

Chapter 2

Models of Patient Navigation

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Introduction

Patient navigation is a barrier-focused intervention which aims to assist patients who are completing a healthcare goal [1–3]. Since 1990, patient navigation programs have been widely implemented to help patients obtain timely and high quality healthcare related to cancer and other health conditions. There is evidence that patient navigation is effective in improving receipt of some types of cancer care, including increased rates of cancer screening and diagnostic services [1, 4].

There has been some debate regarding the best methods in designing a patient navigation program and the appropriate training and background of personnel who are responsible for providing patient navigation. Freeman [5], who first coined the term “patient navigation,” has suggested because there is a spectrum of various tasks in patient navigation, patient navigators can come from a variety of backgrounds. Some tasks can be accomplished by trained lay patient navigators, whereas other tasks must be performed by professional navigators, such as nurses and social workers [5]. Freeman [6] also suggests that in larger healthcare systems, there should be a system of navigation where multiple patient navigators provide services under the supervision of a navigation coordinator or champion.

Since patient navigation was originally applied to help bring about optimal cancer care, another perspective has suggested that lay navigators be utilized at earlier stages in the cancer continuum (i.e., to provide outreach or facilitate cancer screening), and professional navigators be utilized at the point at which a patient requires cancer diagnostic, treatment, rehabilitation, or survivorship care. For

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instance, Hopkins and Mumber [7] suggest “optimal providers” at various stages of the cancer continuum by indicating that lay health advisors (trained community volunteers) should provide “outreach navigation,” social workers should provide diagnostic navigation, nurses should provide treatment navigation, and nurse practitioners should provide survivorship navigation.

In 2010, the Oncology Nursing Society, the Association of Oncology Social Work, and the National Association of Social Workers issued a Joint Position on the role of oncology nursing and oncology social work in patient navigation [8]. In this position statement, these organizations indicated that nurses and social workers who serve as navigators should provide navigation based on the scope of practice for each discipline and should possess the education and knowledge necessary to perform navigation. This education and knowledge ideally should include “community assessment; cancer program assessment; resolution of system barriers; the cancer continuum; cancer health disparities; cultural competence; and the individualized provision of assistance to patients with cancer, their families, caregivers, and survivors at risk” [8]. The position of the three organizations is that patient outcomes are optimal when a social worker, nurse, and lay patient navigator function as a multidisciplinary team, but that nurses and social workers should supervise and delegate tasks to trained lay navigators or volunteers [8].

On the other hand, others have suggested the most important qualification of a patient navigator is being a “cultural broker and interpreter.” In a review of five patient navigation programs designed to assist patients at various stages of the entire cancer continuum, Braun et al. [9] concluded it was important to hire navigators from the communities served by the patient navigation program. Braun and colleagues [9] further specified that a “clinical degree” was not necessary to perform patient navigation, but that effective patient navigators must have certain personal qualities such as being personable; and being willing to: improve the lives of others, provide education to healthcare providers, and advocate for expanded services. In addition, navigators must have the capacity to track services, communicate with professionals, learn about the targeted disease, and refer patients to providers and services [9].

It is clear that there is little consensus regarding the best models for implementing patient navigation. Patient navigation programs are typically designed to meet the needs of a particular community or patient population. However, there is very little information regarding who best fits the profile of someone ideally suited to achieve the desired healthcare outcome targeted by each patient navigation program.

One rich source of information regarding models of patient navigation adopted under various circumstances is the research studies that have been conducted and published in peer-reviewed literature. These studies provide information regarding the background of patient navigators and criteria for selecting patient navigators in addition to providing information regarding the efficacy of the particular patient navigation program for a wide range of health outcomes. A search of PubMed in April 2013 was conducted to find controlled studies of the efficacy of patient navigation for improving a specific health outcome. Excluded were studies where

the only outcome was a psychosocial construct, such as knowledge or satisfaction. Since 1995, 49 studies with comparison groups have been conducted to assess the effectiveness of patient navigation in improving cancer care [2, 10–58]. Patient navigation has also been evaluated among patients at risk for cardiovascular disease [59], patients referred for genetic counseling [60] or cardiac rehabilitation [61], as well as patients in need of care for chronic diseases, such as diabetes [62, 63] and human immunodeficiency virus (HIV) [64].

A review of these studies as a whole indicates some trends in the description of patient navigation models. First, there are many studies that provide no or limited information about the personnel who provide patient navigation [11, 17, 20, 24, 29, 32, 43, 51]. In addition, there are several ways in which models of patient navigation have been conceptualized. This is often categorized either by the setting (hospital vs. community) [14, 25, 38], or by the level of education and sometimes type of professional training that the navigator has or has not obtained (lay, college educated, nurse, social worker, case manager, health educator) [10, 13, 15, 19, 21–23, 26–28, 33, 35–42, 44–49, 53–58, 60–64]. Other studies instead only describe a model where the focus is the degree to which the navigator is linguistically or culturally concordant with the community or patient population [2, 12, 16, 18, 30, 31, 50, 52, 59]. Many patient navigation models described in research literature incorporate two or more of these characteristics (e.g., culturally competent lay navigators; professional and lay navigators) [13, 22, 23, 28, 38–40, 42, 44, 45, 47–49, 53, 54, 57, 62, 64]. Chapter 6 “Training Patient Navigators” will go into detail concerning best practices in patient navigation training and key practices for navigators from varied backgrounds.

Prevention

Only one published study, utilizing bilingual patient navigators, evaluated whether patient navigation could improve health behaviors related to cardiovascular disease [59]. The study had mixed findings, as patient navigation was associated with improvements in diet at a twelve-month follow-up, but was not associated with reductions in or cessation of tobacco use [59].

Screening

Twenty-one studies with comparison groups have evaluated whether patient navigation can increase the rates of early detection of disease [11, 13, 15, 17–20, 23, 26, 28, 31–33, 35, 36, 38, 50, 52–55]. To date, all of these studies have focused on the early detection of cancer or precancerous lesions (i.e., cervical cancer screening, colorectal cancer screening). The model of patient navigation was not described well in four studies focused on the early detection of cancer [11, 17, 20, 32].

Although the patient navigation model was not well described, all of these studies found that patient navigation was associated with higher screening rates [11, 17, 20, 32].

One type of navigation model designed to increase cancer screening is patient navigation implemented by lay navigators or community health workers [15, 33, 53, 54]. All of the studies evaluating the efficacy of a lay model found increases in rates of cancer screening associated with patient navigation [15, 33, 53, 54].

There were also a number of studies that had patient navigation models featuring community health educators or health educators [19, 26, 28], nurses or social workers [35, 36], case managers [55], or a combination of a community health worker, a psychology master's degree recipient, and a nursing assistant [23]. Of the three studies investigating the efficacy of patient navigation provided by health educators, all found that screening rates were higher in patients who were provided patient navigation [19, 26, 28]. Of the studies in which navigation was provided by a nurse or social worker, or the combination of a community health worker, a psychology master's degree recipient, and a nursing assistant, all three found that patient navigation was linked with higher rates of screening [23, 35, 36]. The one study which used case managers to provide navigation found patient navigation was associated with obtaining one screening mammogram, but was not necessarily associated with getting mammograms on a regular basis [55].

In five studies, patient navigation models were based on the navigators' racial, cultural, or linguistic similarity to the target population [13, 18, 31, 50, 52]. All five studies found that patient navigation was associated with higher rates of cancer screening [13, 18, 31, 50, 52]. Interestingly, one study compared two different approaches in delivering patient navigation by navigators who were culturally similar to the target population [50]. It found that telephone navigation provided by Native American navigators was more effective than face-to-face navigation provided by Native American navigators [50].

One unique study directly compared "peer" navigators, who were similar to the target population in age, race, and colonoscopy experience, to "professional" navigators, who had experience working with the target population, but were also required to have at least a bachelor's degree [38]. There were no differences found in rates of screening colonoscopy between "peer" and "professional" navigators [38].

Taken together, these studies indicate a range of different patient navigation models have been implemented in studies of the effectiveness of patient navigation in improving cancer screening outcomes. Overall, most studies found that patient navigation was beneficial in improving cancer screening rates, no matter which model was implemented. The one study that compared two patient navigation models found no differences between the "peer" and "professional" navigators in terms of colorectal cancer screening rates. These findings suggest that nearly any model of patient navigation can increase cancer screening. There are no known published studies of the efficacy of patient navigation in improving outcomes related to screening for other diseases.

Diagnosis

Numerous articles described research studies focused on whether patient navigation was effective in increasing the rate of definitive diagnosis following an abnormal cancer screening test or symptom of cancer [29, 30, 45, 47, 49, 57], decreasing the time from a cancer screening abnormality or symptom of cancer to the diagnostic resolution of that abnormality [27, 30, 34, 39, 40, 42–47, 55, 57], completion of a specific diagnostic test [2, 43], or adherence to a recommended follow-up test [48].

Of the studies focused on whether patient navigation improved outcomes related to the receipt of timely cancer diagnostic care, two did not provide information regarding the patient navigation model utilized [29, 43]. Five studies evaluated lay patient navigation programs [27, 42, 44, 46, 47], but there were varying definitions of a “lay” navigator (e.g., completed college education versus high school education; varying experiences in the healthcare system). One study used case managers as navigators [55], whereas a second study used a “healthcare worker” who also happened to be a cancer survivor [34]. Other studies included models of navigation that combined navigators with different levels of training, such as master’s-prepared licensed social workers and lay patient navigators [40, 48, 57]; a nurse, dental hygienist, a social worker, and a navigator with a master’s degree in business administration paired with community health workers [45]. In addition, three studies indicated that patient navigators were bilingual [2, 30, 39].

Both of the studies that provided very little information on the utilized patient navigation model found patient navigation was associated with improved cancer diagnostic outcomes [29, 43]. One study found that patients who were provided navigation were more likely to receive a biopsy [43] than those who were not provided navigation, and both studies found that patients who received navigation were more likely to receive more timely diagnostic care than those who were not provided navigation [29, 43].

The studies which used a lay patient navigation model had mixed findings [27, 42, 44, 46, 47]. Three studies found that patients who received navigation received diagnostic care faster than those who did not [27, 46, 47], whereas another found no difference in time to diagnosis between those who received navigation and those who did not [42]. A fifth study found that navigation was associated with reduced time from cervical screening abnormality to definitive diagnosis [44]. The same study found that navigation was associated with a significant reduction in the time from breast screening abnormality when diagnostic resolution happened after 60 days, but was not associated with time to diagnostic resolution when the screening abnormality was resolved within 60 days [44]. Another study of a lay navigation model found that the rate of resolution of a screening abnormality was higher in participants who received patient navigation than those who did not [47].

One study used case managers as navigators and found that there were no significant differences in timeliness of follow-up care when care was compared before the navigation intervention compared to after the intervention [55]. Another study utilized a healthcare worker who was also a cancer survivor [34] and found

patients who received navigation were provided diagnostic care more quickly than those who were not.

There were several studies which included a combination of different types of navigators from different professional backgrounds. The study that tested an intervention which combined a nurse, a social worker, a dental hygienist, and a navigator with a master's in business administration with community health workers found that patients provided navigation received diagnostic care faster than those who were not provided navigation [45]. In one study which included lay patient navigators and licensed social worker patient navigators, navigation was associated with reduced time from screening abnormality to diagnostic resolution of the abnormality for those whose abnormality resolved after 30 days, but not before 30 days [40]. Other studies that combined a master's-level social worker with a peer counselor found patients provided navigation were more likely to receive diagnostic follow-up and more timely diagnostic care than those who were not provided navigation [48, 57].

There were three studies in which navigation was only defined by the degree to which the navigators were similar to the target population [2, 30, 39]. When navigation was provided by bilingual navigators, it was associated with better adherence to diagnostic follow-up of an abnormal cancer screening test [30], reduced time from an abnormal cancer screening to a definitive diagnosis [39], and completion of a recommended breast biopsy [2].

In one unique study, Native American tribes recruited the patient navigators, some of whom were Native Americans, and some of whom were not. The team of navigators selected by the tribes had various backgrounds, including lay navigators and nurses [49]. The study found that navigation did not help people obtain more timely diagnostic resolution of a screening abnormality when examined 60 or 90 days following the identification of an abnormality, but it did improve the chances of receiving diagnostic resolution by 365 days [49].

When all of the research evaluating the efficacy of patient navigation in improving outcomes related to the diagnosis of cancer is considered, it is clear that most models described in the published studies are associated with improved outcomes. Most of the models that were described were either based on a "lay" model or included several navigators with varying degrees of professional training. There were a few models based on the navigator's competence with or similarity to the target population. There have been no studies evaluating whether patient navigation facilitates the diagnosis of other diseases.

Stage of Cancer at Diagnosis

There were only three studies which evaluated whether patient navigation affected the stage of cancer at diagnosis [14, 25, 51]. In two studies, the navigation model included "community navigators," [14, 25], and there was one study where it was not described [51]. In the study where navigation was described as being performed

by “community members”, the intervention was not associated with stage of cancer at diagnosis [14]. On the other hand, when navigation was performed by “community health advocates” [25] or was not described [51], it was associated with a statistically significant improved stage of cancer at diagnosis. Given that there is a dearth of studies evaluating the efficacy of patient navigation in improving the stage of diagnosis, little is known regarding the best practices in models of navigation to affect this outcome.

Treatment

Studies have examined whether patient navigation is associated with more timely initiation of treatment following a cancer diagnosis [14, 30, 37, 45, 57, 58]; time of completion of cancer treatment [24, 41]; cancer treatment adherence [22]; cancer treatment interruptions [12, 56]; the degree to which breast cancer treatment quality care indicators were met [10, 16]; and the number of hospitalizations during cancer treatment [21]. However, there were also studies evaluating whether patient navigation improved: symptoms of depression [62]; weight, body mass index, and glycosylated hemoglobin (HbA1c) in patients with diabetes [63]; as well as viral load and adherence to recommended healthcare visits for HIV [64].

There was a large variation in models of patient navigation utilized in studies with treatment-related outcomes. One of the studies did not describe the patient navigation model [24]. One study utilized a lay patient navigator [41], and one study reported that navigation was implemented through a “community member” model [14], with another indicating that navigation was provided by “nonclinical staff” with bachelor’s degrees and experiences working with diverse communities affected by HIV [64]. Navigation was provided by a professional navigator in a few studies, including nurses [10, 37, 58], nursing students [63], or by navigators with either a background in social work or nursing [21]. A number of studies had navigation models focused on competence with the target population, either by hiring culturally competent navigators [12], bilingual navigators [30], or bilingual and bicultural navigators [16]. There were several studies that used teams of navigators with multiple professional backgrounds, including one study that combined people with master’s degrees in social work with bilingual and bicultural patient navigators [22]; one study which included a nurse, a dental hygienist, a social worker, and a person with a master’s degree in business administration plus community health workers [45]; one study which combined a peer counselor and a person with a master’s in social work, both of whom had received training in cultural competence [57]; one study that had both hospital-based navigators (nurses) and community research representatives (navigators who live and work in the Native American community of interest) [56]; and one study that reported navigation was provided by “bilingual graduate social work diabetes depression clinical specialists” and “assistant patient navigators” [62].

The study where the navigation model was not fully described found that patient navigation was not helpful in improving time to completion of cancer treatment [24]. The study which utilized the community member model found only modest decreases in the amount of time from diagnosis of cancer to the initiation of cancer treatment [14]. Similarly, in the study which utilized a lay patient navigation model, there were no differences between patients who were provided patient navigation and those who were not in time to completion of primary cancer treatment [41]. On the other hand, navigation provided by “nonclinical staff” with bachelor’s degrees was associated with adherence to health care visits and the likeliness of having an undetectable viral load among patients with HIV [64].

With respect to the studies which utilized professional patient navigators alone, there were also mixed findings. In the study where nurses provided navigation, there was an increase in compliance with breast cancer treatment quality care indicators [10]. In contrast, when oncology nurses provided navigation there were no statistically significant reductions in either the time from diagnostic biopsy to consultation with a cancer specialist or initiation of cancer treatment [58]. Similarly, when nursing students provided navigation, there was no improvement in HbA1c, body mass index, or weight among patients with type 2 diabetes [63]. In a study where navigators were required to have a background in nursing or social work, there was no difference between the navigator group and a historical cohort in the total number of days hospitalized, but patients who received navigation had, on average, a mean number of hospitalizations that was lower than those who did not receive navigation [21]. Another study had similar mixed findings in that navigation provided by a nurse was not associated with shortened time to consultation for patients 31–60 years, but was associated with shorter time to consultation among patients older than 60 years [37].

In studies which utilized combined models of patient navigation, the findings were also mixed. In the study which utilized a combined model consisting of “bilingual graduate social work diabetes depression clinical specialists” and “assistant patient navigators,” patient navigation was not associated with improvements in depression symptoms [62]. Similarly, a model combining people with master’s degrees in social work and bilingual and bicultural patient navigators did not lead to better cancer treatment adherence when compared to enhanced usual care [22]. When a culturally competent peer counselor was paired with a navigator who had a master’s degree in social work, there was no difference in the timeliness of initiation of cancer treatment between those who were provided navigation and those who were not [57]. In contrast, when navigation was provided by both nurses and community research representatives, those who received navigation had fewer days of treatment interruptions [56].

The studies which defined navigation models by selecting navigators similar to the target population also yielded mixed results. In a study where the model included culturally competent navigators, patients who were provided navigation had fewer treatment delays than those who were not provided navigation [12]. Similarly,

bilingual navigators helped patients initiate cancer treatment faster following a cancer diagnosis [30]. In contrast, while bilingual and bicultural patient navigators helped in general to improve the quality of care as measured by quality indicators during breast cancer treatment and survivorship, there were no statistically significant improvements in individual cancer treatment indicators following the implementation of the patient navigation program, as compared to care given before a patient navigation program was implemented [16].

Taken together, the literature examining the efficacy of patient navigation on improving outcomes related to the treatment of cancer and other diseases has mixed results, regardless of which navigation model was utilized.

Rehabilitation or Survivorship

There are four published controlled studies evaluating whether patient navigation improves care during the period of recovery from a disease [10, 16, 22, 61]. The models that have been researched include a lay patient navigation model [61]; a nurse navigation model [10]; a model which utilized bilingual and bicultural navigators [16]; and a model that included a team of people with master's degrees in social work as well as bilingual and bicultural patient navigators [22]. In a study using a lay patient navigator model, it was found that navigated cardiac patients were more likely to enroll in cardiac rehabilitation than those who did not receive patient navigation [61]. Two studies found that bilingual and bicultural patient navigators [16] and nurse navigators [10] improved the rate of adherence to surveillance mammography among breast cancer survivors. On the other hand, three studies, which each utilized different patient navigation models, found that patient navigation was not effective in improving prescription [10, 16] or receipt [22] of antihormonal medications. There have been so few studies of patient navigation for rehabilitation and survivorship that it is difficult to draw conclusions regarding the efficacy of any particular type of patient navigation model.

Survival

There have also been very few studies of whether patient navigation is related to survival following a cancer diagnosis [14, 51]. One study which evaluated the effect of "community" patient navigators found that patients who received navigation had no better survival rates than those who did not [14], whereas a second study found an increased 5 year survival following implementation of an intervention that included patient navigation [51].

Conclusion

While it is important for patient navigators to be well prepared to provide patient navigation, there is little agreement on which models of patient navigation are best suited to achieve a particular health outcome. There tends to be two considerations in developing patient navigation models. One consideration is competence and familiarity with the target population, which is highlighted by the fact that there is attention to whether the navigation program suits the needs of the target population. The navigators are selected based on their familiarity and competence in working with the target population or their similarity to the target population. The second consideration is whether the professional background of the patient navigator is adequate to perform the duties that he or she is assigned.

The majority of published research has been conducted to evaluate whether various models of patient navigation improve health outcomes related to cancer. Much of the published research has focused on cancer screening and outcomes related to the diagnostic resolution of an abnormal cancer test or symptom of cancer. For the most part, the research indicates that nearly all models, whether defined by professional training or the degree to which the navigator is similar or competent in working with the target population, are effective in improving cancer screening and outcomes related to the diagnostic resolution of a cancer abnormality. On the other hand, it is not clear if patient navigation consistently leads to improved health outcomes in the prevention or treatment of or rehabilitation from a disease, or whether patient navigation affects disease outcomes, such as stage of cancer diagnosis or survival of a disease. Because of the limited number of patient navigation studies related to prevention, survivorship, rehabilitation, morbidity, and survival outcomes, few conclusions can be drawn regarding the best models of patient navigation in these stages of the disease continuum.

Based on the review of the literature, it is surprising how many studies did not describe their navigation model. This may be related to required word limitations in journal articles. Nevertheless, the outcomes observed with models not described tended to mirror the findings of other studies where the models were well described (e.g., navigation was effective in improving care related to screening and diagnosis and mixed with respect to treatment of diseases). Another surprising finding was that, in general, models of patient navigation that focused only on cultural and linguistic competency were successful in improving health outcomes across the continuum of disease. However, this finding is based on the very few studies that have been published.

The findings of the review tend to generally support the ideas of Freeman [5] and, to some extent Hopkins and Mumber [7], who suggest that the degree of professional training should increase either as a disease progresses or as the difficulty of navigation increases. Hopkins and Mumber [7] suggest that lay navigators should only be used for outreach and to increase screening services, but it is clear that lay navigators are often included in models of navigation that are striving to improve diagnostic care and generally have been effective. Sometimes these models only include lay navigators or

include lay navigators as part of a team of navigators with different professions, as advocated by the Oncology Nursing Society, the Association of Oncology Social Work, and the National Association of Social Workers [8]. The findings that any model of patient navigation is effective in increasing rates of cancer screening does not support the position of the Oncology Nursing Society, the Association of Oncology Social Work, and the National Association of Social Workers, which states that navigation should ideally be provided by a multidisciplinary team that includes a social worker, nurse, and lay navigator [8]. The multidisciplinary model described by the Oncology Nursing Society, the Association of Oncology Social Work, and the National Association of Social Workers has not consistently been associated with improvements in health care.

Another surprising finding of the review was the relative lack of studies evaluating the efficacy of professional navigator programs where only a professional navigator (nurse or social worker) provided navigation. Most of the studies that included professional navigators used a “combined model” with a mix of professional and lay navigators. Most of the navigation programs that involved nurses were related to improving care for the treatment of disease, which is the area of navigation that has generally had mixed findings with respect to the intervention’s efficacy.

A narrative review of published studies has some limitations, including the possibility that studies which find evidence to support patient navigation may be more likely to be published. To date, there has only been one study which compared two models of patient navigation (peer and professional) and which found that the models were similarly effective in helping patients obtain colorectal cancer screening [38]. In the future, this research should be expanded to include more comparative effectiveness and cost-effectiveness studies of patient navigation models.

In conclusion, there is still a lot that is not known about which type of patient navigation model is best suited for a particular situation. To date, nearly all of the published patient navigation research has studied its effectiveness in improving outcomes related to cancer. It appears that nearly any type of model of patient navigation can improve outcomes related to cancer screening. As a disease progresses and requires treatment or rehabilitative care, it is less clear what type of model is best or whether patient navigation is effective at all. Future research is needed to determine the most effective and cost effective patient navigation models.

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