

EXPLORING THE ROLE OF PATIENT NAVIGATORS IN CANCER CARE

by

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DEDICATION

This professional project is dedicated to my extraordinary mother, Teri Forde, a survivor whose own battle with cancer inspired this research.

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## ABSTRACT

Approximately half of all men and one-third of all women will be diagnosed with cancer within their lifetime (American Cancer Society, 2013). Even though this diagnosis is quite common, the journey one embarks upon when a cancer diagnosis is made is all but simple. Patient navigation programs have been developed to assist patients in coping with diagnosis, understanding their prognosis and the options available to them, completing their recommended treatments, and to provide emotional support and reduce barriers to care (Yosha, et al., 2011). This integrative review set out to determine the impact that patient navigators have on the outcomes of cancer care. Precisely, patient satisfaction levels and compliance with recommended treatments were addressed. After an extensive electronic search that elicited nearly 600 articles, 31 articles were read in their entirety. Ultimately, eight articles fit the inclusion and exclusion criteria for this integrative review. Of the five articles that addressed patient satisfaction, four reported increased satisfaction levels. Of the four articles that evaluated compliance, navigation was found to facilitate compliance in each study.

## CHAPTER ONE

## INTRODUCTION

Background

Cancer, a group of diseases characterized by the uncontrolled growth and spread of abnormal cells that can result in death, is not an uncommon diagnosis. According to the American Cancer Society (2011), in the United States, half of all men and one-third of all women will develop cancer in their lifetime. In 2013, it was estimated that nearly 1.7 million Americans and approximately 5,450 Montanans would be diagnosed with cancer. Cancer is the second leading cause of death in the United States, accounting for nearly one out of every four deaths. In 2013, it was estimated that over 580,350 Americans would die of cancer, which allots to nearly 1,600 deaths per day. In Montana, it was estimated that 2,000 residents would die from cancer in 2013 (American Cancer Society, 2013). The five-year relative survival rate for all cancers from 1999-2006 was 68 percent, a major improvement from 1975-1977, when the survival rate was 50 percent. This improvement reflects progress in the early detection of cancer as well as improvements in treatment options, which include surgery, radiation, chemotherapy, hormone therapy, biological therapy, and targeted therapy (American Cancer Society, 2011). While the treatment for cancer is becoming more advanced and more people are surviving, nothing can prepare someone for such a life-changing diagnosis and all the complicated treatment options that will follow.

Those diagnosed with cancer experience differing levels of distress about their disease, treatment, and prognosis; oftentimes, this distress can be severe enough to impair these patients' lives and compliance with treatment regimens (Swanson & Koch, 2010). According to one cancer survivor, "When you are diagnosed with cancer, your brain freezes. No matter how smart you are and no matter what your professional background is, there is this 'Oh my God, I'm going to die factor' that makes it difficult to decide what you should do" (Thomas, 2007, p. 37). A professional with knowledge of cancer and its treatments may provide aid to patients following diagnosis in order to guide them through the decision-making processes.

Patient navigation was first conceived by Dr. Harold Freeman and his colleagues at Harlem Hospital in 1990 to assist medically underserved cancer patients in overcoming barriers to diagnosis and treatment (Case, 2010). Patient navigation has been defined as "the assessment and alleviation of barriers to adequate health care by a specifically trained person" (Yosha, et al., 2011, p. 396). It can assist patients in completing the recommended testing and treatments as well as reducing socioeconomic, racial, and ethnic disparities in care. Navigation also encompasses several aspects of support to patients, including overcoming logistical barriers to care and providing emotional support and empowerment (Yosha, et al., 2011). Patient navigation spans the time from cancer-related abnormal findings through diagnostic testing to completion of treatments (National Cancer Institute, 2009).

At Harlem Hospital, Dr. Harold Freeman demonstrated the impact of patient navigation through community outreach, education, and access to timely diagnosis and

treatment with a 31 percent increase in breast cancer survival rates between 1995 and 2000 (Case, 2005; Fowler, Steakley, Garcia, Kwok, & Bennett, 2006). Due to this significant improvement in survival rates attributed to patient navigation, in 2005, the National Cancer Institute implemented the Patient Navigator Academy to train navigators (Case, 2010). According to the National Cancer Institute's website, "The overall goal of the Patient Navigation Program is to develop effective interventions to reduce cancer health disparities by facilitating timely, continuous access to quality, standard cancer care for all Americans" (National Cancer Institute, 2009, p. 1).

Patient navigators are trained, culturally sensitive health care professionals who offer support and guidance throughout the continuum of cancer care. They help cancer patients navigate through the overwhelming maze of doctors' offices, hospitals, clinics, outpatient treatments centers, insurance companies, payment systems, support organizations, and other various components of the health care system (National Cancer Institute, 2009). In order to support timely delivery of quality cancer care and ensure that patients and their families are satisfied with their encounters, specific navigation activities were designed. They include: (a) coordinating appointments to ensure timely delivery of diagnostic and treatment services; (b) maintaining communication with patients, survivors, families, and health care providers to monitor patient satisfaction; (c) ensuring appropriate medical records are available at all appointments; (d) arranging language translation or interpretation; (e) facilitating financial support and help with paperwork; (f) arranging transportation and child/elder care; and (g) facilitating linkages to follow-up services (National Cancer Institute, 2009).

### Problem Statement

Some nursing researchers have identified significant outcomes that oncology nurse navigators have on those battling cancer (Case, 2010). According to Spross (2009), patient navigation programs “result in improved patient knowledge and satisfaction, improved adherence to appointments and treatment plans, increased volume, and reduced cancer treatment delays” (p. 181). But, to date, concise reviews that critique and synthesize the current literature on the role of cancer patient navigators are lacking. Without adequate integrative literature reviews at hand, the true effect that these navigators have is difficult to judge.

### Project Purpose

The purpose of this professional project was to conduct an integrative review to evaluate the impact that patient navigators have on cancer patients. Specifically, patient outcomes including compliance with recommended treatments and patient satisfaction levels were addressed.

## CHAPTER TWO

## METHODS

Guiding Framework

To complete this integrative review, the guiding framework as described by Cynthia Russell in her article, “An Overview of the Integrative Research Review” was used. The author defines the integrative review as a type of literature review in which past research is summarized and overall conclusions are drawn from many studies. Russell states, “The integrative literature review has many benefits to the scholarly reviewer, including evaluating the strength of the scientific evidence, identifying gaps in current research, identifying the need for future research, bridging between related areas of work, identifying central issues in an area, generating a research question, identifying a theoretical or conceptual framework, and exploring which research methods have been used successfully” (Russell, 2005, p. 8). The five stages Russell suggests to complete a rigorous integrative review are listed in Table 1.

Table 1. Stages of an Integrative Review.

Stage	Description
Problem formulation	Conceptual and operational definitions of variables to be reviewed are developed. The relationships between the variables are also delineated.
Data collection/literature search	The two key steps are to identify the target and accessible population. The target population is made of individuals or groups the reviewer hopes to represent, such as those with a certain diagnosis. The accessible population comprises individuals and groups included in the primary research.
Data evaluation	The reviewer critically judges the articles and evaluates the reliability of the findings in the studies. It is suggested that tables are used to organize data into a clear and concise format.
Data analysis	The data is now analyzed and interpreted and a more cohesive statement about the research problem is developed.
Interpretation and presentation	There is no sole appropriate template for reporting integrative research reviews. However, a format similar to that for primary research is suggested, including introduction, methods, results, and discussion sections.

*Note.* Adapted from “An Overview of the Integrative Research Review,” by C. L. Russell, 2005, *Progress in Transplantation*, 15(1), p. 9-12.

### Data Collection/Literature Search

Inclusion and Exclusion Criteria. Well-defined search strategies are critical for integrative reviews in order to avoid yielding inadequate databases and inaccurate results (Whittemore and Knafel, 2005). Inclusion and exclusion criteria were devised. For this

integrative review, primary research articles were used. Only articles published within the last twelve years from the time of data collection, from 2000 to 2012, were included in the review. Also, only research done within the United States and Canada was utilized. Articles must have all been initially published in the English language. Unpublished manuscripts, including abstracts and dissertations, were not included. Finally, research articles analyzed must have been addressing the variables of interest for this particular review, including patient navigation for cancer patients and patient outcomes, such as compliance and satisfaction, or they were excluded. Patient navigators in the included studies were all professionally trained, although not all had a nursing background. Abstracts were read first to determine if the article met the stated requirements; if it was unclear, the entire article was read.

Search Strategy. The nursing reference librarian at Montana State University was consulted and assisted in the research for this integrative review. The databases that were used included CINAHL, Cochrane Library, Medline (via Web of Knowledge), and UlrichsWeb. The particular search terms included *integrative review, role, patient navigators, patient advocates, cancer patients, impact, outcome, affect, compliance, cancer treatments, and patient satisfaction levels*. Various combinations of these terms were also searched (R. Wójtowicz, personal communication, May 11, 2012).

#### Data Evaluation and Analysis

Upon completing the search, the articles that met the previously set forth inclusion and exclusion criteria were saved and printed for complete reading and

evaluation. The final articles were then analyzed in order to reduce the separate points collected into a unified statement about the research problem (Russell, 2005). To do this, comprehensive tables were constructed and contained the author(s), year of publication, article title, study design and content, variables measured, specific variables of interest, key points, limitations, and navigator background (see Appendix A). The information from each article was entered into the tables for more precise review. The outcomes were then easier to compare in order to identify patterns and relationships and to draw conclusions from the review.

#### Interpretation and Presentation

Finally, the findings were interpreted, discussed, and presented to complete this integrative literature review. The results were grouped according to the specific variable(s) of interest and were then described. A table was created in which the limitations were set forth. Following the presentation of the results, the findings were discussed in regards to their implications for research and their implications for practice.

#### Summary

Patient navigators are health care professionals trained to support and assist cancer patients as they cope with their diagnosis and the complex aspects of care and treatment that ensue. While some research has been completed regarding the benefits of patient navigators, there was a need for an integrative literature review to examine the precise impact that these navigators have on compliance with recommended treatments and patient satisfaction levels.

## CHAPTER THREE

### RESULTS

#### Findings

In order to evaluate the impact that navigators have on patient satisfaction and compliance with cancer treatments, the inclusion and exclusion criteria outlined in Chapter 2 was utilized and an electronic search of CINAHL, Cochrane Library, Medline (via Web of Knowledge), and UlrichsWeb was completed. This search elicited a total of 569 hits of potential studies for review. After reading the titles and abstracts, 13 full-text articles were retrieved for possible inclusion and 18 articles were obtained from the reference list of included studies. These 31 articles were read in their entirety. Ultimately, eight articles fit the inclusion criteria for the purpose of this integrative review. Of these eight articles, patient satisfaction was evaluated in five articles and compliance was evaluated in four articles (one article included both patient satisfaction and compliance as variables of interest).

#### Included Studies

##### Patient Satisfaction

Campbell, Craig, Eggert, and Bailey-Dorton (2010) used a stratified community survey to measure preparedness for cancer treatment, education on treatment side effects, responsibility for managing symptoms, resource information, timeliness for information given, financial concerns and assistance information, and overall satisfaction with cancer

care. A 10-item survey was sent to a stratified sample of 100 cancer patients. Forty-eight completed the study; 28 patients had a patient navigator while 20 patients did not.

Patients in the navigator group rated their overall satisfaction with care 4.82 on a scale of 0-5. Patients in the non-navigator group rated their overall satisfaction with care 4.12 on a scale of 0-5. The authors in this study concluded that patient navigation is associated with an overall increase in patient satisfaction with cancer treatment (Campbell et al., 2010).

Fillion et al. (2009) completed a cohort study on patients with head and neck cancers to measure continuity of care (including patient satisfaction and hospitalizations) and empowerment (including adjustment to cancer and quality of life). Two independent cohorts were compared according to whether they had a patient navigator (n = 83) or no patient navigator (n = 75). Patients were questioned about their satisfaction with different facets of their treatment team, including their doctors (availability, interpersonal skills, technical skills, and information), care team (availability, psychosocial support, technical skills, and information), and the hospital (access, employee kindness and helpfulness, waiting time, exchange of information amongst care team, and comfort). On a scale of 0-100, the overall satisfaction score for the patients who had a navigator was 90.7 while the score for patients without a navigator was 85.5; the navigator-exposed cohort rated their scores higher for every aspect of patient satisfaction (Fillion et al., 2009).

Fiscella et al. (2012) completed a randomized control trial to examine the impact of navigation on patients with newly-diagnosed breast or colorectal cancers. The study measured the time to completion of treatment, psychological distress, and satisfaction with care. All patients were randomized to patient navigation (n = 225) or usual care (n =

213). Primary analysis revealed no significant differences in the measured variables. However, subgroup analysis showed that disadvantaged patients (low English proficiency, less than a high school education, or no health insurance coverage) had significantly higher patient satisfaction with cancer care if they received navigation when compared to disadvantaged patients who received usual care (Fiscella et al., 2012).

Guadagnolo, Cina, Koop, Brunette, and Petereit (2011) used a pre-post cohort survey study to analyze satisfaction and medical mistrust for American Indian cancer patients. A culturally-tailored patient navigation program was developed, and 52 American Indian cancer patients participated. Two face-to-face interviews using Likert-type scales were completed, first pre-navigational (prior to or within two weeks of initiating cancer treatments) and post-navigational (at the end of treatments). With a 95% confidence interval, patient satisfaction scores increased from 4.12 on a scale of 0-5 pre-navigational to 4.53 on a scale of 0-5 post-navigational. Scores increased in all areas assessed, including patients' perception of the hospital/clinic providing good overall health care (increased from 83% to 96%), the dignity/respect used by medical providers (increased from 85% to 100%), the assurance of understanding of treatment by doctors and nurses (increased from 85% to 98%), the doctors' listening skills (increased from 89% to 100%), and the availability of doctors and nurses to answer questions (increased from 75% to 96%) (Guadagnolo et al., 2011).

#### Patient Satisfaction and Compliance

Jean-Pierre et al. (2010) completed a qualitative analysis after a randomized control trial to assess the perceptions of patient navigators on patient behavioral

outcomes, clinical endpoints, patient satisfaction with care, and patient satisfaction with navigation. To do so, Jean-Pierre and his colleagues qualitatively analyzed 21 transcripts of semi-structured exit interviews with three navigators. The interviews were focused on the navigators' experiences with patients who had been a part of a randomized trial of patient navigation. The authors concluded that navigation influenced all outcomes and that the perception of usefulness of cancer treatments influenced patients' overall satisfaction with care. Specific navigation processes, such as removing barriers, building relationships, facilitating access to care, and treatment adherence influenced both compliance and satisfaction with care (Jean-Pierre et al., 2010).

### Compliance

Ell et al. (2009) used a randomized control trial to review treatment adherence and follow up based on two interventions: written resource navigation (enhanced usual care) versus written information plus patient navigation. Their study involved 487 low-income women with breast or gynecologic cancer who were randomly assigned to receive either enhanced usual care (n = 248) or written information plus patient navigation (n = 239). The participants were followed and assessed over 12 months. Overall treatment adherence rates ranged from 87% to 94% with no significant differences noted between the two intervention groups. However, adherence to recommended treatments in both groups was significantly higher than previous studies found, which suggests that both interventions in this study facilitate compliance (Ell et al., 2009).

Fouad, Wynn, Martin, and Partridge (2010) developed a pilot study for low-income cancer patients, primarily African American women in Alabama who had a

suspicious mammogram (37%) or a confirmed breast cancer diagnosis (63%). A total of 147 women were enrolled and matched with a patient navigator to assist them in overcoming barriers to care by referring them to appropriate treatment facilities, guiding them through the health care system, and providing logistical, social, and emotional support. Overall, of the 1,384 appointments scheduled, 1,286 were kept and made with the help of patient navigators. This represents a 93% compliance rate among women in this study. Fouad and her colleagues compared these results with other studies that showed 31% of African American women terminated their chemotherapy early and only 40% received complete treatment. Based on their study, the authors concluded that patient navigation improves adherence to follow-up diagnostic procedures and treatment for medically underserved populations (Fouad et al., 2010).

Korber, Padula, Gray, and Powell (2011) completed a qualitative analysis to measure barriers to and enhancers of completion of breast cancer treatment. To begin, 109 former participants of breast cancer navigation programs were invited to participate in the study; 103 had completed their breast cancer treatments and 6 had not. Thirteen patients who had completed treatment and one patient who had not completed treatment agreed to participate. All of the surveyed participants agreed that the navigator was valuable in their breast cancer treatment experience. The navigators were seen as a source of information, emotional and physical support, and a constant presence that allowed them to persevere through their months of treatment (Korber et al., 2011).

Limitations of Primary Studies

Each article included in the integrative review was assessed for overall limitations. The findings of the articles with fewer limitations should have a larger implication for practice. The quality results are displayed in Table 2.

Table 2. Study Limitations.

Study	Limitations
Campbell et al., 2010	The sample size was relatively small. Participants were from one facility only. There was no information regarding non-responders or the demographics of the responders.
Ell et al., 2009	The sample size was sufficient, but there were demographic and cancer site differences between the adherent and non-adherent participants.
Fillion et al., 2009	The sample size was limited. The cross-sectional design may have allowed a third variable to impact findings. Only patients with two types of cancer from one facility were included, which limits generalizability.
Fiscella et al., 2012	The sample size was relatively large, but patients had one of two types of cancer and were only from two communities. Generalizability is limited.

Table 2 Continued

Fouad et al., 2010

The sample size was modest, but randomization was not appropriate as navigators and patients were from the same community. Also, there was no control group, so it is unknown how this population would have adhered without an intervention.

Guadagnolo et al., 2011

The sample size was small and there was no control group. Response bias may have been present post-navigationally as participants may have not wanted to offend with negative feedback.

Jean-Pierre et al., 2010

Only three navigators within one institution were included in the study. It is possible that the navigators' impressions may not mirror their patients' perspectives. Their responses may unintentionally be biased to increase their perceived effectiveness.

Korber et al., 2011

The sample size was very small. Only a single, post-treatment interview was conducted.

Summation of Evidence

All in all, of the five articles that studied patient satisfaction, four reported increased satisfaction levels as the result of a patient navigator. There was a single article that did not show increased satisfaction levels during primary analysis; however, when this article was broken down further for subgroup analysis, patient satisfaction levels

were found to be increased in patients considered to be disadvantaged. When analyzing the four studies that evaluated compliance, patient navigation was shown to facilitate compliance with cancer treatments and care. Unfortunately, the research on the effects of navigation on cancer patients is not vast.

## CHAPTER FOUR

## DISCUSSION

Overview

As the American Cancer Society (2013) reports, men have a nearly one in two lifetime risk of suffering from cancer while the risk for women is more than one in three. Almost 1.7 million Americans were projected to be diagnosed with cancer in 2013 (American Cancer Society, 2013). With so many people affected by these life-changing diseases, programs to assist patients in coping with and understanding their diagnoses and treatment options are imperative. The goal of patient navigation is to assist patients in completing testing and treatments, reduce disparities, overcome barriers, and provide support and empowerment (Yosha, et al., 2011).

At the commencement of this integrative review, it was anticipated that research would readily demonstrate that patient navigation has a positive outcome on cancer patients. It was projected that patient satisfaction and compliance would improve as a result of the navigation they received. While the articles reviewed did conclude that satisfaction and compliance were enhanced with patient advocates, the quality of the research performed limits the confidence of the findings.

### Primary Study Limitations

As detailed in Table 2, all of the eight research articles included in this integrative review had limitations. Many of the studies had small sample sizes and only surveyed patients with certain cancers or in certain communities. Some studies also had poor randomization and no blinding. Many likely included biased responses. Therefore, although the elicited results mirror the anticipated findings, it is difficult to generalize the results found in the articles for the greater population.

### Implications

#### Implications for Research

The number of studies that fit the inclusion criteria for this review was lacking. Also, the limitations of the incorporated articles were modest. Even though the number of patient navigation programs are continuing to increase across the nation (Wilson, 2013), more research is needed on the impact navigators have on patients.

In the future, research is also warranted on the effect that navigators have on other aspects of cancer care, such as hospitalizations, readmissions, and survival rates. In addition, it would be worth exploring the willingness of insurance companies to pay for navigation services. Finally, research should also be expanded to evaluate the influence patient navigators have on those with other chronic diseases or conditions, such as diabetes, coronary artery disease, autoimmune diseases, and human immunodeficiency virus.

### Implications for Practice

This integrative review supports the belief that patient navigation impacts the outcomes of cancer care in regards to compliance with recommended treatments and patient satisfaction levels. Although the quantity and quality of primary research reviewed may have been lacking, there was no evidence found that suggests that navigators deter appropriate care or decrease compliance and satisfaction. Our modern healthcare system's focus is on patient-centered care; having navigation programs for those diagnosed with cancer is one giant step at keeping our emphasis on the patient.

For those health care professionals who provide primary care, knowledge regarding patient navigator programs should be frequently assessed and updated, as needed. Collaboration with the entire health care team is facilitated by navigators. Being aware of the programs within the community of practice is beneficial not only to the patient facing a certain chronic disease or condition, but also to their family members, friends, and health care providers. If patient navigator programs are not readily accessible, efforts should be made by the medical community on behalf of those patients in need of support, guidance, and empowerment during trying periods of their lives.

### Conclusion

When Dr. Harold Freeman conceived the idea of patient navigation, he set out to alleviate barriers to adequate health care (Yosha et al., 2011). The National Cancer Institute elaborates on Dr. Freeman's concept by stating that the overall goal of patient navigation programs is to develop interventions that are effective in reducing cancer

health disparities and that navigators should be available to assist cancer patients through the overwhelming components of the health care system (National Cancer Institute, 2009). While further research may be helpful in quantifying just how effective navigators can be, their presence in the health care system is a benefit for all. By keeping patients as the primary focus and helping them juggle the numerous obstacles they face, patient navigators are an asset to our medical system that should not be overlooked.

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APPENDIX A

SUMMARY TABLES

First author and year	Campbell – 2010
Title	<i>Implementing and measuring the impact of patient navigation at a comprehensive community cancer center</i>
Study design	Stratified community survey
Study content	<ul style="list-style-type: none"> <li>• 48 patients (28 navigator, 20 non-navigator) and 26 employees</li> <li>• 10-item survey with Likert scale sent to stratified sample of 100 newly diagnosed patients; 5-item survey sent to 40 staff working with the patients</li> </ul>
Variables measured	<ul style="list-style-type: none"> <li>• Preparedness for treatment, education on side effects, responsibility for managing symptoms, resource information, timeliness of information given, financial concerns and assistance information, and overall satisfaction with care</li> </ul>
Variables of interest for review	<ul style="list-style-type: none"> <li>• Patient satisfaction</li> </ul>
Key points	<ul style="list-style-type: none"> <li>• Patients in the navigator group rated their satisfaction 4.82/5</li> <li>• Patients in the non-navigator group rated their satisfaction 4.12/5</li> <li>• Patient navigation is associated with overall increased patient satisfaction with cancer treatment</li> </ul>
Quality	<ul style="list-style-type: none"> <li>• Low – sample size was relatively small, as navigation program had only been fully operational for a year; patients and staff from only one facility were surveyed; no information on non-responders or demographics of responders</li> </ul>
Navigator background	Registered nurses

First author and year	Ell – 2009
Title	<i>Cancer treatment adherence among low-income women with breast or gynecologic cancer</i>
Study design	Randomized control trial
Study content	<ul style="list-style-type: none"> <li>• 487 patients, randomly assigned to either the provision of written resource navigation information, enhanced usual care (EUC, n = 248) or the written information plus patient navigation (TPN, n = 239)</li> <li>• Patients were low-income, predominantly Hispanic women with breast or gynecologic cancers</li> </ul>
Variables measured	<ul style="list-style-type: none"> <li>• Treatment adherence and follow-up</li> </ul>
Variables of interest for review	<ul style="list-style-type: none"> <li>• Adherence (compliance)</li> </ul>
Key points	<ul style="list-style-type: none"> <li>• Overall adherence rates ranged from 87%-94% with no significant differences between EUC and TPN</li> <li>• Adherence in both groups was significantly higher than in previous studies, suggesting that either EUC and TPN facilitate compliance</li> </ul>
Quality	<ul style="list-style-type: none"> <li>• Moderate – sample size was sufficient, but there were demographic and cancer site differences between adherent and non-adherent patients</li> </ul>
Navigator background	Bilingual, bicultural navigators; no educational or professional information provided

First author and year	Fillion – 2009
Title	<i>Professional patient navigation in head and neck cancer</i>
Study design	Cohort study
Study content	<ul style="list-style-type: none"> <li>• Two independent cohorts of patients were compared according to whether they had a patient navigator (exposed cohort, n = 83) or not (historical cohort, n = 75)</li> <li>• Patients were males and females with head and/or neck cancers</li> </ul>
Variables measured	<ul style="list-style-type: none"> <li>• Continuity of care, including patient satisfaction and hospitalization</li> <li>• Empowerment, including cancer adjustment and quality of life</li> </ul>
Variables of interest for review	<ul style="list-style-type: none"> <li>• Patient satisfaction</li> </ul>
Key points	<ul style="list-style-type: none"> <li>• On a scale of 0-100 (low-high), overall satisfaction score was 85.5 in the historical cohort and 90.7 in the exposed cohort</li> <li>• Satisfaction areas compared included doctors (availability, interpersonal skills, technical skills, information), team (availability, psychosocial support, technical skills, information), and hospital (access, employee kindness and helpfulness, waiting time, exchange of information within care team, and comfort). Scores were higher in every area in the navigator-exposed cohort</li> <li>• Clear association indicated between presence of patient navigator and continuity of care (increased satisfaction, shorter duration of hospital stays) and empowerment (fewer cancer-related problems and body image concerns and better emotional quality of life)</li> </ul>
Quality	<ul style="list-style-type: none"> <li>• Low – sample size was limited; the cross-sectional design may have allowed a third variable to impact the presence of the patient navigator; only patients with head and neck cancer in one hospital were included, which limits generalizability</li> </ul>
Navigator background	Professional navigators with a background in nursing or social work

First author and year	Fiscella – 2012
Title	<i>Patient navigation for breast and colorectal cancer treatment: A randomized trial</i>
Study design	Randomized control trial
Study content	<ul style="list-style-type: none"> <li>• Patients with newly diagnosed breast or colorectal cancers were randomized to patient navigation (n = 225) or usual care (n = 213)</li> <li>• Research assistants administered surveys to patients in their preferred language (English or Spanish) within three months of initiation of cancer treatment</li> </ul>
Variables measured	<ul style="list-style-type: none"> <li>• Time to completion of treatment, psychologic distress, and satisfaction with cancer care</li> </ul>
Variables of interest for review	<ul style="list-style-type: none"> <li>• Patient satisfaction</li> </ul>
Key points	<ul style="list-style-type: none"> <li>• Primary analysis showed no significant differences in time to completion of primary cancer treatment, psychologic distress, or satisfaction with cancer-related care</li> <li>• Subgroups analysis showed that disadvantaged patients, such as those with low English proficiency, less than a high school education, or no health insurance who received navigation had a significantly higher satisfaction with cancer care than disadvantaged patients who received usual care</li> </ul>
Quality	<ul style="list-style-type: none"> <li>• Moderate – sample size was relatively large, but patients were studied in two communities and only two types of cancer patients were involved, limiting generalizability</li> </ul>
Navigator background	Trained lay navigators

First author and year	Fouad – 2010
Title	<i>Patient navigation pilot project: Results from the community health advisors in action program (CHAAP)</i>
Study design	Pilot study
Study content	<ul style="list-style-type: none"> <li>• CHAAP was developed for low-income, primarily African American women in Alabama with a suspicious mammogram or confirmed diagnosis of breast cancer (63%)</li> <li>• 147 women were enrolled and matched with a specially trained patient navigator who assisted patients in overcoming barriers to care by referring them to appropriate treatment facilities, guiding them through the healthcare system, and providing logistical, social, and emotional support</li> </ul>
Variables measured	<ul style="list-style-type: none"> <li>• Adherence to care</li> </ul>
Variables of interest for review	<ul style="list-style-type: none"> <li>• Adherence (compliance)</li> </ul>
Key points	<ul style="list-style-type: none"> <li>• Of the 1,384 appointments scheduled, 1,286 appointments (93%) were made with the help of patient navigators</li> <li>• These results were compared to other studies, which showed that 31% of African Americans terminated their cancer treatment early and only 40% received complete treatment</li> <li>• Patient navigation improves adherence to follow-up diagnostic procedures and treatment for medically underserved patients with breast cancer or an abnormal mammogram</li> </ul>
Quality	<ul style="list-style-type: none"> <li>• Moderate – sample size was modest, but randomization was not appropriate because navigators and patients were all from the same community; there was no control group, so it is unknown how this population would have adhered without an intervention</li> </ul>
Navigator background	Trained community volunteers

First author and year	Guadagnolo – 2011
Title	<i>A pre-post survey analysis of satisfaction with health care and medical mistrust after patient navigation for American Indian cancer patients</i>
Study design	Cohort study
Study content	<ul style="list-style-type: none"> <li>• 52 American Indian cancer patients participated in a culturally-tailored patient navigation program during their cancer treatment</li> <li>• Two Likert-type scales were administered in face-to-face interviews, first pre-navigational (prior to or within two weeks of cancer treatment) then post-navigational (at the end of treatment or at the first follow up appointment after treatment completion)</li> </ul>
Variables measured	<ul style="list-style-type: none"> <li>• Satisfaction with healthcare and medical mistrust</li> </ul>
Variables of interest for review	<ul style="list-style-type: none"> <li>• Satisfaction</li> </ul>
Key points	<ul style="list-style-type: none"> <li>• With a 95% confidence interval, satisfaction with healthcare scores increased from 4.12 pre-navigation to 4.53 post-navigation</li> <li>• Hospital/clinic provides good health care overall: increased from 83% to 96% agreement</li> <li>• Medical care providers use dignity/respect: increased from 85% to 100% agreement</li> <li>• Doctor/nurse assured understanding of treatment: increased from 85% to 98% agreement</li> <li>• Doctor listens carefully to concerns: increased from 89% to 100% agreement</li> <li>• Doctor/nurse available to answer questions: increased from 75% to 96% agreement</li> <li>• Overall, satisfaction with healthcare scores were significantly higher after patient navigation compared to before patient navigation</li> </ul>
Quality	<ul style="list-style-type: none"> <li>• Low – sample size was limited; there was no control group; response bias may have been present post-navigationally as responders may have not wanted to offend or extend negative feedback</li> </ul>
Navigator background	Trained, culturally competent staff, with specific knowledge regarding American Indian beliefs and cultural practices

First author and year	Jean-Pierre – 2010
Title	<i>Understanding the processes of patient navigation to reduce disparities in cancer care: Perspectives of trained navigators from the field</i>
Study design	Qualitative analysis after RCT
Study content	<ul style="list-style-type: none"> <li>• 21 transcripts of semi-structured exit interviews with three navigators were qualitatively analyzed</li> <li>• Interviews pertained to their experiences with patients who completed a randomized trial of patient navigation and took place within two weeks of the navigation completion</li> </ul>
Variables measured	<ul style="list-style-type: none"> <li>• Patient behavioral outcomes, clinical endpoints, patient satisfaction with care, and patient satisfaction with navigation</li> </ul>
Variables of interest for review	<ul style="list-style-type: none"> <li>• Patient satisfaction and compliance</li> </ul>
Key points	<ul style="list-style-type: none"> <li>• Navigation influenced all outcomes; perception of usefulness of treatment influenced satisfaction</li> <li>• Navigation processes (removing barriers, building relationships, and facilitation access to care and treatment adherence) influenced outcomes such as compliance and satisfaction</li> </ul>
Quality	<ul style="list-style-type: none"> <li>• Low – only three navigators within one institution were included in the study; it is plausible that navigators' impressions may not match their patients' perspectives, and their responses may unintentionally be biased to their perceived effectiveness</li> </ul>
Navigator background	Community recruits with at least a high school education and knowledge of the community who were trained to work with cancer patients

First author and year	Korber – 2011
Title	<i>A breast navigator program: Barriers, enhancers, and nursing interventions</i>
Study design	Qualitative analysis
Study content	<ul style="list-style-type: none"> <li>• 109 former participants in breast cancer navigator programs were invited to participate in the study</li> <li>• Of the 103 that completed treatment, 13 (13%) agreed to participate; of the 6 who did not complete treatment, 1 (16%) agreed to participate</li> </ul>
Variables measured	<ul style="list-style-type: none"> <li>• Barriers to and enhancers of completion of breast cancer treatment (education and information, support, symptom management, teamwork, medical care, survivorship)</li> </ul>
Variables of interest for review	<ul style="list-style-type: none"> <li>• Enhancers of completion (compliance)</li> </ul>
Key points	<ul style="list-style-type: none"> <li>• All participants identified the navigator as valuable in their breast cancer experience</li> <li>• The navigator was a source of information, emotional and physical support, and constant presence that allowed them to persevere through the months of treatment</li> </ul>
Quality	<ul style="list-style-type: none"> <li>• Low – sample size was limited; only a single interview was conducted</li> </ul>
Navigator background	Registered nurses