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RESEARCH ARTICLE

An Assessment of Patient Navigator Activities in Breast Cancer Patient Navigation Programs Using a Nine-Principle Framework

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Objective. To determine how closely a published model of navigation reflects the practice of navigation in breast cancer patient navigation programs.

Data Source. Observational field notes describing patient navigator activities collected from 10 purposefully sampled, foundation-funded breast cancer navigation programs in 2008–2009.

Study Design. An exploratory study evaluated a model framework for patient navigation published by Harold Freeman by using an a priori coding scheme based on model domains.

Data Collection. Field notes were compiled and coded. Inductive codes were added during analysis to characterize activities not included in the original model.

Principal Findings. Programs were consistent with individual-level principles representing tasks focused on individual patients. There was variation with respect to program-level principles that related to program organization and structure. Program characteristics such as the use of volunteer or clinical navigators were identified as contributors to patterns of model concordance.

Conclusions. This research provides a framework for defining the navigator role as focused on eliminating barriers through the provision of individual-level interventions. The diversity observed at the program level in these programs was a reflection of implementation according to target population. Further guidance may be required to assist patient navigation programs to define and tailor goals and measurement to community needs.

Key Words. Patient navigation, breast cancer, patient-centered care, disparities

Cancer care has long been documented as an arena of racial, ethnic, and socioeconomic disparities (Freeman 1989; Koh 2009). Disparities in care delivery impact patient outcomes (Battaglia et al. 2007). One of the emerging health

care delivery models designed to reduce cancer care disparities is patient navigation. Named in the early 1990s by Harold Freeman, patient navigation aims to reduce delays in care for disadvantaged populations by addressing barriers to care through one-on-one intervention (Freeman, Muth, and Kerner 1995).

Since its inception, patient navigation has expanded rapidly and is now used in many settings across the cancer care continuum (Freeman 2012; Stanley et al. 2013). By 2003, over 200 navigation programs were documented (Hede 2006). The National Cancer Institute has funded patient navigation through a number of programs, including the Community Network Programs (Braun et al. 2012) and the NCI Community Cancer Centers Programs (Swanson et al. 2012), as well as individually funded grants. Three large-scale national patient navigation programs represent the largest coordinated implementation efforts to date: The American Cancer Society with 137 navigators, the Centers for Medicare and Medicaid's Medicare Cancer Prevention and Treatment Demonstration for Racial and Ethnic Minorities (Mitchell et al. 2010), and the National Cancer Institute Patient Navigation Research Program (Freund et al. 2008).

The NCI Patient Navigation Research Program recently reported results indicating navigation produced more timely diagnostic resolution following abnormal screening (Battaglia et al. 2012; Dudley et al. 2012; Hoffman et al. 2012; Markossian, Darnell, and Calhoun 2012; Paskett et al. 2012; Raich et al. 2012; Wells et al. 2012). Despite this demonstrated effectiveness, there is little systematic examination of how programs outside of these organizations are implemented (Stanley et al. 2013). Patient navigation programs have been shown to vary in terms of navigator training, services provided, outcomes measured, and efficacy (Wells et al. 2008). This is in part due to the lack of reimbursement for navigation and reliance on institutional, foundation, or research grant funding to establish and maintain programs.

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The Commission on Cancer has mandated that all accredited cancer centers implement patient navigation programs by 2015 (Commission on Cancer 2012) despite the somewhat limited range of systematic program evaluation conducted. Given the rapid diffusion of patient navigation as an intervention to reduce cancer outcome disparities, there is an identified need to clarify the scope of navigation and ascertain commonalities to develop comparative evaluations (Esparza and Calhoun 2011).

A unifying definition of patient navigation has been hindered by the lack of a process to come to consensus around the definition of navigation while allowing for variation in local implementation. One existing model for measuring the implementation of patient navigation programs is a nine-principle framework developed by Harold Freeman and colleagues during a 2010 summit on the measurement of patient navigation (Freeman and Rodriguez 2011). The model suggests a set of consensus characteristics without explicitly addressing variations in local context. This framework was not presented with data from existing programs to assess how well it reflects the organization and function of navigation programs. Thus, this exploratory study aims to evaluate how closely these principles reflect the practice of navigation in self-identified breast cancer patient navigation programs through independent observation of routine navigator activities.

METHODS

Sample

We used purposive sampling to select 10 programs from a set of 40 funded by a single foundation, with the intent to capture variation relative to program size, geographic location, rural/urban setting, and target population. The sampling procedure was evaluated by comparing the 10 chosen sites to the sampling frame of 40 programs. Continuous variable comparisons used Wilcoxon Rank Sum tests. Categorical variables were examined with Fisher's Exact Test. Differences were statistically significant at $\alpha = 0.05$.

Data Collection

Four researchers conducted field observations. Observational procedures were based on a previously published protocol developed to elicit comparable observations of navigator tasks and the networks utilized to accomplish these tasks (Parker et al. 2010). All observers participated in collective training on

the use of the observation protocol. Observations were reviewed by the lead investigators who provided continuous feedback to ensure consistency in regards to protocol implementation. The field note data used for this analysis documented the content of patient, clinician, and health care team interactions, where they occurred, and any explanations offered by the navigator or solicited by the observer.

Researchers conducted observations during the course of routine navigator activities. Observations were nonselective regarding patients or types of activities performed during observation to capture the full range of navigator duties. We conducted four to nine navigator observation sessions at each site. When applicable, multiple site navigators were observed to capture variation in individual navigator practice within programs. A total of 31 navigators participated, yielding 179.5 hours of observation (mean hours/site = 17.95).

Analysis

Codes were based on nine a priori themes derived from the nine-principle model of navigation. The intent in using this nine-principle taxonomy was to assess the qualitative variance accounted for in these principles. Pilot coding used field notes from Site 1, totaling 12 percent of the total hours of observation and was based solely on the a priori coding scheme. Following pilot coding, two primary coders refined the code book to operationalize the original model definitions.

Initial coding was performed by the primary author, with bi-weekly detailed coding reviews conducted with the senior author. Individual codes were assessed by each coder prior to meeting, and a constant comparative method was used to build consensus (Glaser 1965; Thorne 2000). Through this process, codes that addressed the same construct were collapsed, while additional principles that did not fit existing definitions were added as inductive codes. Following the completion of coding, a third author reviewed findings to assess consistency.

During analysis, observations from each site were compiled and assessed for overall concordance with the definition of each principle. When most observations at a site were consistent with the definition, a site was categorized as concordant. Conversely, when most observations at a site were not consistent with the principle definition, the site was documented as discordant. When no site observations related to a particular principle definition, the principle was noted as "not observed" for the site. The number of sites categorized

as concordant/discordant for each principle is displayed in Table 3, with descriptions provided in the discussion of results for each principle.

RESULTS

Table 1 compares the sites selected for observation to the larger sampling frame of 40 programs. The 10 observed sites were comparable to nonobserved sites relative to geographic distribution, rural/urban setting, location, using full or part-time navigators, and number of patients navigated per month. Observed sites utilized more volunteer navigators, although this

Table 1: Comparison of Site Characteristics

	Observed Sites (N = 10)	*Sites Not Included (N = 30)*
Program site		
Community-based	2 (20)	7 (23.3)
Hospital-based	8 (80)	23 (76.7)
Geographic region		
Northeast	3 (30)	8 (26.7)
Midwest	1 (10)	4 (13.3)
South	2 (20)	10 (33.3)
West	4 (40)	8 (26.7)
Rural/urban		
Rural	2 (20)	4 (13.3)
Urban	8 (80)	26 (86.7)
Services offered		
Outreach/education	10 (100)	29 (96.7)
Breast screening	8 (80)	25 (83.3)
Diagnostic services	8 (80)	25 (83.3)
Treatment	6 (60)	23 (76.7)
Survivorship	9 (90)	22 (73.3)
Navigator support		
By telephone	10 (100)	29 (96.7)
At program site	9 (90)	29 (96.7)
In patient home	3 (30)	8 (26.7)
At medical appointments	10 (100)*	20 (66.7)
At social service appointments	6 (60)**	2 (6.7)
Other	2 (20)	2 (6.7)
Navigator employment status	Median (IQR)	Median (IQR)
Total full time	1.0 (2.0)	1.5 (1.0)
Total part time	0 (1.0)	1.0 (2.0)
Total volunteer	0 (1.0)*	0 (0)
Patients navigated per month	21 (109.0)	23 (68.0)

*Significant at $\alpha = .05$; **significant at $\alpha = .01$.

Table 2: Sample Site Characteristics

Site	*Location*	*Geographic Region*	*Program Type*	*Patients Navigated/Month*	*Full/Part/Volunteer Navigators*	*Navigator Qualifications*	*Navigators Observed*	*Hours of Observation*
1	Rural	West	Community	1,013	7//0/0	Medical assistants	5	19
2	Urban	Northeast	Hospital	27	1/0/0	Graduate degree	1	15.25
3	Urban	Midwest	Hospital	25	3/0/0	RN, associate degree	2	19.25
4	Urban	Northeast	Hospital	16	2/1/2	MSW, health educators	2	12.75
5	Urban	South	Hospital	17	1/0/0	RN	1	21.5
6	Rural	West	Community	8	1/4/1	Bachelor degree	4	15.75
7	Urban	West	Hospital	117	1/3/0	LPN, bachelor degree	4	27.25
8	Urban	Northeast	Hospital	590	1/1/0	High school, bachelor degree	1	12.7
9	Urban	South	Hospital	8	0/0/17	Lay (survivors)	6	15.5
10	Urban	West	Hospital	8	5/0/0	RN, bachelor, graduate degrees	5	20.5

finding is likely driven by one site with 17 volunteers. Consistent with recent findings that navigation is being conducted across the entire cancer care continuum, sampled and nonsampled sites provided analogous services ranging from outreach to survivorship. Patient navigator support was offered through multiple modalities with a greater proportion of navigators interacting through medical and social service appointments compared to sites not observed.

Table 2 provides detailed individual site descriptions among the 10 sampled sites and highlights the significant diversity in patients served per month (range: 8–1,013). The sites observed in this exploratory study were comparable to the nine National Cancer Institute patient navigation programs in terms of site type, number of navigators, and educational requirements (Parker et al. 2010; Clark et al. 2014).

Principles

Table 3 describes the initial and inductive codes used in the analysis and documents concordance with each principle. During pilot coding, we operationalized the principle categories and assigned each principle a single corresponding code name. Two principles, Integration of Care and Connection between Sites/Specialties were collapsed into one code: Integration of Care. Both principles focused on addressing specific patient barriers by bridging a disconnected system to facilitate access to appropriate care. Initial attempts to differentiate these two codes were based on whether integration occurred within or between health systems. The varied structure of each hospital and nature of the observations did not permit these concepts to be empirically discerned. After detecting significant overlap in coding these two principles, a combined concept of integration was determined to be most appropriate.

In comparing the empirical data across major codes, two discrete categories of principles were distinguished. These were established according to whether principles captured individual-level or system-level activities. The first category, Individual-Level Principles, represented activities focused on single patients as part of the one-on-one relationship with the navigator. The second category, Program-Level Principles, encompassed principles describing program organization and structure. Two principles not originally included in the framework were identified inductively during coding and added to the Program-Level Principles. These two principles were Resource

Table 3: Original and Modified Descriptions of Principles for Patient Navigation by Category

Code	*Freeman Definition*	*Modified Description for Coding*	*Concordant*	*Discordant*	*Not Observed*
Individual-level principles					
Eliminating barriers to timely care	"The core function of patient navigation is the elimination of barriers to timely care across all segments of the healthcare continuum."	Any action taken by the navigator that reduces a barrier to following through on care	10	0	0
Providing patient-centric care	"Patient navigation is a patient-centric healthcare service delivery model."	An action performed that focuses on providing a service that intends to move an individual through care (attend appointments, get treatment, etc.)	10	0	0
Integrate fragmented system	"Patient navigation serves to virtually integrate a fragmented healthcare system for the individual patient."	Navigator actions on behalf of a specific patient that serve to keep the patient flowing through the process of diagnosis/treatment.	9	1	0
Navigate across disconnected system	"There is a need to navigate patients across disconnected systems of care, such as primary care sites and tertiary care sites."	Integration can be classified in two ways: (1) Navigators coordinate with members of the clinical team to move patients through care; and (2) Navigators contact multiple departments, specialties, hospitals and clinics to facilitate care coordination for patients between these separate entities			

Continued

Table 3. *Continued*

Code	*Freeman Definition*	*Modified Description for Coding*	*Concordant*	*Discordant*	*Not Observed*
Program-level principles					
Program cost effectiveness	"Delivery of patient navigation services should be cost effective and commensurate with the training and skills necessary to navigate an individual through a particular phase of the care continuum."	Actions taken by navigators that demonstrate strategies utilized by programs to maintain services in a clinically efficient manner	4	1	5
Level of skill is defined	"The determination of who should navigate should be determined by the level of skills required at a given phase of navigation."	Programs hire navigators into positions with a specific skill set defined. This level of skill should be matched to the needs of patient in the phase on the cancer continuum where navigation activities are performed	2	8	0
Defined beginning and end of navigation	"In a given system of care there is a need to define the point at which navigation begins and the point at which navigation ends."	There are specific points of entry where navigators get involved in patient care, and a point at which the navigator no longer handles the case	8	0	2
Clear scope of role	"Patient navigation should be defined with a clear scope of practice that distinguishes the role and responsibilities of the navigator from that of all other providers."	Tasks that demonstrate the defined role of the navigator within the team	5	5	0

Continued

Table 3. *Continued*

Code	*Freeman Definition*	*Modified Description for Coding*	*Concordant*	*Discordant*	*Not Observed*
System is coordinated	"Patient navigation systems require coordination."	There is a person/group who coordinates and/or oversees navigation activities at the site	6	0	4
		There are defined and established metrics or goals that the navigator must meet and/or report. Reporting may be to an outside agency or internal to the organization	4	0	6
System improvement	Not included	Any action taken by a navigator that aims to improve inefficient systems that create barriers for navigator in carrying out their role	7	1	2
Resource identification	Not included	Actions that reflect the unorthodox ways in which navigators find and utilize funding and resources to provide navigation services	10	0	0

Identification and System Improvement. Findings for each principle are described below.

Individual-Level Principles

Eliminating Barriers. The observational data consistently reflect this core concept of navigation: Navigators at all 10 sites actively sought to eliminate barriers to care faced by patients. The type of barrier targeted was based on the navigator's evaluation of individual patient needs and varied according to the community served by the program. The following examples from Site 1 represent the variation in the barrier elimination tasks that were observed across all sites:

> [Navigator D] starts looking through her file for a form that might indicate an MRI option to save the patient $500.

> Navigator E offers a special Saturday screening date. Navigator offers a free Pap smear too, which Patient 2 accepts.

While financial and logistic barriers were most commonly documented, social and cultural barriers addressed by navigators were also observed as important aspects of the one-on-one relationship formed with patients.

> Navigator L explains what really scared Patient 4 was that, when the local surgeon said the tumor was unusual, and Patient 4 needed to see a specialist, Patient 4 thought that meant it must be very bad and she was going to die. Navigator L reframed that interpretation as "You're in a good position: you're going to see a specialist, someone who sees more of these tumors. This is a positive step." [Site 6]

These examples demonstrate the wide array of skills, networks, and/or systems cultivated by navigators in their efforts to eliminate barriers. Identifying and eliminating barriers was a key service component in all navigator programs, demonstrating concordance with the model definition.

Patient-Centric Care. Patient-centric care was observed on numerous occasions in all 10 of the programs studied. This principle reinforces the individualized approach to addressing patient needs and preferences. While the nine-principle model provides a very broad definition for providing patient-centric care,

it was operationalized here as patient-focused activities that promote individual engagement in care. For example:

> Navigator I explains that she has tried to maintain a very personal relationship with the patient, hoping that if she continues to build trust with her, Patient 2 may re-think [doing] radiation. [Site 4]

> Navigator K finds a support group that meets tonight. . . Navigator K calls Patient 2 back, tells [patient] about the group, gives the date and location and encourages the patient to go. [Site 5]

The navigator was observed to be central to providing care that extends beyond defined clinical needs. In this manner, patient navigation was observed to bridge the gap between social and medical needs experienced by individual patients and represented a unique role on the health care team. All programs were determined to be concordant with the patient-centered principle proposed in the model.

Integration of Care. Nine sites were observed integrating care within their health care team and across specialties. This principle attempts to capture the manner in which navigators work within and between health care systems to create a seamless care experience for patients. For example:

> Patient 13 is interacting with a lot of people. She has a social worker and a navigator; Navigator BB and [the nurse practitioner] discuss how they can coordinate all these efforts. [Site 10]

Navigator BB acts as a conduit between the nurse practitioner and other local practitioners to ensure that care is synchronized. When integrating care within teams and across sites, it was imperative for the navigator to access internal systems, as evidenced below:

> Navigator B works through the list of patients due for annual screening mammogram. She checks the EMR for each patient, looking to see whether they are already scheduled for a screening mammogram. If not, she fills in and addresses a reminder card. [Site 1]

Navigators at most sites made extensive use of electronic records, charts, and other tracking systems to integrate care effectively. The nine sites observed to use these strategies to coordinate care were considered to be concordant with the model definition of integration of care.

Program-Level Principles

Defined Level of Skill. The level of skill principle showed significant variation between these 10 sites. As Table 2 exhibits, programs utilized navigators with a broad range of education and skills. The nine-principle model definition for level of skill suggests that programs should tailor navigators' skill level to the phase of navigation, interpreted operationally as the point along the cancer continuum (described below) where navigator activities were focused.

Five points along the cancer continuum were represented in these sites: outreach, screening, diagnosis, treatment, and survivorship. Among those observed, eight programs participated in at least three of these phases. There was little evidence that navigator skills were aligned with the phase of navigation. For example, there was no evidence of tailoring such that nurses were confined to navigating patients in treatment, while lay navigators served patients in screening or survivorship. Instead, other criteria were valued in the selection of navigators: "Given the variety of languages spoken by patients at the hospital, most of the navigators are bilingual and bicultural, and this is the primary qualification for becoming a navigator" [Site 7]. Skills such as language appeared to gain priority when the spectrum of services was broad. Only two programs that focused narrowly on outreach and survivorship services had very tailored criteria for navigator practice and were classified as concordant on this definition.

Scope of Navigator Practice. The scope of practice principle demonstrated the greatest variation among programs. Five sites were categorized as concordant with this principle and five were discordant. Observed tasks included patient-based, administrative, financial, and support duties. There were core tasks that were widely represented including connecting patients to services, patient contact and tracking, providing patient information/education, referral coordination, and identifying patient needs. These tasks functioned to support the individual-level principles of providing patient-centric, integrated care through the elimination of barriers. While these tasks were identified across many of the observed sites, patient navigators acknowledged that their role was often dictated by actions they initiated:

> Navigator F tells observer that her job description was vague, and that she has been inventing it as she goes along, with few main components. [Site 2]

Despite expansive definitions of the navigator role, many navigators demonstrated the ability to set boundaries in managing this broad job mandate while defining their own role in several domains:

> Navigator A explains Patient 2 had felt lumps, so she reminded the woman that not all lumps are cancer and that she should talk to her doctor. Navigator A adds, "I won't diagnose." [Site 1]

Navigator A, a lay navigator, clearly articulates her inability to make clinical decisions to the patients she navigates, a common trend among patient navigators without clinical credentials. Generally, the scope of navigator practice appeared to be defined broadly, with both navigators and to a lesser degree programs, narrowing this scope through defining particular boundaries.

Cost Effectiveness. The cost-effectiveness principle described by Freeman was identified in five sites, with four defined as concordant. The model's definition of cost effectiveness is efficient resource utilization, "commensurate with the training and skills necessary to navigate an individual through a particular phase of the care continuum" (Freeman and Rodriguez 2011), which is distinct from the traditional health service research definition. Some programs used highly compensated navigators with clinical or graduate degrees to perform tasks that could be accomplished by lay individuals. For example, one navigator who was trained as an RN was observed sending reminder letters to all patients overdue for mammograms, followed by calls to schedule mammograms. These tasks would, by definition, be considered below the scope of RN practice.

Three of the programs supplemented employed navigators with volunteers who provided clerical or logistic support: *There's just one [navigator], so it's one [reminder] call, then a letter. Volunteers help with the mailing [Site 9].* At Site 4: *Navigator I explains that ACS coordinates volunteer drivers who provide transportation for medical visits.* While this observational examination of navigator activities did not allow for a full exploration of efficiency in delivery of navigation services, there was evidence that indicated some programs attempted to use volunteer resources to increase cost effectiveness.

Defined Beginning and End of Navigation. Eight of ten sites showed evidence of defined protocols for moving patients in and out of navigation. Protocols were partially dictated by the scope of navigator practice and range of services

provided by the program. Identifying patients for navigation through specific protocols was often time intensive:

> She says there are monthly reports from Pathology for all patients newly diagnosed here in the past month. Navigator Q reviews them and assigns them to navigators. [Site 7]

This program deemed all patients with newly diagnosed cancer as eligible for navigation services. Some sites that navigate all patients defined boundaries along the continuum of cancer care: *Patient 9 is out of Navigator F's system now that she's getting chemo. The patient is now in Chemo-Navigator's system [Site 2].* This program defined the end of navigation as the transition to the next phase of cancer care.

Other programs used needs-based protocols: "Social Worker 2 will interview all recently diagnosed patients and then refer them to the navigation program if they need more help" [Site 3]. While two sites did not establish discrete protocols for patients to be navigated, navigators still established ways in which they identified patients in need of navigation:

> Navigator K sees Patient 9, female, in the office. She recognizes her as a patient she hasn't met. . . Navigator K says she can tell because "I don't know their faces." [Site 5]

These examples demonstrate the highly variable methods by which programs defined processes for moving patients through navigation: Some used broad criteria, such as navigating based on the phase of care, while others used individual, needs-based methods.

Coordinated System. This principle presented challenges in creating an operational definition based on the vague conceptualization in the nine-principle model. Coding focused on two observable aspects of a coordinated system: (1) evidence of a management team guiding navigation and (2) established metrics or targets to evaluate navigator performance. Six of the programs had designated management teams for their navigators, although significant variation was present in their structures. Programs had navigator-supervisors, dedicated program directors, or clinically based supervisors. An example of a comprehensive management structure was observed at Site 2:

> Navigator F attends a monthly meeting with the "task force," which includes NP, data people, nutrition, outreach nurse, PA at breast institute, radiology people, etc.

Such programs demonstrated how patient navigators were situated in clinical teams functioning to provide a system of navigation beyond the individual.

The second criteria indicating a coordinated system of navigation was the act of patient navigators recording actions taken with patients or targeting objective metrics. Four sites were concordant with this definition:

> At 6 months, 1 year, and 18 months, Navigator V fills out a report on how the patient is doing. Navigator V describes the Navigator Tracking Form navigators use to report their activities to the program director. [Site 9]

This points to how the patient navigator role bridges clinical and administrative realms within the health care system. Programs were structured using supervisors and navigators in various capacities, with observed differences in reporting to clinical and/or administrative stakeholders. Approximately half of programs demonstrated structured coordination, but only two programs had both formalized reporting systems and a management structure.

Resource Identification. Navigators at all 10 sites participated in seeking new resources to provide services to their patient populations. The resource identification principle was inductively added to capture navigator efforts that identify new sources of funding and/or resources and aim to improve existing activities. These efforts represent a specific type of activity focused on community needs versus individual needs not captured in patient-centric care.

Resource identification aimed to improve both the patient experience and the program's ability to provide quality care:

> She explains that she once got in trouble for giving a patient cash. It is against hospital policy for employees to give out cash to patients. One way she has gotten around this is by creating an Emergency Fund for patients. Navigator H designs and makes jewelry, and so, in the past she has held a jewelry sale with the proceeds going to the Patient Navigation Emergency Fund. That way, money is there for patients if they are really in a bad situation or they need something and Navigator H doesn't have a donated service to help them out. [Site 3]

All sites observed were active in these creative efforts which appeared to aim at creating sustainability by anticipating the future needs of patients at the program level. Activities were diverse and highlighted community differences. All sites were observed to be concordant with this proposed principle definition.

System Improvement. Patient navigators in seven programs were observed participating in system improvement efforts aimed at reducing systems-level barriers to care or improving the ability to navigate patients. These efforts exemplify the importance of navigation as situated within the health care system and its ability to integrate disparate processes. While the bulk of activity is directed at integrating care for patients, navigators were also primed to identify areas for system improvement.

> If the patient gets a mammogram only, with no [clinical breast exam], then there's no record in the chart. This makes it difficult for Navigator C, who is responsible for documenting all screening mammograms to the [Program]. She thinks a form should be developed that would allow the mammogram tech to record that a mammogram was done, which could be inserted into the patients' charts. [Site 1]

> [Navigator G] explains that she is working with the IT department to create a new clinical form to put in the EMR to use instead of paper forms, and up until this point she has served as the point-person for IT. [Site 3]

These cases demonstrate the problem-solving skills that navigators apply not only to addressing patient barriers but also to systems barriers they encounter in their daily navigation.

Program Comparisons. Program characteristics described in Table 2 were examined as they related to other programs and each of the nine principles. The use of paid versus volunteer navigators was strongly associated with concordance with the principle of care integration. Hiring navigators as employees as opposed to volunteers allowed access to confidential medical record systems. The one site that did not demonstrate integration of care used exclusively volunteer navigators without access to medical record or scheduling systems. This appeared to be the essential feature driving the ability of navigators to integrate care in a manner reflective of the nine-principle model definition of care integration.

A second pattern emerged as related to the scope of role principle. The sites that were categorized as discordant on this principle were those that required clinically based degree qualifications among navigators. Navigators with these types of degrees did not demonstrate concordance with this principle as their role often blended with that of their clinical degree. In these sites navigator responsibilities were not distinguished from those of an RN or MA. This was also true when volunteers were used as navigators. Volunteer

navigators often were observed to perform tasks that were normally executed by staff, such as retrieving pillows and blankets during chemotherapy infusions.

DISCUSSION

With the rapid dissemination of patient navigator activities and programs, there is an urgent need to understand how programs are organized and to characterize the activities they conduct. Our analysis divided the nine-principle model into individual-level and program-level principles through empirical assessment. Evaluating 10 breast cancer navigation programs using published principles of navigation indicated that programs were broadly consistent in the application of individual-level principles. Individual-level principles reflect other authors' conceptions of the instrumental and relational interventions performed by navigators in a variety of settings (Jean-Pierre et al. 2011). In contrast, program-level principles demonstrated considerable variation in practice, a phenomenon reflected in other research (Wells et al. 2008; Wilcox and Bruce 2010; Jean-Pierre et al. 2011). In addition to the nine core principles previously put forth, we distinguished two new components of patient navigator activities: System Improvement and Resource Identification.

Despite encouragement for institutions to implement patient navigation in hospitals and clinics (Fashoyin-Aje, Martinez, and Dy 2012), there is little consensus on how navigation should be implemented. The observed variation in local implementation was not unexpected given the body of literature on innovation diffusion. When new care delivery systems like patient navigation are implemented, the process is often nonlinear and disorderly. The process of diffusion "proliferates into complex bundles of innovation ideas, and divergent activities by different organizational units" (Van de Ven et al. 1999). This is similar to the variation seen across these 10 programs.

Patient navigation is a complex innovation, attempting to integrate a new role that interacts with several different professional groups. Ferlie and colleagues have documented the additional challenges associated with implementing innovations that change practices across groups of professionals (Ferlie et al. 2003). The navigator role, without a clear focus, may be adapted by each professional group with which the navigator interacts, expanding the scope of the navigator role as we observed in this data. This may be particularly true when nurse navigators are perceived to be part of the nursing team.

A clear scope of the navigator role is an essential principle in supporting navigators to meet the goal of integrating care in a patient-centric manner. These considerations are important in implementing and sustaining navigation programs that provide meaningful improvements in patient care for populations as well as individuals.

Zapka and colleagues published a model in 2010 documenting a set of transitions and interfaces representing multi-level gaps in the pathway from cancer screening to diagnosis and treatment (Zapka et al. 2010). This framework identifies processes that are amenable to patient navigation interventions applying Freeman's principles. For example, referrals for diagnostic evaluations require both physician coordination and patient acceptance. Navigator tasks related to the principles of integrating care within the system and eliminating patient barriers represent aspects of navigation that may close this identified gap. The coordinated system of navigation principle further applies across Zapka's continuum which provides a systematic and complementary framework to aid navigators in targeting gaps in processes of care associated with cancer screenings.

Navigators provide a unique role in health care: They aid patients in negotiating disjointed processes of care, crossing boundaries imposed by specialization. Our findings suggest that a key program feature that allowed navigators to bridge professional and organizational boundaries was the use of paid navigators who have access to medical records, practice schedules, and other protected health information. There has been little systematic investigation of the role of the volunteer navigator in the United States. Canadian policy has drawn attention to the different roles that staff and volunteer navigators hold (Canadian Partnership Against Cancer 2010; Lorhan et al. 2013). The distinction between the capacity of these two roles and their impact on the delivery of navigation warrants further examination and consideration.

Although it is imperative that programs address local disparities, there remains an inherent tension in balancing worker capacity with community needs. Navigators may be hired based on skills that serve the target population, which need to be balanced with concerns of efficiency in navigation practice. The development of specific program goals may aid in balancing these concerns. Others similarly support navigation as a goal-oriented intervention, encouraging programs to employ navigation services to improve specific outcomes of interest (Paskett, Harrop, and Wells 2011). Producing goal-oriented navigation programs holds promise for creating inclusive navigation models that allow for varied implementation according to specifically defined prevention or disease outcomes.

A major strength of this analysis is the direct observation of navigator activity measured independently of program intent. There are several limitations to our analysis. First, this study is an exploratory analysis of the Freeman nine-principle framework within 10 breast cancer navigation programs, and as such is not representative of patient navigation nationally. There was the potential for similarities in these programs as they were supported by the same funding agency and therefore shared requirements for reporting. Even within this context, we observed significant variation in program implementation. The imputing of intent based on the observational data represents a limitation of this project's scope and could be overcome by a comprehensive program analysis. Future work could involve more detailed analysis of how navigation spans health systems and types of care (i.e., primary vs. tertiary). Finally, our data are not linked to outcomes; therefore, we cannot comment on which principles or activities are associated with best practices.

This research assesses one framework for defining the navigator role as focused on eliminating barriers through the provision of patient-centric care that integrates the fragmented health care system. The set of programs observed in this sample reflected navigation as described by others as facilitating care through identifying specific needs of patients in the community. This was evidenced by the varied approaches to implementing programs that were tailored to local context and focused on community needs. The diversity of implementation in these programs provides an argument for broad consensus criteria around creating targeted, context-specific program goals addressing population needs. Creating these contextually driven goals will provide programs with the opportunity to measure navigation effectiveness, which is needed to provide support for the navigator role. Lastly, creating guidance for program development around goal setting and navigator management may increase the ability of navigators to effectively manage their role that bridges program and community interests.

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SUPPORTING INFORMATION

Additional supporting information may be found in the online version of this article:

Appendix SA1: Author Matrix.