be collected at the end of the day.

5. Nurses will complete daily evaluation tool for each patient's aromatherapy session. Evaluation tools will be collected at the end of the day.

Essential Oil Procedure (refer to aromatherapy grid for various selection of oils)

- Massage blend: screen the patient for past skin reactions or history of eczema. Complete patch test on any patient screened positive with past skin reactions or eczema with the following procedure: apply the intended essential oil(s) an inner arm, cover with a band aid for 24 hours (date & time band aid). Monitor for any skin reaction including redness, itching, or other irritation. If any reaction is noted, do not use the topical essential oil(s) for that patient. Monitor all patients without

history of past skin reactions or eczema for skin reactions, and discontinue the essential oil if any reaction is noted.

- Massage blend: offer hand/foot massage twice daily and give option for family members to be instructed on administering up to every 3 hours as patient desires. Pour small amount of massage blend in med cup to bring in patient's room, refill as needed.

- Direct inhalation method: apply 1-2 drops of the essential oil deodorizer blend on a cotton ball and tape it to the top of the patient's gown within smelling distance, or offer the patient an aromastick to hold and inhale as desired. Change the cotton ball every 8 hours if the patient chooses to continue with aromatherapy. Aromasticks are to be labeled and left in patient's room. All other essential oil vials are for multiple patient use and are not left in patients' rooms.

- Wound odor: apply 2 drops of the essential oil deodorizer blend on the outer dressing with each wound dressing change. Use the electric fan diffuser with 4 drops of the same essential oil blend as the patient and family desire in the patient's room. Apply 4 drops of the deodorizer essential oil blend on the diffuser pad and refresh every 8 hours as long as the patient desires to continue with aromatherapy. Clean diffuser with sanitary wipe between patients' use.

- Keep essential oils from eyes. For accidental eye exposure, rinse eyes with milk then flush with water.

- If patient is discharged to home, send any essential oil(s) patient has been using home with him/her.

Appendix F

Aromatherapy Patient Information

What is aromatherapy?

Aromatherapy is the use of pure essential oils to maintain and promote physical, psychological, and spiritual well-being. The essences or "essential oils" as they are commonly known are extracted from a wide variety of plants from all over the world. Each essential oil has its own unique healing properties and aroma. Essential oils are absorbed into the body through the olfactory (smell) and respiratory system by inhalation. They also are absorbed into the blood when applied in a diluted lotion or oil. Blended together or used alone, essential oils have been found to have a beneficial effect.

How will aromatherapy be used at the Solvay Hospice House?

The RN will assess your comfort focusing on your physical, emotional, and spiritual needs. Aromatherapy will be offered for anxiety, agitation, fatigue, grief, nausea, insomnia, pain, or odors related to wounds ***in addition*** to any medication or treatment plan you are currently using.

Aromatherapy will be offered with hand and foot massage, inhalation of a cotton ball or aromastick (simple lip-stick like container), applied to the outer dressing of a wound, or with an electric room diffuser. The RNs, LPNs, certified nurse's aides (CNAs) and volunteers are all trained to administer aromatherapy.

The aromatherapy products used at Solvay are all specially formulated both in strength and choice of essential oil for the care of hospice patients.

Precautions

Negative reaction to aroma

Nausea, vomiting, or headache associated with aroma

Negative emotional reaction to aroma

Keep out of the reach of children

For external use only

Keep away from eyes

Use only pre-blended massage essential oils on skin

Store at cool room temperature and protect from light

Appendix G

Bergamot

(*Citrus bergamia*)

Used For

- Anxiety
- Agitation
- Insomnia

Methods of Use

- Direct inhalation
  - Every 2 hours as needed with aromastick
  - Cotton ball taped to upper clothing refreshed with 1-2 drops every 8 hours

Discontinue use if the following noted while using

- Nausea/Vomiting
- Headache
- Negative emotional reaction to aroma

Comfort Aroma Blend

Roman Chamomile/ Rose/ Blue Cypress

(*Anthemis nobili, Rosa damascena, Callitris intratropica*)

Used For

- Anxiety
- Grief
- Insomnia
- Pain

Methods of Use

- Massage (diluted 3% in fractionated coconut oil)
  - Hand and foot massage twice a day and every 3 hours as needed

Discontinue use if the following noted while using

- Skin irritation
- Nausea/Vomiting
- Headache
- Negative emotional reaction to aroma

Lavender

(*Lavandula angustifolia*)

Used For

- Anxiety
- Grief
- Insomnia
- Pain

Methods of Use

- Direct inhalation
  - Every 2 hours as needed with aromastick
  - Cotton ball taped to upper clothing refreshed with 1-2 drops every 8 hours
- Massage (diluted 3% in fractionated coconut oil)
  - Hand and foot massage twice a day and every 3 hours as needed

Discontinue use if the following noted while using

- Skin irritation
- Nausea/Vomiting
- Headache
- Negative emotional reaction to aroma

Pleasant Aroma Blend

Eucalyptus/ Lemon/ Tea Tree/ Thyme

(*Eucalyptus globulus/Citrus limon/ Melaleuca alternifolia/Thymus vulgaris linalool*)

Used For

- Deodorizer

Methods of Use

- Indirect Inhalation
  - Room Diffuser
  - Applied to outer wound dressing

Discontinue use if the following noted while using

- Nausea/Vomiting
- Headache
- Negative emotional reaction to aroma

Uplifting Aroma Blend

Ginger/Peppermint/ Lemon

(*Zingiber officinale/Mentha piperita/ Citrus limon*)

Used For

- Nausea
- Fatigue

Methods of Use

- Direct inhalation
  - Every 2 hours as needed with aromastick
  - Cotton ball taped to upper clothing refreshed with 1-2 drops every 8 hours

Discontinue use if the following noted while using

- No relief of nausea/vomiting
- Headache
- Negative emotional reaction to aroma

Appendix H

Solvay Hospice House Aromatherapy Use Guidelines				
Aroma Product	**Assessment Notes POC**		**Suggested Uses**	**Directions**
	Physical	**Emotional/Spiritual**		
Bergamot (*Citrus bergamia*)	• Anxiety • Agitation • Insomnia	• Fearful • Tense • Restless • Irritable	• Provide comfort for anxiety or agitation • Support sleep hygiene and quality of rest	**Direct inhalation** Apply 1-2 drops of the essential oil deodorizer blend on a cotton ball and tape it to the top of the patient's gown within smelling distance. Change the cotton ball every 8 hours if the patient chooses to continue with aromatherapy. OR-- offer patient aromastick to hold and inhale as desired. Instruct patient to re-cap when not using
Lavender (*Lavandula Angustifolia)*	• Pain • Grief • Anxiety • Insomnia	• Tired • Tense • Agitated • Angry • Restless • Sad • Withdrawn • Fearful • Irritable • Breathless • Depressed affect	• Improve comfort • Relax and calm the mind • Lessen perceived pain • Calm emotions • Provide comfort for pain, stress, anxiety, over sensitive, sleeplessness	**Direct inhalation** Apply 1-2 drops of the essential oil deodorizer blend on a cotton ball and tape it to the top of the patient's gown within smelling distance. Change the cotton ball every 8 hours if the patient chooses to continue with aromatherapy. OR-- offer patient aromastick to hold and inhale as desired. Instruct patient to re-cap when not using

Aroma Product	Assessment Notes POC		Suggested Uses	Directions
	Physical	**Emotional/Spiritual**		
Lavender (*Lavandula Angustifolia)* ***(*3% in fractionated coconut oil)**	• Pain • Grief • Anxiety • Insomnia	• Tired • Tense • Agitated • Angry • Restless • Sad • Withdrawn • Fearful • Irritable • Breathless • Depressed affect	• Improve comfort • Relax and calm the mind • Lessen perceived pain • Calm emotions • Provide comfort for pain, stress, anxiety, over sensitive, sleeplessness ❖ Massage encourages family/staff involvement	**Hand / Foot Massage** Offer twice daily and give option for family members to be instructed on administering up to every 3 hours as patient desires.
Comfort Aroma Blend Chamomile, Roman (*Anthemis nobili*) Rose (*Rosa damascena)* Blue Cypress (*Callitris intratropica)* (3% blend in fractionated coconut oil)	• Pain • Grief • Anxiety • Insomnia	• Tired • Tense • Agitated • Angry • Restless • Sad • Withdrawn • Fearful • Irritable • Breathless • Depressed affect	• Improve comfort • Relax and calms the mind • Lessen perceived pain • Calms emotions • Provide comfort for pain, stress, anxiety, over sensitive, sleeplessness ❖ Massage encourages family/staff involvement	**Hand / Foot Massage** Offer twice daily and give option for family members to be instructed on administering up to every 3 hours as patient desires.

Aroma Product	Assessment Notes POC		Suggested Uses	Directions
	Physical	**Emotional/Spiritual**		
Pleasant Aroma Blend Eucalyptus globulus (*Eucalyptus globulus*) Lemon (*Citrus limon)* Tea Tree *(Melaleuca alternifolia*) Thyme linalool (*Thymus vulgaris linalool)*	• Malodor • Lethargy • Depression	• Withdrawn • Fearful • Passive • Sensitive • Irritable • Agitated • Defensive	• Decrease and neutralize malodors • Purify room and uplift mood • Support personal integrity	**Wound odor** Apply 2 drops on the outer dressing with each wound dressing change. Apply 4 drops on the diffuser pad and refresh every 8 hours as long as the patient desires to continue with aromatherapy.
Uplifting Aroma Blend Ginger (Zingiber officinale) Lemon (*Citrus limon)* Peppermint (*Mentha piperita*)	• Nausea • Fatigue	• Depressed affect • Withdrawn • Sensitive	• Decrease nausea • Uplift mood	**Direct inhalation** Apply 1-2 drops of the essential oil deodorizer blend on a cotton ball and tape it to the top of the patient's gown within smelling distance. Change the cotton ball every 8 hours if the patient chooses to continue with aromatherapy. OR-- offer patient aromastick to hold and inhale as desired. Instruct patient to re-cap when not using