

INCREASING THE ONCOLOGY NURSES' KNOWLEDGE OF, AND BARRIERS
TO, THE NURSE NAVIGATOR ROLE

by

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ABSTRACT

LADONNA A MCFARLAND. Increasing the oncology nurses' knowledge of, and barriers to, the nurse navigator role. (Under the direction of DR. STEPHANIE WOODS & DR. JAMIE BRANDON)

The American Cancer Society estimated that more than 1.7 million people would receive a new cancer diagnosis, and over 600,000 people would die from cancer in the United States in 2019 (American Cancer Society, 2019). Cancer patients face multiple challenges, including navigating a complex healthcare system. The navigator role is integral in meeting those challenges and seeks to improve patient outcomes. The purpose of this project was to implement interventions to increase the ambulatory oncology nurses' knowledge of barriers, and utilization of the oncology nurse navigator role. The interventions included the implementation of an online learning module and participation in a focus group discussion. A one-group, pre-test, and post-test were used to measure a change in oncology nurses' knowledge of the nurse navigators' role. A paired sample *t*-test noted statistical significance in 9 out of 12 content areas measuring knowledge related to the nurse navigators' core competencies and role and responsibilities. The study's findings indicated the online learning module did improve the oncology nurses' knowledge of the oncology nurse navigators' role. A thematic analysis was used to examine the perceived barriers to utilization of the navigator role as told by oncology nurses. Four themes emerged during the focus group- nurse navigator responsibilities, benefit of navigator role for improved patient outcomes, barriers to utilization and challenges to accessibility. These findings are relevant for future studies and discussions related to the oncology nurse navigators' role in cancer patient care.

DEDICATION

I wish to dedicate this project to my loving family. This project is also dedicated to my son Adrien and my daughter Mayah Anne. You are my inspiration. I always want to be an example you can be proud of. To my dad, your spiritual guidance and never ending support have helped me to realize who I am and whose I am. There is no greater love. I also want to thank my friends and professional mentors for your support. This project is also dedicated to my best friend and partner, Gregory Allen Disher. Your encouragement, patience, and faith in me have meant more to me than I can express. I am eternally grateful to you all. Lastly, to all of the great women in my life, thank you for your courage, example and sacrifice.

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LIST OF ABBREVIATIONS

ADN	Associate Degree in Nursing
BSN	Bachelor of Science Degree in Nursing
CC	Closed Captioning
DNP	Doctor of Nursing Practice
IRB	Institutional Review Board
MSN	Master of Science in Nursing
OCN	Oncology Certified Nurse
ONCC	Oncology Nursing Certification Corporation
ON	Oncology Nurse
ONN	Oncology Nurse Navigator
ONS	Oncology Nursing Society
SPSS	Statistical Package for Social Sciences

CHAPTER 1: INTRODUCTION

1.1 Background

According to the American Cancer Society, there were an estimated 1.7 million new cancer diagnoses and nearly 607,000 cancer deaths in the United States in 2019 (American Cancer Society, 2019). A cancer diagnosis has a significant impact on patients and their caregivers (Levesque, 2016). Cancer patients face many challenges, including emotional, physical, and social complications. To meet these challenges requires the dedication of a specially trained healthcare team with a collaborative approach. The oncology nurse navigator seeks to reduce the challenges by addressing these psychosocial needs (Dohan & Schrag, 2005).

Oncology nurse navigators are vital in bridging the relationship gap between the patient and provider (Carter, Valaitis, Lam, Feather, Nicholl & Cleghorn, 2018). A positive relationship involving the patient and provider helps foster trust and decrease anxiety levels (Carter et al., 2018). Evidence has demonstrated that the presence of a nurse navigator leads to greater adherence to the plan of care (Carter et al., 2018). The direct involvement of the nurse navigator has been shown to increase patients' levels of satisfaction, reduce health care disparities, and improve patient outcomes (Carter et al., 2018).

The concept of the nurse navigator program was first introduced by Dr. Harold P. Freeman at a Harlem Hospital in New York in 1990 (Freeman, 2006; Freeman, 2013). The program aimed to reduce or eliminate disparities among poor people from all racial and ethnic groups who were experiencing a more substantial cancer burden (Crawford, Brudnoy, Soong, & Graham, 2013; Freeman, 2006; Freeman, 2013). Freeman identified

barriers that affected timely cancer diagnosis and treatment, including insurance shortages, poor social support, poor coping styles, and inadequate health literacy (Wilcox & Bruce, 2010). Freeman was also the first to identify a link between low socioeconomic status and racial differences in cancer survival (Wilcox & Bruce, 2010). A 2018 study, found that while patient navigation programs were originally designed to address the gaps that existed in health care service delivery, minorities were still disproportionately burdened by social inequities and health disparities (Carter et al., 2018). The assurance of social equity is the foundation of the nurse navigator profession, and the emphasis on equitable care continues to be essential (Freeman, 2013).

Crawford and colleagues (2013) found that the role of the oncology nurse navigator changed to meet the new demands of oncology care. These demands include improved diagnostic imaging capabilities, an increased focus on patient-centered care, and improved patient outcomes. The nurse navigator role has been expanded to include coordination of care among other disciplines, provision of education regarding treatment regimens, assessment and recommendations for symptom management, and ongoing evaluation of the patients' emotional and supportive care needs (Crawford et al., 2013; Ell et al., 2007; Ferrante et al., 2007; Fillion et al., 2009). These changes have created a need for an improved understanding about the role.

1.2 Problem Statement

According to Crawford et al. (2013) oncology patients frequently reported that continuity of care, emotional support, and informational needs were not being met by their primary health care team. This team included the oncologist, advanced practice providers and oncology nurses. These gaps in care can be attributed to both patients and

providers not having a clear understanding of which member of the healthcare team is addressing the specialized needs of the patient. Supper, Catala, Lustman, Chemla, Bourgueil and Letrilliart et al. (2014) found that barriers to collaborative care exist in part because of a need to redefine the roles of the various professionals involved in health care. Redefining the nurse navigator role can help to bring clarity, thus eliminating barriers and leading to greater collaboration among other health care disciplines (Jean-Pierre, Fiscella, Freund, Clark, Darnell, Holden & Winters, 2011). It is critical for the oncology nurse to understand the role of the nurse navigator so that this valuable resource can be shared with the individuals who will benefit most from the resources, the patients and their families (Crawford et al., 2013; Nonzee et al., 2012; Zangerle, 2015).

Creating a triangular link between the oncology nurse, the patient, and the nurse navigator is vital to ensure the patient does not fall through the cracks of a fragmented health care system. The oncology nurse should incorporate the role of the nurse navigator into patients' care plans. Increasing the oncology nurses' knowledge regarding the nurse navigator role will lead to better patient care, improved outcomes, and fewer disparities (Crawford et al., 2013).

1.3 Purpose of the Project

The purpose of this Doctor of Nursing Practice (DNP) scholarly project was to evaluate and improve oncology nurses' knowledge of the nurse navigator role, and assess barriers to collaboration with nurse navigators, following an online educational intervention and participation in a focus group discussion. The educational module defined the role of the nurse navigator, provided an overview of the core competencies that guide the nurse navigator role and discussed the role and responsibilities of the

oncology nurse navigator. In addition, the module explained the barriers that existed in the literature regarding utilization of the navigator. Upon completion of the online module, the aim was that the oncology nurse would demonstrate an increase in knowledge of the nurse navigator role, as well as identify potential barriers to working with nurse navigators. This project was significant because of the paucity of literature regarding the use of an educational intervention to educate ambulatory oncology nurses about the nurse navigators' function in caring for the cancer patient.

1.4 Clinical Question

Do ambulatory oncology nurses who participate in an online educational learning module demonstrate an increased knowledge and awareness of barriers to the utilization of the oncology nurse navigator role?

1.5 Project Objectives

The two main objectives of this DNP scholarly project were to a) design a pilot online learning module dedicated to increasing the ambulatory oncology nurses' knowledge of the nurse navigator role, and b) assess whether this enhanced knowledge translated to an improved utilization of the nurse navigator role in the practice setting. These objectives were supported by a study conducted by Rasulnia (2017) that highlighted the need for role delineation of the nurse navigator and the impact of this role on the care of cancer patients. The learning module was developed using the Oncology Nurse Navigator core competencies (Oncology Nursing Society, 2017). An evaluation of the nurses' knowledge was assessed using a pre and post-test. The project leader facilitated a focus group to discuss barriers to using the nurse navigator, as well as any

changes to practice that had occurred in utilization of the nurse navigator since the implementation of the educational intervention.

CHAPTER 2: LITERATURE REVIEW

2.1 Search Terms

A literature review was conducted to identify gaps in knowledge and utilization of the nurse navigator role, the responsibilities of the nurse navigator, and core competencies needed to sufficiently perform the nurse navigator role. Searches were performed to identify the impact the role has on patient outcomes, and interventions related to the nurse navigator role. In addition, this literature review examined the available research on educating oncology nurses about the nurse navigator role. The review was conducted using the databases PubMed, EBSCO, CINAHL, and Cochrane. The keywords used were “nurse navigator,” “patient navigation,” “cancer patients,” “oncology patients,” and “navigator role.” A review of references cited in articles focusing on the navigator role in oncology provided additional sources. Relevant articles published between 2001 and 2020 were included.

2.2 Use of Navigator in Oncology

Nurse navigators are integral in caring for oncology patients. In 2012, the Patient Navigation Process Standard was adopted by the American College of Surgeons Commission on Cancer (CoC) and was implemented on January 1, 2015. This standard requires all cancer programs to demonstrate the ability and resources to help cancer patients and caregivers “navigate” the barriers and gaps to quality cancer care (Lubejko et al., 2016; Rasulnia, 2017; Wells et al., 2018). The literature revealed that nurse navigators provide education about treatment regimens, recommendations on symptom management, and ongoing assessment of patients’ emotional and supportive care needs

during their cancer trajectory (Crawford et al., 2013; Ell et al., 2007; Ferrante et al., 2007).

2.3 Nurse Navigator Core Competencies

A role delineation study in 2016 found the nurse navigator role had evolved since the Oncology Nursing Society (ONS) published Core Competencies in 2013, prompting a re-release of the ONS core competencies in 2017. The core competencies provide clarification on the role and responsibilities of the nurse navigator and support the impact the professional practice has across the cancer care continuum (Baileys, McMullen, Lubejko, Christensen, Haylock, Rose & Sellers, 2018). The purpose of the nurse navigator is guided by forty core competencies comprised of four categories: coordination of care, communication, education, and professional role (ONS, 2017).

Coordination of Care

The coordination of care is perhaps the most critical role. The nurse navigator facilitates the timely scheduling of appointments, diagnostic testing, and procedures to expedite the plan of care and promotes continuity of care using an ethical framework that is nonjudgmental and nondiscriminatory. Patients often require assistance with issues related to treatment goals, advance directives, palliative care, and end-of-life concerns. The nurse navigator is integral in promoting timely follow-up on treatment and supportive care recommendations (ONS, 2017).

Communication

The nurse navigator promotes a patient- and family-centered care environment for ethical decision-making and advocacy for patients with cancer. It also ensures that communication is culturally sensitive and appropriate for the identified level of health

literacy. The navigator acts as a liaison between the patients, families, and caregivers and the providers to optimize outcomes (ONS, 2017).

Education

The nurse navigator educates patients, families, and caregivers on the role of the Oncology Nurse Navigator (ONN). The navigator assesses the educational needs of patients, families, and caregivers by taking into consideration barriers to care (e.g., literacy, language, cultural influences). In addition, the ONN obtains and develops appropriate oncology-related education materials for patients, staff, and community members (ONS, 2017).

Professional Role

The nurse navigator promotes lifelong learning and evidence-based practice to improve the care of patients with a past, current, or potential diagnosis of cancer. The navigator works to promote and advance their professional role. In addition, the navigator also take responsibility for pursuing personal and professional growth and development. The navigator facilitates the continual promotion and quality improvement of the organization's navigation program to best meet the needs of their community.

2.4 Value of Nurse Navigator for Patient Outcomes

Anxiety and Adherence

Evidence has demonstrated that nurse navigators are integral in bridging the relationship gap between the patient and provider, resulting in decreased anxiety levels, which leads to greater adherence to the proposed plan of care (Carter et al., 2018). In a randomized controlled trial of 105 minority women with abnormal mammograms conducted by Ferrante and colleagues (2007), several factors were evaluated with and

without a nurse navigator: Timeliness to diagnosis, decreasing anxiety, and increasing satisfaction. The study found that participants who were randomized to the intervention group experienced shorter times to diagnostic resolution, less anxiety, and higher satisfaction scores (Ferrante, Chen & Kim, 2007).

In a randomized clinical trial of 204 women with an abnormal mammogram, adherence to follow-up recommendations of diagnostic screening was evaluated (Ell, Vourlekis, Lee & Xie, 2007). The results of the study concluded that participants who were assigned to the intervention group, paired with a nurse navigator, versus those assigned to the usual care group, were significantly more likely to adhere to the follow-up recommendations. The impact of having a navigator involved in the patients' care was found to substantially increase the adherence to the follow-up recommendations of diagnostic screening versus the group who did not have a nurse navigator involved (Ell et., 2007). The direct involvement of a nurse navigator has been shown to increase patients' levels of satisfaction, reduce health care disparities, and improve overall patient outcomes (Carter et al., 2018).

Improved Outcomes

Wells et al. (2008) examined the unique role that nurse navigation has on the improvement of patient outcomes. The literature revealed that nurse navigators are pivotal in reducing disparities in health care by decreasing the time from discovery of a cancer abnormality to a definitive diagnosis . Wells et al. (2008) found that nurse navigators bridged gaps among racial and ethnic groups and promoted compliance through evidence-based practice guidelines for cancer prevention and early detection.

Further research is needed to determine the impact the nurse navigator role has on patient outcomes (Carter et al., 2018).

2.5 Barriers to Use of Navigator Role

Due to its rapid expansion and changing priorities, the full implementation of the nurse navigator role has been challenging (Lubejko et al., 2016). Navigation services typically cannot be quantified for reimbursement by third-party payers, and therefore healthcare systems must absorb the expense (Lubejko et al., 2016). Navigator program evaluation is an integral part of ensuring that desired patient outcomes are being achieved (Lubejko et al., 2016; Rasulnia, 2017).

According to Wilcox and Bruce (2010), it is essential to the development of the nurse navigator program that nurses and providers be educated on how the role is intended to enhance and augment patient care, yet not interfere with the delivery of care by other members of the healthcare team. Lack of education about the nurse navigator role can interfere with patients' ability to receive the services offered and adversely impact the referral process (Wilcox & Bruce, 2010). The engagement of key stakeholders; administrators and physicians are vital for the successful implementation of a navigator program (Johnston & Strusowski, 2018).

In a qualitative research study that consisted of direct observation of cancer clinics with and without nurse navigators, in-person interviews with personnel and patients, and telephone interviews with the nurse navigators were performed to define nurse navigation and distinguish it from other professional roles (Dohan & Schrag, 2005). The study concluded that a distinction of the nurse navigator role is required to differentiate the navigator from other cancer support services such as case management

and social work. A lack of a standard definition of the navigator role exists, making this distinction less clear (Dohan & Schrag, 2005).

2.6 Gaps in Knowledge of Oncology Nurses Related to Navigator Role

Nurses have been functioning as navigators in an unofficial capacity for many years, making it even more important to differentiate between the nurse and nurse navigator role (Zangerle, 2015). A national survey conducted by Rasulnia (2017) aimed to examine the characteristics, roles, barriers, and needs of nurse navigators in the development of an outcome-based educational program. Over 247 nurse navigators were surveyed, and 49% of the respondents reported that the most significant challenges they encountered to the navigator program were lack of staff and provider clarity on the navigator role. These findings suggested that the knowledge level related to the nurse navigator role is a barrier to role utilization.

Crawford et al. (2013) described a nurse navigation course that was designed to increase the knowledge level of nurses who work with cancer patients regarding the role functions of the nurse navigator. The course provided content in the seven critical domains of nurse navigation: Introduction to nurse navigation, communication, assessment, screening for distress, culture and diversity, social support, and oncology nurse self-care. The objectives of the evaluation were to measure the participants' levels of confidence in their knowledge related to the nurse navigator role.

In summary, although there are recent initiatives by Oncology Nursing Society (ONS), that seek to clearly define the role of nurse navigator, it is apparent there is a need for clarity in the navigator's position in the delivery of cancer care. Further, there is a paucity of information available on educational interventions designed to increase nurses'

knowledge of the navigator role or barriers that exist to the programs' utilization.

Therefore, this project focused on this gap and evaluated the impact an online learning module has on the ambulatory oncology nurses' knowledge and the effect that knowledge will have on the nurses' ability to identify barriers.

2.7 Instructional Method

For the instructional method an online learning module was chosen. According to Cook, Levinson, Garside, Dupras, Erwin and Montori (2008), the effectiveness of online learning is similar to traditional methods. Online learning supports opportunities and benefits for career enrichment and is ideal for the self-guided learner (Billings, 2007). Online learning is an effective, cost- saving method that many health care institutions utilize for offering continuing education requirements (Denissen, Neumann & Zalk, 2010). The method of online learning was preferred because it did not interfere with patient care delivery time.

2.8 Conceptual and Theoretical Framework

Kurt Lewin's Change Theory was the theoretical framework used to guide this DNP scholarly project. This framework was relevant because its foundation is based on the premise that change is a process that occurs over time. This project aimed to increase the oncology nurses' level of knowledge about the nurse navigator role and to be able to identify barriers that may exist to the utilization of the navigator role. Lewin's three-step change model outlines the processes that are involved in facilitating sustainable change. The three steps include unfreezing, change, and refreezing. See Appendix A for an illustration of Lewin's model.

Mulder (2012), described unfreezing at the group level as a “profound psychological dynamic process that involves painful unlearning with loss of ego identity and difficult learning as one cognitively attempted to restructure one’s thoughts, perceptions, feelings, and attitudes” (p. 2). During the unfreezing stage, the oncology nurse considered care planning for the cancer patient beyond the resources they provided and reflected about how the nurse navigator role can be integrated into the care process. In the unfreezing stage, key stakeholder support from the leadership team was obtained, which was an indicator that the process of unfreezing had occurred. The project leader sought to earn the buy-in from the oncology nurses who were the other key stakeholders and who would be instrumental in the implementation of this study. Buy-in was achieved by attending staff meetings and sharing details related to the project with the nurses.

The implementation of the desired change is the second step in the process of Lewin’s change model. Change often makes people uncomfortable, and it is common for employees to resist change (Mulder, 2012). Knowledge sharing is a hallmark in the shift of changing behaviors (Mulder, 2012). To increase the oncology nurses’ knowledge of the navigator role, an online learning module, which contained material acquired from the 2017 oncology nurse navigator’s core competencies was implemented. The content for the module was selected because it was current and relevant to the care of cancer patients. The overall aim of the learning module was to provide information that facilitated an increased understanding of the nurse navigator role. A pre-test assessment tool, participation in the online learning module, and results from the post-test provided evidence that knowledge sharing had occurred. The nurses demonstrated an increased

level of knowledge, following completion of the online learning module. This indicated change occurred.

During the change stage, seven oncology nurses participated in a focus group where they discussed utilization of the oncology nurse navigator role. The nurses were able to share their knowledge and discuss barriers related to the navigator role. The knowledge sharing indicated that the desired change occurred.

Lewin's final step in the change process is refreezing. This stage involves solidifying the change and resisting the urge to return to old habits (Mulder, 2012). Implementing the widespread use of the learning module as a part of the staffs' orientation, onboarding, and continuing education experience would indicate that change had become a permanent part of the organizations' process for educating oncology nurses about the nurse navigator role. While there was no clear indication that permanent change had occurred during the six-week time frame that this study was conducted, the oncology nurses who participated in the focus group were able to speak knowledgeably about the navigator role. For change to occur it must happen over time and this change needs to be continually reassessed to ensure that the change is sticking. Due to the project time frame the refreeze stage could not be sufficiently evaluated. To ensure refreeze had occurred reassessment should occur at monthly leadership meetings..

CHAPTER 3: METHODS

3.1 Project Design

For this pilot study, a one-group, pre-test and post-test, comparative-exploratory study was used to evaluate the impact of an online learning module on oncology nurses' knowledge of the oncology nurse navigator's role. A focus group discussion was utilized to explore the barriers to utilization of the navigator's role.

3.2 Sample and Subjects

A convenience sample of ambulatory oncology nurses from two southeastern North Carolina cancer centers was obtained. The nurse managers and nursing executive leadership for each cancer center granted permission to recruit nurses. A comprehensive list of 40 nurses, including name and email address, was provided. The email list was maintained in a locked drawer to protect confidentiality and destroyed following project completion. The final sample size consisted of 19 ambulatory oncology nurses. Inclusion criteria required participants to have one or more years of oncology nursing experience. Non oncology nurses with less than one year of oncology nursing experience were excluded.

Participants were recruited after approval from the Institutional Review Board (IRB) was granted (see Appendix B). An email invitation (see Appendix C) was sent to potential participants and included a description of the study, contact information for the project leader, and an attestation statement of consent to be initialed if the recipient intended to participate. Additionally, the email contained a link to the Qualtrics© online project site which provided the pre-test, learning module, and post-test. Email reminders were sent out once per week for a total of four weeks in an effort to guarantee an

adequate sample size. Also, to help secure an adequate sample size and ensure study completion, participants were given a \$20 gift card upon completion of the pre-test, learning module, and post-test.

3.3 Measurement Tools

To measure the outcomes of this project, a pre-test, post-test, and focus group were used to identify the nurses' self-reported knowledge of, and barriers to, the role of the nurse navigator in oncology. According to Bonnel and Smith (2018), it is always preferred to use an instrument that is well-developed if one exists. However, no validated tool has been previously developed to measure the oncology nurse's knowledge about the nurse navigator role. Therefore, the project leader developed a 12-item questionnaire using a 5-item Likert scale that asked the nurse to identify the level of knowledge on a rating from 1 (never) to 5 (always). To ensure content validity, the questionnaire was reviewed by two additional content experts.

3.4 Intervention/Data Collection

The educational intervention consisted of an online learning module (see Appendix D) that was developed by the project leader. The learning module was delivered in a video format and contained information from the 2017 Oncology Nursing Society nurse navigator core competencies. Material included in the module was reviewed by two content experts who were experienced in nursing navigation and cancer care to ensure content validity. The length of the video was 15 minutes and included closed captioning to provide viewing options for increased accessibility.

When the participants accessed the Qualtrics © site, a brief description of the purpose of the study was provided. A statement confirming consent to take part in the

survey required the participant to select “yes” or “no”. A response of “no” resulted in the site closing. A response of “yes” automatically opened the site where the participants were asked three demographic questions and a pre-test consisting of 12 items (see Appendix E) used to collect baseline data on their current knowledge of, and barriers to, the nurse navigator role. A post-test consisting of the same 12-items was administered to evaluate the effects the online learning module had on improving the oncology nurses’ levels of knowledge.

The participants were advised that they would need to allot approximately 20 minutes to complete the pre-test, learning module, and post-test. Once the participants completed the pre-test and post-test, the data collected from Qualtrics© was transferred to Statistical Package for the Social Sciences (SPSS) version 26 for data analysis. A \$20 gift card was provided to each participant who completed the study, in appreciation of their time and involvement.

A focus group was facilitated by the project leader; the meeting was conducted four weeks post completion of the online learning module and lasted 40 minutes. The purpose of the focus group was to assess the oncology nurses’ knowledge of the oncology nurse navigator role, and to discuss any barriers they encountered to utilization of the navigator role. Eight discussion questions were prepared in collaboration with the project leader and project chair. See Appendix F for list of focus group questions.

3.5 Data Analysis

Survey data was transferred from Qualtrics© to SPSS version 26 for data analysis. Statistics for each analysis was based on responses with complete information on the pre-test and post-test. Of the initial 39 nurses who consented to participate in the

study, only 19 nurses completed the pre-test and post-test. Twenty questionnaires missing post-test data were eliminated.

Descriptive statistics were used to present the sample characteristics obtained from the demographic questionnaire. Mean and standard deviations were reported descriptively, then additional parametric statistics were used to analyze results obtained from the pre-test and post-test. A paired samples *t*-test was performed to determine whether statistically significant changes occurred in the oncology nurses' level of knowledge based on responses to items on the questionnaire with $p < .05$.

The Levene's test for equality of variances was performed to assess whether or not the variances between the samples were approximately equal with $f > .05$. Levene's test is appropriate when calculating two or more groups. The ANOVA test was used to determine statistically significant changes for each questionnaire item when factoring level of education, years of experience, and whether or not the nurse was oncology certified with a significance level of $p < .05$.

A focus group was conducted in a small conference room in an oncology clinic to assess retained knowledge, change in practice and barriers to the utilization of the oncology nurse navigator role. Four open-ended items were read to the oncology nurses, and responses were handwritten by the project leader. A qualitative thematic analysis was performed to analyze the data obtained from the focus group utilizing the steps outlined in Braun and Clarke's 2006 thematic analysis framework (Maguire & Delahunt, 2017).

CHAPTER 4: RESULTS

4.1 Sample Size and Demographic Factors

The online module opened on November 6 and was closed on November 20 to allow participants a two-week window to complete. A recruitment email was sent to 40 potential oncology nurse participants from two southeastern North Carolina oncology clinics. Thirty-nine nurses consented to participate in this pilot study. Nineteen nurses completed the pre-test, online module, and post-test, resulting in a response rate of 47.5%. The final sample consisted of 19 oncology nurses who primarily held baccalaureate degrees (78.9%). The majority of the nurses had seven years or less of oncology nursing experience (89.4%). Approximately 58% of the nurses in this sample were oncology certified. Table 1 represents the demographic and professional characteristics of the participants.

The focus group discussion was conducted four weeks after the online intervention concluded. Seven oncology nurses participated in the focus group which was held in a small conference room in the oncology center. Based on demographic information obtained from the focus group participants, most participating had less than seven years of practice experience.

Table 1. Demographic Information (*N* =19)

Professional Characteristics of Participants (n=19)		
Highest Nursing Degree	n%	Percentage % (100)
Associate Degree	2	10.5
Baccalaureate Degree	15	78.9
Master's Degree	2	10.5
Years of RN Experience	n%	
1-3	2	10.5
4-7	17	89.4
8-11	0	0.0
12-15	0	0.0
16+	0	0.0
Oncology Certification	n%	
Yes	11	57.8
No	8	42.1

4.2 Knowledge of Nurse Navigator Core Competencies

The Oncology Nursing Society (ONS) identified 52 core competencies that were intended to more clearly define the nurse navigator role (Baileys et al., 2017). Eight items on the questionnaire were taken directly from the 2017 ONS, Nurse Navigator Core Competencies (Baileys et al., 2017) and covered patient and caregiver survivorship, health literacy, end of life care, communication, shared decision making, coordination of

care, and chemotherapy education (Baileys et al., 2017). The paired sample *t*-test was used to detect statistically significant changes from pre-test to post-test utilizing a 5-point Likert scale ranging from 1 (never) to 5 (always). See Table 2 for the mean and *t*-tests results for items measuring knowledge of the nurse navigator core competencies.

One of the core responsibilities of the oncology nurse navigator is to provide survivorship care for the cancer patient and the caregiver during the time of illness (Baileys et al., 2017). Patient survivorship begins at the time of diagnosis and continues until death. Caregiver survivorship begins at the time their loved one receives a cancer diagnosis and continues until their loved one's death. This study measured the oncology nurses' knowledge of the navigator's role involving patient and caregiver survivorship care. The analysis revealed statistically significant improvements in knowledge of patient survivorship, $t(18) = 5.14, p = .001$ and caregiver survivorship, $t(18) = 5.88, p = .000$. Results pre-test versus post-test indicated that the oncology nurse experienced an increase in knowledge of the oncology nurse navigator role related to patient and caregiver survivorship following completion of the online learning module. This increased knowledge gained by the nurse raises awareness of the role the navigator has in providing survivorship support. It is hoped that the nurse will connect their patients and caregivers with the nurse navigator who is able to provide support through the various stages of survivorship. It is expected that this level of support will improve patient outcomes.

According to Lubejko et al. (2016) the patient's ability to participate in the shared-decision making process with the support of their care team and family is an important priority. This study demonstrated statistical significance in the area of shared decision making, $t(18) = 3.369, p = .003$. This finding indicated that participation in the online

learning module increased the oncology nurses' knowledge of the role the nurse navigator has in facilitating dialogue between patients and caregivers on treatment-related options.

Another important responsibility of the oncology nurse navigator is to discuss end of life priorities with the patient and to advocate for the patient's choices with other members of the care team. End of life care decisions are of significant importance for the cancer patients' desire to maintain a sense of autonomy over their lives (Levit, Balogh, Nass & Ganz, 2013). This study demonstrated statistical significance in the area of end of life care, $t(18) = 3.545, p = .002$. This finding indicated that the oncology nurses improved their understanding of the nurse navigator role in facilitating palliative care and end-of-life options..

The oncology nurse navigator's role is vital to improved communication between the healthcare team and is essential to the continuity of care (Baileys et al., 2017). The navigator is also instrumental in promoting communication that incorporates the patient's values, beliefs and cultural preferences (Phillips, Villalobos, Crawbuck & Pratt-Chapman, 2019). Culturally sensitive communication improves the patient- provider relationship and can lead to improved health outcomes (Phillips et al., 2019). According to Lubejko et al. (2016) the nurse navigator helps to bridge gaps with communication, promotes access to timely care, and facilitates interdisciplinary care. After completion of the online learning module in the area of communication, results approached statistical significance with $t(18) = 2.024, p = 0.058$. A larger sample size likely would have resulted in communication reaching statistical significance. This finding indicated that the oncology nurses had somewhat improved their knowledge of the navigators' role

related to fostering communication that is culturally sensitive and addressing communication barriers.

Coordination of care was found to be nonsignificant $t(18) = 1.140, p = 0.269$. These findings suggested the oncology nurse, following the online learning module, did not experience an increase in their knowledge of the navigator's role in facilitating care coordination. Poorly coordinated care can lead to unnecessary treatment related complications, avoidable hospital readmissions and increased costs (Lubejko, 2016). Understanding which member of the healthcare team is able to eliminate these challenges may impact the quality of the care the patient receives.

According to McMurray and Cooper (2017) poor health literacy can negatively impact the patients' and caregivers' ability to be actively engaged in their care. Cantril and Haylock (2013) discussed that few patients with cancer could understand their cancer diagnosis, thus leading to poorer patient outcomes. This study noted a statistically significant improvement in the oncology nurses' knowledge of the role the navigator has in ensuring educational materials are appropriate for the patients' and caregivers' level of literacy, $t(18) = 3.980, p = .001$. These findings demonstrated that following the online learning module, the oncology nurse had a greater understanding of the role the navigator has in mitigating health literacy challenges for the cancer patient.

The oncology nurse navigator spends a significant amount of time reviewing chemotherapy educational materials with patients and ensuring that all materials containing information related to diagnosis, treatment, and treatment side-effects are understood (Baileys et al., 2017). There was no statistical change noted in the nurses' knowledge related to the role that the navigator has in providing chemotherapy education,

$t(18) = 2.72, p = .014$. This finding demonstrated the oncology nurse, following participation in the online learning module, did not increase their knowledge of the navigators' role related to providing education regarding chemotherapy regimens and symptom management.

The literature recommended that the nurse navigator role be clarified for all members of the health care team so that a clear distinction between the oncology nurse and oncology nurse navigator roles were clearly understood by the team (Baileys et al., 2017; Rasulnia, 2017). A question related to perception of the overlap in the oncology nurse's role and the oncology nurse navigator's role was also included. This question was asked because the literature suggested that one barrier to utilization of the navigator role may be that the oncology nurse believes they are performing the same role as the navigator (Rasulnia, 2017). Despite participating in the online learning module, there was no statistical significance found in the nurses' knowledge related to the oncology nurse providing the same services as the oncology nurse navigator, $t(18) = .000, p = 1.000$. The nurses' responses were similar to pre-test and post-test responses. This finding indicated the oncology nurses did not experience an improvement in their ability to differentiate between the navigators' role and that of the oncology nurse. This is relevant because the oncology nurses in this study indicated they are performing the same role and responsibilities as the nurse navigator. In an attempt by the ambulatory oncology nurse to meet all of the patients' clinical and supportive care needs, some aspects of care may be missed.

Table 2. Knowledge of Nurse Navigator Core Competencies

	Pre-test Mean (SD)	Post-test Mean (SD)	<i>t</i> (df)	<i>p</i>
Patient Survivorship	3.68 (0.82)	4.79 (0.42)	5.14 (18)	.000
Caregiver Survivorship	3.84 (0.77)	4.89 (0.32)	5.88 (18)	.000
Shared Decision Making	4.05 (0.78)	4.74 (0.56)	3.37 (18)	.003
End of Life Care	3.63 (0.90)	4.53 (1.02)	3.55 (18)	.002
Communication	4.26 (0.81)	4.74 (0.56)	2.02 (18)	.058
Coordination of Care	3.63 (1.12)	4.05 (1.39)	1.14 (18)	.269
Health Literacy	4.32 (0.75)	5.00 (0.00)	3.98 (18)	.001
Chemotherapy Education	3.79 (0.92)	4.42 (0.96)	2.72 (18)	0.014
Performs the same role	3.32 (0.82)	3.32 (1.06)	.000 (18)	1.000

In summary, the nurse navigator's core competencies were originally established to more clearly define the oncology nursing navigator role (Baileys et al., 2017).

Statistically significant changes were noted in survivorship, shared decision making, end

of life care, health literacy, and chemotherapy education while communication approached significance. These findings indicated that following the completion of the online learning module, the nurses improved their knowledge and understanding of the navigators' role.

Participation in the online learning module failed to improve the oncology nurses' knowledge of the navigator's role related to coordination of care. The nurses did not experience an increase in their knowledge of the navigators' role related to organizing care across multiple healthcare settings and connecting patients to vital resources. This finding was relevant because coordination of care is critical for the cancer patient who is often being followed by several different disciplines and is a primary role of the navigator (Baileys et al., 2017). Without the nurses' knowledge of the navigators' role regarding care coordination, the cancer patient may experience costly interruptions to timely access to care.

The ambulatory oncology nurses' knowledge of role performance before and after completion of the online learning module remained unchanged. The oncology nurse saw no distinction between their role and responsibilities with that of the oncology nurse navigator. This finding suggests that there is still more clarification needed of the navigators' responsibilities to delineate the two roles.

4.3 Knowledge of Nurse Navigator Role and Responsibilities

The oncology nurse navigator plays an integral role in the delivery of high-quality patient-centered care by facilitating care coordination. Three of the 12 items on the survey tool measured the oncology nurses' self-reported knowledge of the scope of the nurse navigators' role and responsibilities specifically related to the core competency of

coordination of care (Baileys et al., 2017). The three items were directly taken from the 2017 Nurse Navigator Core Competencies (Baileys et al., 2017). The items addressed: transition from one care modality to another, identification of candidates for molecular or genetic testing, and application of knowledge of insurance processes and how this impacted disease staging and patient care decisions. A 5-point Likert scale that ranged from 1 (never) to 5 (always) was used to indicate the oncology nurses' knowledge of whether these items were under the nurse navigator's scope of practice. A paired samples *t*-test was conducted to determine if there were statistically significant improvements from the pre-test versus the post-test results for each test item.

The nurse navigator plays a vital role in promoting a smooth transition through the various stages of cancer care, which encompasses active treatment into survivorship, chronic disease management, and end of life care (Baileys et al., 2017). The analysis showed statistically significant improvements in the nurses' knowledge of transition of care, $t(18) = 5.46, p = .000$. This finding indicated, the oncology nurse, after completion of the online learning module, had an increase in knowledge regarding the navigator's role in improving the cancer patients' transition from one care modality to another. This increased knowledge enables the oncology nurse to identify and link the cancer patient to nurse navigator resources to prevent potential gaps in care.

The navigator is integral in identifying patients who may be appropriate for counseling, diagnostic testing, targeted therapies and research studies that may include submitting to genetic and molecular testing (Baileys et al., 2017). Having access to genetic and molecular tests enhances the patient's ability to make better informed decisions related to their diagnosis and treatment plans (Baileys et al., 2017). Results

regarding change in nurses' knowledge of the role the navigator has in identifying candidates for molecular and genetic testing and counseling was found to be statistically significant $t(18) = 4.03, p = .001$. This result indicated that the oncology nurse, following completion of the online module, experienced an increase in knowledge related to the important role the nurse navigator has in identifying patients who may benefit from genetic and molecular testing. The oncology nurse also recognizes the role the navigator has in collecting the patients' health information to help guide access to personalized medicine and testing. Additionally, the cancer patient will benefit from the navigators' skillful assessment to determine whether genetic counseling is appropriate.

The oncology nurse navigator can provide guidance and information to patients who need assistance with understanding how the cost of diagnostic tests, treatments, and medications will be financially covered. There was a statistically significant increase in the nurses' knowledge of the navigator's role in applying knowledge of insurance processes and their impact on patient care decisions, $t(18) = 4.933, p = .000$. This result indicated that oncology nurses, following completion of the online module, experienced an increase in their knowledge of the nurse navigator's role regarding insurance processes related to cancer care. It is hoped the oncology nurse will consult with the nurse navigator who can help their patients understand the costs and coverage elements of cancer care. See Table 3 for the mean and t -tests results for the items measuring knowledge of the role and responsibilities of the nurse navigator.

Table 3. Knowledge of Role and Responsibilities

	Pre-test Mean (SD)	Post-test Mean (SD)	<i>t</i> (df)	<i>p</i>
Transition of care from one modality to another	4.16 (0.69)	4.95 (0.23)	5.46 (18)	.000
Identify candidates for molecular or genetic testing and counseling	3.21 (1.18)	4.32 (1.06)	4.03 (18)	.001
Application of knowledge of insurance processes, disease staging, patient care decisions	2.95 (1.18)	4.47 (0.96)	4.93 (18)	.000

In summary, selected items of the nurse navigator's role and responsibilities related to the core competency of coordination of care were measured. Statistically significant results were noted in all content areas covered: transition of care, identification of candidates for molecular or genetic testing and counseling, and knowledge of insurance processes and disease staging. These findings indicated that the oncology nurses, following their participation in the online module, experienced an increase in their knowledge of the oncology nurse navigator's role and responsibilities. Cancer patients depend on the knowledge and expertise of their nursing team throughout their cancer journey. The core competencies that govern the nurse navigators' role and responsibilities are significant in assuring that patients receive efficient and quality care along with access to evidence-based support.

4.4 Professional Factors

Three professional factors were examined, years of experience, level of education, and oncology certification, to determine if these factors had any influence on the nurses' level of knowledge before and after completing the online learning intervention. Nurses in the final sample had seven years of experience or less in the outpatient setting. Fifteen of the nurses held baccalaureate degrees, while two nurses were masters prepared, and two nurses held associate degrees. Eleven of the nurses in the study were oncology certified.

The one-way ANOVA test was conducted to compare the variance between nurses based on years of experience, level of education, and whether or not the nurse was oncology certified, in relation to the nurses' overall knowledge of the navigator role pre-test versus post-test at the $p < .05$ level. Significance was not noted for years of experience [$F(1, 17) = 0.042, p = 0.841$]. The level of education did not affect the nurse's level of knowledge of the navigator role [$F(2, 16) = 0.0549, p = 0.588$]. There was no statistically significant change in the nurses' knowledge of the navigator role noted based on certification, [$F(1, 17) = 0.082, p = 0.383$].

In summary, the nurses' years of experience had no bearing on their level of knowledge regarding the role of the oncology nurse navigator following participation in the online learning module. There appeared to be no influence of level of education on the nurses' knowledge of the nurse navigator role following completion of the online learning module. Finally, nurses who were oncology certified did not perform better than nurses who were not certified pre-test versus post-test. The data demonstrated there was no statistical significance found in the nurses' level of knowledge of the oncology nurse

navigator role following participation in the online module based on professional factors years of experience, education, and certification.

4.5 Thematic Analysis of Focus Group Discussion

A qualitative design was used to capture the oncology nurses' perceived barriers to the utilization of the oncology nurse navigator role during a focus group discussion. To address the descriptive data that was collected, a thematic analysis, a qualitative methodology that analyzes and reports themes was utilized. Braun and Clarke (2006) provided a guide that served as a framework for conducting a thematic analysis. The guide included six steps:

- Becoming familiar with your data
- Organizing your data
- Identify themes-coding
- Review themes to ensure they are relevant
- Defining themes
- Writing the results

The focus group met in a small conference room in the oncology clinic and was limited to 40 minutes in length. There were seven oncology nurses in attendance. On arrival, the project leader introduced herself and provided a brief explanation that their participation was entirely voluntary, and their responses would be kept anonymous. The project leader met challenges with facilitating both the discussion and taking handwritten notes for the nurses' responses.

The project leader sought to create an environment that allowed the nurses to feel comfortable enough to speak freely. The decision to not record the focus group discussion was decided to provide the nurses with the assurance their responses would remain anonymous. It was thought this assurance reduced the likeliness that the accounts provided by the nurses would be compromised.

A semi-structured interview consisting of four open-ended questions was conducted with seven oncology nurses who had seven years or less of oncology nursing experience. Other than years of experience, no additional demographic information was obtained. The following questions were used to elicit responses:

- Describe the key aspects of the nurse navigator role. What are their primary responsibilities?
- What are the benefits, if any, to having a designated nurse navigator for your current patient population?
- Describe a patient who would benefit from the navigator role. Are you comfortable discussing the benefits of nurse navigator role with your patient?
- Since completing the online learning module, how many of your patients have you referred to the nurse navigator? What if any, barriers exist?

During the early stages of the session, the dialogue was slow to develop, and there were many pauses. This project leader had to encourage the participants to share their thoughts and opinions freely and remind them that no perspective or answer was incorrect. As a result of the slow start, questions regarding the difficulties that nurses' experience when trying to improve the quality of life for their patients, the impact of collaboration between the patient and nurse navigator on the patient's quality of life, and the potential for a unit in-service to discuss navigator role were not introduced.

Braun and Clarke (2006) recommended that transcripts be read and re-read to strengthen the analysis process and ensure that the most appropriate data had been collected (Braun & Clarke, 2006). Further review of the transcripts supported the recommendation of becoming familiar with your data (Braun & Clarke, 2006). The second stage, according to Braun and Clarke (2006) involved coding the data to identify relevant features of the data that address the PICO question. The third stage in the process involved identifying themes (Braun & Clarke, 2006) where related words and catchphrases were arranged into meaningful groups. In the next stage, all identified

themes that did not have enough supporting data were discarded (Braun & Clarke, 2006). The fifth stage in the process was reached when themes emerged from the data (Braun & Clarke, 2006). After rereading the data several times for clarity, four themes emerged. In the final stage, the results are written (Braun & Clarke, 2006).

A manual approach to coding the data, which involved writing notes on the text being analyzed, was utilized to identify the particular features of the data collected to allow themes to emerge (Braun & Clarke, 2006). The project leader evaluated each data item equally during the coding process using a thorough, inclusive and comprehensive approach (Braun & Clarke, 2006) to ensure rigor. A thematic map was used to sort codes into themes (Braun & Clarke, 2006). See Figure 1. The four themes that emerged using the nurses' exact words were nurse navigator responsibilities, the benefit of the navigator role for improved patient outcomes, barriers to utilization of the nurse navigator role, and challenges to accessibility of the nurse navigator.

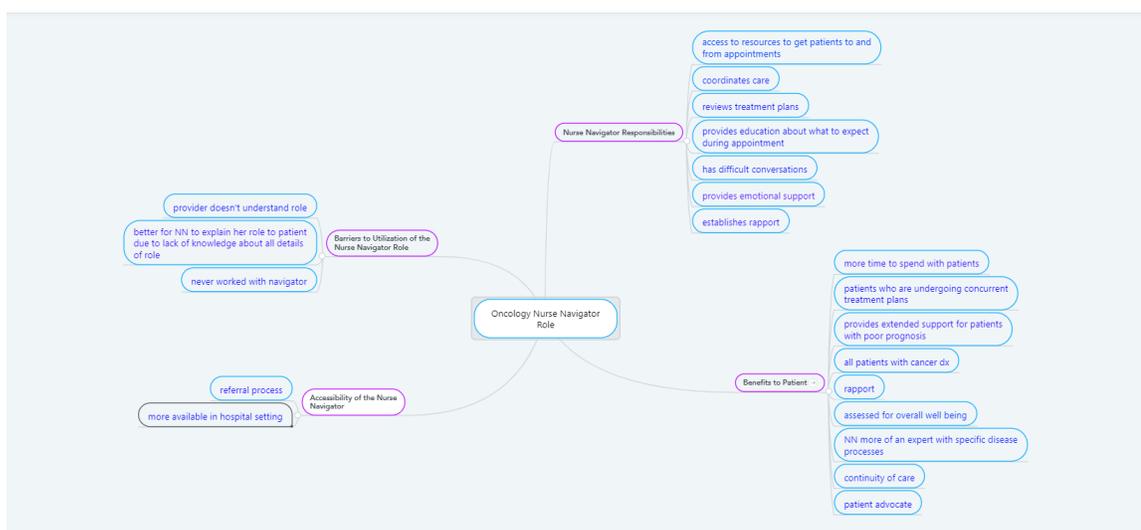


Figure 1. Thematic Map

One of the major themes identified addressed the nurse navigator responsibilities. The oncology nurses described the nurse navigators' role and responsibilities as being a

coordinator of resources and services. The nurses expressed that the navigator was relied upon as a provider of care and comfort. The nurses noted that the navigator provided supportive education that augmented the teaching that was provided by the oncology nurses and reviewed treatment plans with the patient to ensure understanding which is consistent with the literature. The nurses also recognized that the navigator reinforces teaching regarding the management of side effects associated with chemotherapy. The following data descriptors captured the significance of this theme.

If our patients are having difficulty making their appointments, the nurse navigator has access to vouchers that patients can use for transportation to and from the clinic. (Nurse #1)

Coordinates care and appointments that might otherwise get overlooked. Assists with scheduling follow up diagnostic testing that are time sensitive. (Nurse #2)

The nurse navigator reviews the treatment plan and chemotherapy regimen with the patient and their caregiver and addresses questions that may come up after they have left the clinic. Offers support to patients who may not have support from friends or family. (Nurse #3)

The nurse navigator has more time to assess the patients' overall well-being. If my patient presents with mucositis, numbness, tingling or pain, we discuss it with the physician, and we manage the symptoms. (Nurse #1)

Symptom management is the biggest challenge our patients face, and being able to reach out to the nurse navigator for support is priceless (Nurse #3)

The second theme to emerge was that the nurse navigator had in their arsenal time, access and resources, all designed to improve patient outcomes over the cancer trajectory. All of the nurses agreed that the nurse navigator had more opportunity to spend focused time with the patient which decreased anxiety and allowed for a rapport to

be established. The following data descriptors speak to how the nurse navigator role benefits the cancer patient.

Most patients could benefit from the NN. Many breast cancer patients undergo surgery, chemotherapy and concurrent radiation. They require emotional support ". Our male patients are often forgotten about and could really use a NN for support. (Nurse #1)

I believe the NN will have more time to spend assessing the patient's overall well-being. We don't really have the time to find out how the patient is really doing. If they present to us with symptoms for example mucositis, numbness and tingling we discuss it with their provider, if they are experiencing pain, we help them get pain medication. The NN has more time to ask the why questions (Nurse #2)

There is a better opportunity to evaluate the patient and assess underlying causes of symptoms (Nurse #3)

Being able to establish a rapport with the nurse navigator assists with easing anxiety (Nurse #4)

The navigator is a patient advocate (Nurse #5)

Barriers to utilization of the oncology nurse navigator role was another theme that emerged. The nurses discussed that there was a lack of familiarity with the nurse navigator role by members of the health care team. The nurses all agreed that not understanding the navigator role can impact the widespread utilization of the role, as noted in the literature. Several of the nurses shared that they had never worked with a nurse navigator, and therefore, were not comfortable discussing the navigator role with their patients. The following data descriptors are related to the barriers to utilization of the nurse navigator role, as stated by the oncology nurses:

I am not sure my provider knows the difference between what I do and what the nurse navigator does because he only asks me to take care of the patient's immediate needs (Nurse #1)

I feel it would be beneficial for a nurse navigator to come to our clinic and provide an in-service or introduce themselves at one of our all staff meetings where she can explain what her responsibility is around patient care. It would benefit the entire team to understand how the navigator position impacts the overall patient experience. (Nurse #2)

I have never worked with a nurse navigator directly, and it would be nice to know what she does for our patient. (Nurse #3)

I explain to my patients that they should ask about what resources are available and let them know we could request that a NN reach out to them". "The NN should probably be the one to explain what resources the navigator can provide to the patient. This will eliminate me or someone else misstating what they can do /can't do and setting unrealistic expectations because I don't know or am unsure. (Nurse #4)

Having access to the oncology nurse navigator is essential to ensuring that patients are being connected with this vital resource. All of the nurses agreed that having a process in place similar to other disciplines where patients can be referred to the nurse navigator would help to address challenges to access. The following data descriptors, as stated by oncology nurses:

It is kind of a luxury to have a nurse navigator. Only our very sick patients are usually working with an assigned nurse navigator. (Nurse #1)

There is only one nurse navigator, and we see a lot of patients in our clinic. It is difficult for every patient to be seen. It can be challenging to arrange for the patient to be seen while they are here in the clinic. I have asked the nurse navigator to follow up with a patient at home if I feel like they need extra support (Nurse #2)

There is a referral process in place for the dietician and for social work consults to come and speak with our patients, but as far as I know there is not one in place for the nurse navigator. Having a formal referral process in place could be helpful. (Nurse #3)

Participants also referenced the online learning module throughout the focus group. Several participants shared that the online learning module provided a thorough

overview of the nurse navigator role and could be used as a supplemental tool to heighten awareness about the nurse navigator role. As stated by one nurse, “the learning module is a good resource that could be shown during staff meetings” (Nurse #1). One nurse shared how the team might benefit from the learning module and a visit from the nurse navigator, “the learning module could be shown during staff meetings or just hit the highlights and invite the nurse navigator to come and introduce herself to the team” (Nurse #2). It was also noted by another nurse that, “interdisciplinary meetings would provide the nurse navigator the opportunity to come and share how the role can best support our patients” (Nurse #3). There was agreement among all nurses that since that intervention they had engaged in more purposeful dialogue about the many different ways the nurse navigator role impacted patient care.

The data collected during the focus group and analyzed through the thematic analysis process supported the need for increasing the oncology nurses' knowledge of the nurse navigator role. The primary themes that emerged were the role and responsibilities of the nurse navigator and the benefits of the navigator role in the care of cancer patients. The nurses who participated in the focus group were able to begin discussions related to barriers to utilization of the navigator role. The nurses described the navigator as an advocate and a member of the healthcare team who is greatly involved in the coordination of resources and services. The focus group provided an opportunity to further explore the need for increasing the oncology nurses' knowledge about the nurse navigator role and the barriers that exist to its utilization.

CHAPTER 5: DISCUSSION

5.1 Implications for Future Practice

This project evaluated the ambulatory clinic oncology nurses' knowledge of the oncology nurse navigators' role before and immediately following the completion of an online learning module. This module provided oncology nurses with education related to the nurse navigators' core competencies. The nurses' participation in the project increased their overall knowledge of the navigators' role in providing supportive patient care through enhanced communication and access to supportive resources.

This doctoral nursing project was relevant to clinical practice because it augmented the findings in the literature, that there is a need for increased knowledge of the oncology nurse navigator role. Findings from the project indicated that the online learning module had a positive effect on the oncology nurses' knowledge of the navigator role. Strategies to increase the knowledge of all staff members who care for cancer patients should be promoted to enhance patient care and outcomes.

Results from the online learning module revealed that the oncology nurses in this study saw no difference between their role and that of the nurse navigator. This finding is significant because previous research notes the most substantial challenge to the utilization of the nurse navigator is the oncology nurses' lack of clarity about the role (Rasulnia, 2017). The added benefit of the oncology nurses' knowledge related to the navigator role is the allowance of time for the nurse to focus on clinical care such as assessments, medication administration, and monitoring for changes to patients' status. The oncology nurses' improved knowledge allows the nurse navigator to address the administrative items such as the provision of care coordination, guidance, education, and

advocacy. This knowledge enables the oncology nurse to focus their attention on supporting the cancer patients' needs in the clinical setting and the nurse navigator to provide support across multiple care settings. Delineating the navigator role will improve the oncology nurses' understanding of the navigators' function, which is consistent with the published literature.

The focus group was an essential aspect of the study and encouraged dialogue among oncology nurses who had completed the online learning module. The nurses were able to share their experiences, understanding, and expectations of the nurse navigator role. Focus group participants noted a lack of clarity of the navigator role among their nursing colleagues. Additional focus group discussions should include participation from oncology nurses and nurse navigators. The focus group facilitator could adapt the use of case scenarios as an interactive learning intervention to encourage discussion regarding role delineation. The scenarios would describe a situation, and the nurses would examine which role was primarily responsible for completing the task. This forum may help both the ambulatory oncology nurses and nurse navigators to understand the others' responsibilities related to patient care. This understanding can be useful in addressing barriers both may experience while performing their roles.

Education regarding the scope of the oncology nurse navigator practice should be reinforced by all disciplines that retain the services of the nurse navigator and to those who provide clinical care to cancer patients. Findings from this pilot study will be utilized to develop additional learning modules and promote further focus group dialogue. These enhanced interventions can be used during onboarding, new employee orientation and unit in-service meetings within the cancer clinics.

The oncology nurses' improved knowledge of the nurse navigators' responsibilities may improve patient outcomes.. This new knowledge prepares the ambulatory nurse to be able to advocate on behalf of their patients and begin to eliminate barriers to use of navigators.. Nurses who have an improved understanding of the navigator role are in a position to collaborate with the nurse navigator and support the change required to increase the visibility and accessibility of the navigation program.

5.2 Strengths & Limitations

Findings from this project validated that an online learning module increases the oncology nurses' knowledge of the role and responsibilities of the oncology nurse navigator. The content in the learning module provided the oncology nurses with knowledge of select navigator core competencies, all of which were chosen because they improve patient outcomes. The online learning module provided a convenient method for nurses to be able to participate in the study with limited interruptions to patient care. The online accessibility provided the nurses the freedom to determine the most convenient time and location to complete the survey. Lastly, that the focus group discussion allowed the nurses an opportunity to connect with their peers and identify barriers to the utilization of the navigator role. The nurses who participated in the focus group shared that the study provided information that was beneficial to their practice.

This study had several limitations. First, a small sample size of 19 oncology nurses completed the online learning module. A larger sample size would have added more statistical power to the data. A second limitation concerned the barriers to completing the online learning module. This could have been attributed to the two-week time frame that participants were allotted to complete the intervention. Increasing the

length of time to complete the online learning module from two weeks to a month may have improved the participation rate. Additionally, more reminders could have been sent. The amount of time required to complete the pre-test, online learning module, and post-test was thirty minutes and may have potentially resulted in a small response. A reduction in the number of items for the evaluation may have limited the information and understanding required by the oncology nurse. Maintaining the same number of actual items helps to ensure the meaning and educational information is not further diluted. Therefore, it is preferred that the time to complete the online learning module be reduced to allow the nurse a better opportunity to complete the module while causing minimal interruption to their daily routines. Reducing the amount of time to complete all components of the study to twenty minutes may have increased the response rate. A third limitation of the study was assessing the oncology nurses' knowledge of the nurse navigators' role at one-time point immediately after completing the online learning module. Future studies should include additional evaluations of knowledge retention to determine the impact of the intervention over an extended time period.

One limitation was that only one focus group was conducted. Subsequent offerings may have captured additional information regarding barriers to utilization of the oncology nurse navigator. The length of time allotted for the focus group proved to be a challenge. Another limitation is that the focus group session was not recorded, resulting in two related issues. First, the project leader was distracted from the discussion while taking notes. Second, the accuracy and completeness of the notes suffered because the project leader was also facilitating the discussion. The initial decision to not record the session was intended to ensure anonymity for the participants, but it may have hindered

the discussion and affected the quality of the information obtained. Although the focus group discussion did address barriers to utilization of the navigator role, participants were hesitant to open-up initially, which resulted in only four of the eight planned focus group questions to be introduced. The impact on the overall study results was that a limited discussion of barriers to the utilization of the navigator role occurred. Future focus group sessions should be audiorecorded and later transcribed verbatim to improve the quality and enhance the richness and depth of the data collected.

An additional consideration would be for the project leader to conduct the focus group with the help of an assistant. With an assistant, the facilitator could focus on guiding and controlling the discussion. The assistant could be delegated to concentrate on non-verbal communication and capture the general discussion points during the focus group that would add substantive value to the participants' responses (Nyumba, Wilson, Derrick, & Mukherjee, 2018).

5.3 Summary

The findings of this study indicated there was a lack of knowledge related to the role and barriers to the utilization of the oncology nurse navigator. The intervention implemented did demonstrate an improvement in the nurses' knowledge of the navigators' role and barriers to utilization. The findings from the online learning module and that of the focus group resulted in two discrepant accounts. The survey results found no statistical significance in the nurses' knowledge related to coordination of care. However, the nurses who participated in the focus group acknowledged the navigators' contribution to care coordination. As a result of these findings, enhancements to the

learning module should include an increased focus on the navigators' role related to care coordination.

A critical finding was that the oncology nurse did not perceive a difference between their role and the nurse navigators' role after completion of the online learning module. This finding suggests a need for continued education on this topic and a need for more precise role delineation, which is consistent with the literature. More research is needed to examine ways to educate the oncology nurse of the differences between their role and the navigators' role. This distinction would increase care that is patient-centered and enhance the overall patient experience.

The ambulatory oncology nurses who participated in the focus group were able to identify barriers to utilization of the navigator role. The nurses attributed lack of utilization of the navigator role to the unfamiliarity of the nurse navigator role, and limited access. The nurses agreed that increased familiarity with the nurse navigator's responsibilities would lead to increased utilization of the role.

5.4 Recommendations

An interdisciplinary approach to patient care encompasses the idea that all members of the team should possess mutual respect and understanding for each other's roles (Nancarrow, Booth, Ariss, Smith, Enderby & Roots, 2013). It is recommended that the online learning module be used to educate all members of the healthcare team on the vital role the oncology nurse navigator has in the care of cancer patients. Modifications to the learning module should include the creation of mini learning modules to build on the original content presented. The structure for the mini-modules would consist of a detailed explanation of each core competency to further describe the navigator role. The project

leader hopes that nursing leadership will use this learning module to leverage support for increasing navigator support and accessibility.

It is recommended that the online learning module be made available to the nurse navigator to be used as a tool to assist the navigator with being able to articulate their role more effectively. As a result of limited interactions between the oncology nurse and the nurse navigator, the role discussions between them are not easily conducted. The online module helps to explain and educate viewers about the oncology nurse navigator role. More research is needed to determine if the nurses' increased knowledge translates to increased utilization of the oncology nurse navigator role in clinical practice.

During the implementation phase of this study, it was discovered that the online learning module could not be viewed on non-Microsoft devices. Efforts to resolve compatibility issues will be performed to ensure universal accessibility and visibility. The online format provided a convenient method for nurses to be able to view the online learning module at their own pace and offered the flexibility of being able to return to it later. This style of learning has proven to be as effective as traditional in-person learning (Cook et al., 2008). The more widely used traditional face to face method of disseminating education may no longer be sufficient to keep up with the pace of how knowledge is shared (Sinacori, 2020). How we address the nurses' educational requirements will need to evolve to meet the growing demands of the nursing profession (Sinacori, 2020). Online learning should be adopted as one form of providing education related to the nurse navigator role. The utilization of online learning can be a beneficial and cost-effective way (Denissen et al., 2010) of disseminating information on the oncology nurse navigators' role.

The Oncology Nursing Certification Corporation (ONCC) is the credentialing body for the oncology nurse as well as the oncology nurse navigator (Lubejko, 2016). Certification helps to build the credibility of nursing specialties and demonstrates a commitment to knowledge and clinical decision-making skills. Promoting certification that is unique to the nurse navigator may assist in the future growth and expansion of the navigator role.

Lastly, it is recommended that an automatic referral process be implemented to ensure that all patients who receive a cancer diagnosis be connected to a navigator. This process would remove the pressure from the nursing staff to perform a consult during a busy clinic schedule. Creating an automatic process provides a streamlined approach to connecting the cancer patient with a member of the health care team who is specially trained to provide guidance and support throughout the cancer trajectory. Clinical leadership and nursing management should work with navigators to create a model that identifies the appropriate navigator-patient ratio in an ambulatory infusion clinic. By increasing the number of available nurse navigators and implementing an automatic referral process may allow clinics to be better equipped to meet the demands of care. This increased level of navigator- patient interaction helps to ensure appropriate care that meets the individual needs of the cancer patient.

5.5 Conclusion

The oncology nurse navigator is integral in the coordination of care and in helping cancer patients identify resources in a complex health care system (Freeman, 2006; Freeman, 2013). The ambulatory oncology nurses in this study did not experience a statistically significant increase in their post-test knowledge of the navigators' role

related to coordination of care following participation in the online learning module. Yet, the nurses who participated in the focus group identified the significant role the navigator has in coordinating care for cancer patients. The discrepancy in the findings may be attributed to the fact that participants of the focus group had the benefit of knowledge gained from completing the online learning module four weeks earlier.

Multiple studies have demonstrated the overall benefits of the nurse navigator role on cancer patients' outcomes (Carter et al., 2018; Ell, Vourlekis, Lee & Xie, 2007; Ferrante, Chen & Kim, 2007; Wells et al., 2008). A lack of knowledge related to the oncology nurse navigator role can be improved through the use of an online educational module. Increased knowledge of the oncology nurse navigator role, as demonstrated by the nurses in this study, could lead to improved utilization and impact better patient outcomes. This online learning module successfully educated oncology nurses about the core competencies and role and responsibilities of the oncology nurse navigator.

The ambulatory oncology nurse manages chemotherapy administration and treatment-related side effects while answering questions and providing support for multiple patients in the clinic concurrently throughout the day. . The navigator can provide supplemental chemotherapy education, address health literacy, and offer survivorship support. This collaborative approach of an ambulatory oncology nurse and an oncology nurse navigator can improve patient outcomes..

Overall, this project established a need for oncology nurses to have an increased level of knowledge of the navigator role. The participants of the focus group provided substantive qualitative information that can be used to enhance future dialogue on coordinating the nurse navigator role and the oncology nurse role. Increased knowledge

of and utilization of the nurse navigator role can improve outcomes by ensuring that all available care options are shared with patients who have been diagnosed with cancer.

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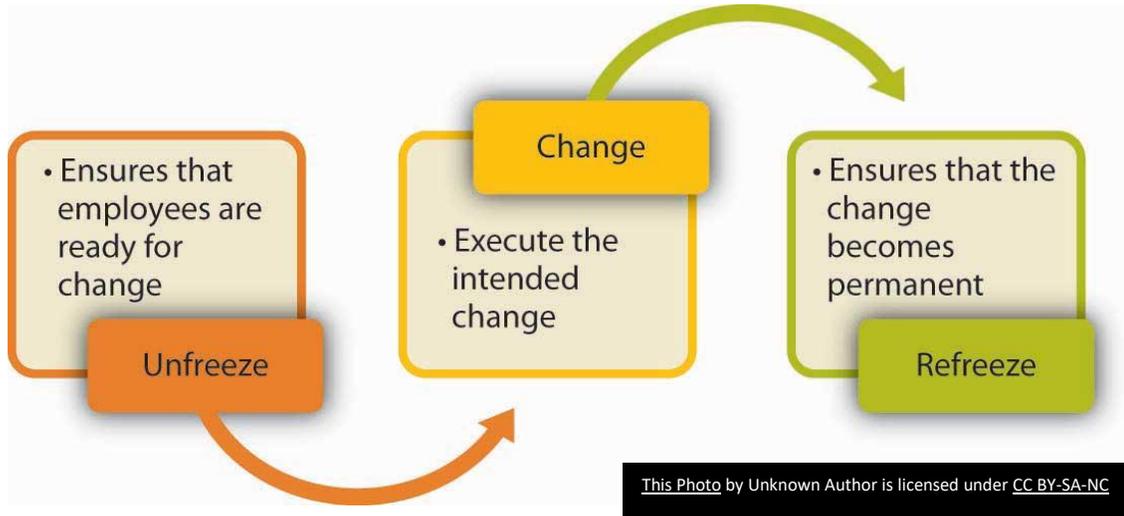
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APPENDIX A: LEWIN'S CHANGE MODEL



APPENDIX B: IRB APPROVAL

10/18/2019 UNC Charlotte Mail - IRB Notice - 19-0326



La Donna McFarland <lmcfar14@uncc.edu>

IRB Notice - 19-0326
5 messages

IRB <uncc-irb@uncc.edu> Thu, Oct 17, 2019 at 11:02 AM
 To: lmcfar14@uncc.edu, swoods16@uncc.edu
 Cc: uncc-irbis@uncc.edu, jbrand13@uncc.edu

To: LaDonna McFarland
School of Nursing

From: Office of Research Compliance

Date: 10/17/2019
RE: Determination that Research or Research-Like Activity does not require IRB Approval
Study #: 19-0326

Study Title: Knowledge of, and Barriers to, the role of the Oncology Nurse Navigator

This submission was reviewed by the Office of Research Compliance, which has determined that this submission does not constitute human subjects research as defined under federal regulations [45 CFR 46.102 (e or l) and 21 CFR 56.102(c)(e)(l)] and does not require IRB approval.

Study Description:

The American Cancer Society estimates that more than 1.7 million people will receive a new cancer diagnosis, and over 600,000 people will die from cancer in the United States in 2019 (American Cancer Society, 2019). Cancer patients face multiple challenges, including navigating a complex healthcare system. The navigator role is integral in meeting those challenges and seeks to improve patient outcomes. This project examines the effect of an online learning module with oncology nurses on their knowledge level, and subsequent utilization, of the nurse navigator role. The intervention consists of a 15-minute learning module that outlines the core competencies of the nurse navigator role, effect on patient outcomes, and barriers to utilization of a navigator. Forty oncology nurses will be invited to participate. Before participation, nurses will complete three background questions and a pretest consisting of 12 items on a 5 point-Likert scale. The nurses will complete a post-test of the same 12 items at the end of the module. A focus group of 5-10 participants will assess perceived improvement on patient outcomes, changes to practice, and barriers to using a nurse navigator. Responses will be recorded manually.

Please be aware that approval may still be required from other relevant authorities or "gatekeepers" (e.g., school principals, facility directors, custodians of records), even though IRB approval is not required.

If your study protocol changes in such a way that this determination will no longer apply, you should contact the above IRB before making the changes.

CC:
Jamie Brandon, School of Nursing

Jamie Brandon <jbrand13@uncc.edu> Thu, Oct 17, 2019 at 12:14 PM
 To: La Donna McFarland <lmcfar14@uncc.edu>

Congratulations on getting IRB approval!
 Jamie
 [Quoted text hidden]
 --
 Jamie Brandon, DNP, MSN, RN, CNE

<https://mail.google.com/mail/u/0?ik=ffe7453373&view=pt&search=all&permthid=thread-f%3A1647653211436801185&simpl=msg-f%3A164765321143...> 1/2

APPENDIX C: RECRUITMENT EMAIL

Dear Oncology Nursing Colleagues:

My name is LaDonna McFarland, and I am enrolled in the Doctor of Nursing Practice program at the University of North Carolina at Charlotte. As part of the degree requirements, I will be implementing an evidence-based project and am requesting your participation. My project's title is "Increasing the Oncology Nurses' Knowledge of, and Barriers to the Utilization of the Nurse Navigator Role."

You are invited to participate in an online educational intervention to determine the effect of an online learning module on knowledge of the nurse navigators' role and focus group session on discussing barriers to utilization of the navigator role. The pre-test and post-test surveys will take about 5 minutes to complete, and the self-paced online learning module will require approximately 15 minutes to complete.

Upon completion, participants will notify their nurse manager, who will provide you with a \$20 Visa gift card for your time. Your participation in this study is entirely voluntary. You may opt-out of the study at any time. Your responses, along with any information you provide, will be kept confidential.

Please direct all questions or concerns related to this project to:

LaDonna McFarland ladonna.mcfarland@duke.edu

Faculty Advisors: Dr. Stephanie Woods swoods16@uncc.edu and Dr. Jamie Brandon jbrand13@uncc.edu

Please click the link below to access the surveys and online learning module.

https://duke.qualtrics.com/jfe/form/SV_9uWOeXXs7GsiPhX

Thank you,

La Donna McFarland, MSN, RN, OCN

APPENDIX D: CONTENT OF ONLINE LEARNING MODULE

Historical Background of the Navigator Role	Dr. Harold Freeman initiated the first navigation program in 1990 in Harlem, New York Purpose to eliminating barriers to timely care from the point of a suspicious finding, resolution of the finding by further diagnosis and treatment
Key Roles of Nurse Navigator	Care Coordination Reducing barriers to timely care Bridge gaps to continuity of care Triaging patients for treatment induced side effects Initiation of consultations with other disciplines
Core Competency: Coordination of Care	Coordinate the care of patients with a past, current, or potential diagnosis of cancer Assist patients with cancer, their families, and their caregivers to overcome healthcare system barriers Provide education and resources to facilitate informed decision making and timely access to quality health throughout cancer care continuum
Core Competency: Communication	Strong interpersonal communication skills Empowers patients to advocate for themselves Facilitates communication among members of the multidisciplinary team
Core Competency: Education	Assess educational needs of patients, families and caregivers Provides orientation to available resources Promotes awareness of clinical trials to patients, Obtains or develops oncology-related education materials for patients, staff, and community members as appropriate develops oncology-related education materials for patients, staff, and community members as appropriate Provides education on genomic and molecular testing

APPENDIX D: PRE-TEST AND POST-TEST QUESTIONNAIRE/DEMOGRAPHIC

Demographic Information

1. Years of experience

1-3

4-7

8-11

12-15

16+

2. Education

Associates Degree

Bachelor's Degree

Master's Degree

3. Oncology Certification (OCN)

Yes

No

4. Survivorship- The oncology nurse navigator continues to follow the cancer patient even after they have completed chemotherapy.

Never Seldom Sometimes Mostly Always

5. Coordination of care- The oncology nurse navigator, utilizes the distress thermometer, pain scale, and fatigue scale as tools for the evaluation of the cancer patients' quality of life.

Never Seldom Sometimes Mostly Always

6. Education- The oncology nurse navigator provides education about chemotherapy regimens and symptom management.

Never Seldom Sometimes Mostly Always

7. Health Literacy- The oncology nurse navigator ensures that all educational materials are appropriate for the patients' level of literacy.

Never Seldom Sometimes Mostly Always

8. End of Life Care – The oncology nurse navigator facilitates palliative care and end of life discussions.

Never Seldom Sometimes Mostly Always

9. The oncology nurse navigator supports the patients' transition from one care modality to another.

Never Seldom Sometimes Mostly Always

10. Communication- The oncology nurse navigator integrates cultural sensitivity and appropriate level of health literacy when communicating with the cancer patient.

Never Seldom Sometimes Mostly Always

11. Shared Decision Making- The oncology nurse navigator facilitates dialogue between patients and caregivers on decisions regarding treatment options.

Never Seldom Sometimes Mostly Always

12. The oncology nurse navigator assists with identifying candidates for molecular or genetic testing and counseling.

Never Seldom Sometimes Mostly Always

13. The oncology nurse navigator assists patients and families with issues surrounding survivorship.

Never Seldom Sometimes Mostly Always

14. The oncology nurse navigator applies knowledge of insurance processes and their impact on staging and patient care decisions.

Never Seldom Sometimes Mostly Always

15. In my role as an oncology nurse, I provide the same services as the oncology nurse navigator.

APPENDIX E: FOCUS GROUP QUESTIONNAIRE

- 1. Please describe the key aspects of the nurse navigator role.*
- 2. What are the benefits, if any, to having a designated nurse navigator for your current patient population?*
- 3. Describe a patient who would benefit most from the nurse navigator role?*
- 4. Since completing the online learning module, how many of your patients have you referred to the nurse navigator? What if any barriers exist?*
- 5. What are the difficulties you face when trying to improve the quality of life for your patients?*
- 6. In your opinion, does collaboration between the oncology patient and nurse navigator improve the quality of life?*
- 7. When considering all of the things discussed today, what is most important to you?*
- 8. Would an in-service about the principal roles and responsibilities of the nurse navigator role benefit your department?*