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Comparing Clinical and Non-Clinical Cancer Patient Navigators: A National Study in the United States

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Abstract

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AUTHOR CONTRIBUTIONS: Kristen J. Wells: study design, survey development, text writing, and text editing. Patrick Wightman: statistical analysis and text editing. Rosa Cobian Aguilar: text writing and text editing. Andrea J. Dwyer: study design and text editing. Cristian Garcia-Alcaraz: text writing and editing. Elba L. Saavedra Ferrer, text editing. Prashanthinie Mohan: data management and analysis and text editing. Linda Fleisher: text editing. Elizabeth Franklin: text editing. Patricia A Valverde: study design, text editing. Elizabeth F. Calhoun: study design, survey development, text editing

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Background: A nationwide survey was conducted to examine differences between clinical and non-clinical oncology navigators in their service provision, engagement in the cancer care continuum, personal characteristics, and program characteristics.

Methods: Using convenience sampling, 527 oncology navigators participated and completed an online survey. Descriptive statistics, chi-square statistics, and *t* tests were used to compare non-clinical (e.g., community health worker) and clinical (e.g., nurse navigators) navigators on the provision of various navigation services, personal characteristics, engagement in the cancer care continuum, and program characteristics.

Results: Most participants were clinical navigators (76.1%). Compared to non-clinical navigators, clinical navigators were more likely to have a bachelor's degree or higher (88.6% versus 69.6%, $p<.001$), be funded by operational budgets (84.4% versus 35.7%, $p<.001$), and less likely to work at a community-based organization or non-profit (2.0% versus 36.5%, $p<.001$). Clinical navigators were more likely to perform basic navigation ($p<.001$), care coordination ($p<.001$), treatment support ($p<.001$), and clinical trial/peer support ($p=.005$). Clinical navigators were more likely to engage in treatment ($p<.001$), end of life ($p<.001$), and palliative care ($p=.001$) navigation.

Conclusion: There is growing indication that clinical and non-clinical oncology navigators perform different functions and work in different settings. Non-clinical navigators may be more likely to face job insecurity, as they are mostly funded by grants and work in non-profit organizations.

PRECIS:

There is growing indication that clinical and non-clinical oncology navigators perform different functions and work in different settings. Non-clinical navigators may be more likely to face job insecurity, as they are mostly funded by grants and work in non-profit organizations.

Keywords

Neoplasms; Patient navigation; Community health workers; Early detection of cancer; Cancer survivors

Introduction

Dr. Harold P. Freeman developed the first patient navigation (PN) program to improve cancer outcomes in ethnically and racially diverse populations and populations with fewer resources. PN is defined as a barrier-focused and patient-focused intervention that 1) identifies and helps patients overcome logistic and individual barriers to the receipt of and timeliness of many types of cancer-related care; 2) is provided to patients for a defined episode of health care; 3) ends when services provided are completed; 4) targets a defined set of health services required during an episode of cancer care; and 5) is a flexible intervention approach that can be adapted to meet the needs of each patient[1,2]. PN is effective at improving timely adherence to and uptake of recommended screening and diagnostic care for breast, cervical, colorectal, lung, and prostate cancer [2–11], with mixed findings on whether PN improves cancer treatment and survivorship outcomes[6,10,12].

Cultural humility and professional background are important considerations for developing a staffing plan for PN programs[13]. Based on these considerations, there appears to be three general types of PN staffing models[13–15]. Non-clinical PN is provided by navigators who are "cultural brokers and interpreters,"[15] such as community health workers, peers, and other degreed professions.[16] These navigators are often members of the community being served who are trained to perform PN. On the other hand, clinical PN is delivered by social workers, nurses, or others with medical training. The multidisciplinary PN staffing model includes a team of both non-clinical and clinical patient navigators[1].

A small body of work has compared the effectiveness and practices of non-clinical versus clinical patient navigators. Jandorf et al. compared non-clinical and clinical PN interventions on completion of screening colonoscopy[17]. At the end of 24 months of PN in their randomized controlled trial, 71.3% of 134 patients who received non-clinical PN and 80% of 106 patients who received clinical PN obtained a screening colonoscopy, finding no statistically significant difference (p=0.072) between the two staffing models. In their meta-analysis, Ali-Faisal et al. compared effectiveness of non-clinical (n=6 studies) and clinical (n=7 studies) PN programs and found that both PN interventions were equally effective at improving receipt of cancer screening (e.g., mammogram, Pap test, colonoscopy; p<0.00001).[3]

A number of studies have tracked common tasks or actions that patient navigators perform during PN interventions (e.g., delivering education)[18,19]. However, only one nationwide study examined differences between five different types of patient navigators — which included 289 clinical nurse navigators, 164 clinical social work navigators, and 231 non-clinical (or "lay") navigators — on engagement across five PN services, patient population served, and work setting characteristics[16,20]. Compared to non-nurse navigators, nurse navigators were less likely to speak an additional non-English language, identify as Latino/a, and have received at least five days of training, but were more likely to work in hospital or governmental agency settings and have been a caregiver for a cancer patient. Compared to non-social-work navigators, social work navigators were more likely to be younger and navigate Medicare patients but were less likely to work with underserved patients. Compared to clinical navigators, non-clinical navigators were more likely to identify as Latino/a, be a cancer survivor, work in community-based organizations (CBOs), and have received at least five days of training.

By conducting factor analyses using 83 items assessing types of PN tasks (e.g., arrange child care), this nationwide study also identified the following overarching PN services: 1) basic navigation; 2) making arrangements and referrals to services; 3) care coordination; 4) treatment support; and 5) clinical trials/peer support (see Table 1)[16]. Compared to social work navigators, nurse navigators were significantly more likely to engage in basic navigation, care coordination, treatment support, and clinical trials/peer support, yet significantly less likely to engage in making arrangements and referrals to services. Compared to non-clinical navigators, nurse navigators were significantly more likely to engage in treatment support, clinical trials/peer support (i.e., support groups), and making arrangements and referrals to services. When compared to non-clinical navigators, social

work navigators were significantly more likely to engage in treatment support and making arrangements and referrals to services.

In the 10 years since the last nationwide study was conducted, there has been tremendous growth in the field of PN, with many larger healthcare systems embracing PN and oncology accreditation standards evolving to include PN. Therefore, the purpose of this nation-wide cancer patient navigator study was to build on the previous national patient navigator study[16,20] to evaluate: 1) whether clinical and non-clinical navigators differ regarding where in the cancer continuum they work; 2) differences between non-clinical and clinical navigators regarding their work environment; and 3) differences and similarities in self-reported PN tasks by type of navigator.

Methods

Overview

As described elsewhere,[21] the Evidence-Based Promising Practices Task Group of the National Navigation Roundtable (NNRT) collaborated with the American Cancer Society Statistics & Evaluation Center (SEC) to administer a cross-sectional, web-based national survey to patient navigators and patient navigator supervisors and administrators working at oncology PN programs. The aim was to identify the barriers and facilitators to implementation of oncology PN metrics. After approval by the University of Arizona institutional review board, the survey was broadly distributed on April 17, 2019, and closed for responses on July 3, 2019.

Participants

To be included in the NNRT survey, participants were required to: 1) self-identify as a patient navigator or PN program administrator or supervisor; 2) read English; and 3) be willing to assent to study participation. This study focused on the oncology patient navigator participants.

Data Collection

Through an iterative process, the NNRT Evidence-based Promising Practices Task Group developed the survey. Qualtrics, a secure online survey software, was used to administer the survey via an anonymous link. There is not an existing sampling frame of patient navigators and patient navigation program administrators. Thus, convenience sampling was used to obtain the study sample. The link was distributed via a standardized email that invited NNRT members to complete the survey if they met inclusion criteria. The email also encouraged members to distribute the survey within their organization(s), professional network(s), and communities. In addition, the NNRT and individual NNRT members distributed the survey via personal outreach, social media, and oncology navigation listservs. Qualtrics provided the final data set in the form of a flat file. No respondent-identifying information was included in this file. At the end of the data collection period, 750 individuals completed the survey (527 patient navigators and 223 administrators). There were an additional 376 incomplete surveys (where individuals opened or started completing

the survey but did not submit it). This paper presents data from the 527 patient navigators who completed and submitted the survey.

Measures

Navigator Variables—Participants completed a series of items that inquired about their educational background (1 item), job title (1 item), and navigation work (3 items). The job title item contained 14 response options, but was recoded into three categories [i.e., nurse navigator, social work navigator, and non-clinical navigator (i.e., lay navigator, community health worker, case manager)] for descriptive analyses. Because there was a small number of social work navigators, the job title item was further re-coded into clinical navigators (i.e., social work and nurse) versus non-clinical navigators for statistical comparisons. The educational background item contained eight response options, but was re-coded into three categories (i.e., high school/GED/Associate's Degree/Some College; Bachelor's Degree; and Master's Degree, Doctoral Degree, or Post-Graduate Education). No recoding was conducted for the three navigation work items. These items assessed place(s) on the cancer continuum where the participant navigates (i.e., outreach/education, screening/early detection, high risk screening, up to diagnosis, treatment, survivorship, end of life, palliative care); responsibilities listed in their job description [i.e., 1) ethical, cultural, legal, and professional issues; 2) client and care team interaction and communication skills; 3) health knowledge; 4) patient care coordination; 5) practice-based learning; and 6) system-based practice]; and number of years in role as a navigator (i.e., < 1 year; 1-2 years; 3-5 years; 6-10 years; and > 11 years).

Program Characteristics—Participants completed five items assessing PN program characteristics. One item assessed the U.S. state where their program is located and was recoded into five regional categories (i.e., Northeast, West, Midwest, South, and multiregional). Participants completed an item with four response options assessing urbanity, which was recoded as rural/frontier, urban, and suburban. One item with nine response options assessed work setting, which was recoded into six categories (National Cancer Institute [NCI] cancer programs; academic and teaching institutions; non-academic programs with less than 500 newly diagnosed cancer patients per year; non-academic institutions with more than 500 newly diagnosed cancer patients per year; community-based and non-profit organizations; and primary care practice or other work settings). Participants also completed a free text response item which assessed the name of the organization in which they provide patient navigation. Responses to this item were grouped according to the organization name. One item assessed funding source through four categories (i.e., operational/budget only, operational and grant, grants only, and unknown); however, the unknown category was eliminated from analyses due to few responses.

Navigation Tasks—Similar to Wells et al.'s study,[16] participants completed 38 items assessing their engagement in various PN tasks. For each of these items, participants indicated whether they: 1) did the tasks themselves; 2) refer patients elsewhere; or 3) whether the task was not applicable. Of the 38 items, 32 items were similar to items used in Wells et al.'s study.[16] From these 32 items, 7 items were used to create a basic navigation scale, 8 items to create a making arrangements and referrals to services scale, 9 items to

create a care coordination scale, 6 items to create a treatment support scale, and 2 items to create a clinical trials/peer support scale (see Table 1 for description of each scale). To score each scale, the number of items that a participant responded “I do myself as the navigator” was divided by the number of items on the scale.

Statistical Analyses

For non-clinical navigators, social work navigators, and nurse navigators, frequencies and percentages were calculated for the “I do myself as the navigator” and “I refer elsewhere” responses for each of the 32 navigation tasks. Chi-square tests evaluated differences between non-clinical navigators and clinical navigators (i.e., nurse navigators and social work navigators) on navigator and work characteristics (i.e., education, tenure in role, location of program in U.S., setting where navigator works, work environment, where on the cancer continuum navigator provides navigation, navigation program funding sources, and responsibilities and expectations in job description). T-tests evaluated differences between non-clinical and clinical navigators on the mean scores of the basic navigation scale, making arrangements scale, care coordination scale, treatment support scale, and clinical trials/peer support scale. An alpha level of .01 was used to control for multiple comparisons. All analyses were performed in SAS.

Results

Navigator Characteristics

Table 2 includes demographic, work, and navigation program characteristics for all navigators, non-clinical navigators, and clinical navigators. Participants in the study worked at 277 unique organizations, with the majority of organizations having only one (66.1%) navigator or two (32.5%) navigators who participated in the study. Most oncology patient navigator participants had a bachelor’s degree (55.3%), worked in the Midwest (34.0%) or South (37.0%) of the United States, worked in urban (41.6%) or suburban (39.8%) areas, provided outreach (60.2%) or survivorship (63.6%) navigation, and were funded by operational budgets (72.9%). Most (n=369; 70.0%) patient navigators identified as nurse navigators, 32 identified as social work navigators (6.0%), and 126 identified as non-clinical navigators (23.9%). After combining nurse and social work navigators, there were 401 (76.1%) clinical navigators. Non-clinical navigators (30.3%) were more likely to have some college or a high school degree when compared to clinical navigators (11.3%), whereas clinical navigators (58.9%) were more likely to have a bachelor’s degree when compared to non-clinical navigators (43.4%; $p < .0001$). No statistically significant differences between navigator staffing models were found for number of years in role as a patient navigator.

Navigator Work Characteristics

Using chi-square tests, statistically significant differences between non-clinical and clinical navigators were found for several work characteristics (Table 2). For regionality, non-clinical navigators were more likely to be employed in the Northeast (41.3% versus 16.2%), West (33.3% versus 13.2%), or have multiregional employment (15.9% versus 0.2%) when compared to clinical navigators ($p < .0001$). For work setting ($p < .0001$), non-clinical navigators were more likely to work in community-based and non-profit organizations

(36.5% versus 2.0%) when compared to clinical navigators, whereas clinical navigators were more likely to work at higher volume non-academic institutions (> 500 newly diagnosed patients per year; 20.9% versus 4.8%) and in lower volume non-academic institutions (< 500 newly diagnosed patients per year; 37.2% versus 24.6%) when compared to non-clinical navigators. For funding source ($p < .0001$), clinical navigators were more likely to work at a program funded by operational budget (84.4% versus 6.2%) and were less likely to work at a program funded only by grants (6.2% versus 28.7%) or funded by both grants and operational budget (9.4% versus 35.7%) when compared to non-clinical navigators.

Clinical navigators were more likely to report all six types of job responsibilities and expectations were included in their job descriptions (range: 82.5% to 96.8%) when compared to non-clinical navigators (range: 67.5% to 83.5%, p range = .007 to < .001). Regarding the areas of the cancer continuum where participants provided navigation, clinical navigators were more likely to provide treatment (86.5% versus 64.3%, $p < .001$), end of life (20.6% versus 39.2%, $p < .001$), and palliative care navigation (31.7% versus 48.9%, $p = .001$). No statistically significant differences were found for performing outreach/education, high risk screening, and cancer diagnostic navigation.

Navigation Tasks

Using a series of t tests, statistically significant differences were found between non-clinical and clinical navigators on all navigation task scales (Table 3). Clinical navigators were more likely to engage in activities related to basic navigation ($p <.001$), care coordination ($p < .001$), treatment support ($p < .001$), and clinical trial/peer support ($p = .005$) when compared to non-clinical navigators.

Table 4 presents the frequencies of performing various navigation tasks for nurse navigators, social worker navigators, non-clinical navigators, and all patient navigators. The majority of all three types of navigators reported providing all types of basic navigation tasks and referring patients to support groups. On the other hand, nearly none of the navigators surveyed reported that they consented and enrolled participants in clinical trials. In general, many social work navigators reported performing tasks related to making arrangements. On the other hand, few nurse navigators reported making arrangements, other than arranging transportation. Many nurse navigators reported performing a number of tasks related to care coordination, especially in helping patients find a health care provider, scheduling and coordinating medical appointments, reminding patients of future appointments, preparing patients for physician visits, and going with patients to appointments. Both social worker and nurse navigators reported providing treatment support, although there were more social work navigators reporting that that they conducted distress and psychosocial assessments, assisted patients in obtaining counseling and spiritual services, and discussed death and dying issues with patients.

Discussion

This is the second nationwide study of patient navigators and the first to focus exclusively on patient navigators that provide cancer care. Findings from this study resemble the findings from the first nationwide study[16,20], which suggested that nurse, social worker,

and non-clinical navigators differ in the provision of navigation services. Clinical cancer navigators, which included nurse and social worker navigators, were substantially more likely to provide care coordination, treatment support, peer support, and basic navigation services. Furthermore, very few navigators reported consenting and enrolling patients in clinical trials, which is surprising given that many study participants were nurse navigators.

Under the non-clinical PN staffing model[15], patient navigators are not required to have a college degree, but novel findings from this study indicate that many non-clinical navigators are in practice highly educated, with 69.6% having at least a bachelor's degree. In accordance with the clinical PN model[9,14], clinical navigators in the present study were highly educated, with 88.6% having at least a bachelor's degree. Although previous findings suggest non-clinical navigators work more in rural areas than clinical navigators[20], present findings suggest that both types of navigators work equally across urban, rural/frontier, and suburban areas. As suggested by the present findings and previous findings[20], non-clinical navigators are more likely to work at CBOs or non- profits, at navigation programs funded by grants, and unlikely to be funded by operational budgets alone. Clinical navigators are more likely to be funded by operational budgets, which are assumed to be more stable than grant funding.

This study is the first to compare clinical and non-clinical navigators on their engagement in the cancer care continuum. Findings indicate that most navigators provide outreach and education. Clinical navigators are more likely than non-clinical navigators to provide services related to cancer treatment, palliative care, and end of life care. Clinical training could explain differences in engagement in the cancer care continuum between non-clinical and clinical navigators. Compared to non-clinical navigators, clinical navigators possessed social work or nursing degrees, which would qualify them to perform more clinically-based tasks (e.g., therapy, survivorship care). A recent mixed-methods study indicated that non-clinical navigators may have more difficulty navigating the treatment and palliative care areas of the cancer care continuum[22].

Our study indicates that non-clinical navigators may experience job insecurities even with high rates of college education because their funding mainly depends on grants, which may not a stable source of income to employers. However, there were no differences in job tenure between clinical and non-clinical navigators across all settings. To date, no longitudinal study has examined factors associated with turnover and job retention among patient navigators, indicating a promising new area of research in the field of cancer PN. A better understanding of factors associated with turnover and job retention could lead to the development of policy and organizational approaches to meet growing labor demand for patient navigators[23] from being unmet as well as help ameliorate the shortage of health workers in the United States[24]. In addition, it is critical to provide non-clinical navigators with stable employment because they tend to navigate people to cancer early detection services, which may have life-saving benefits. Studies have found strong evidence that PN is most effective for improving screening and early detection for cancer.[2–9,11] To retain non-clinical navigators performing this critical cancer navigation in the workforce, policy makers should create uniform reimbursement approaches for these navigators' services nationwide rather than relying on the patchwork of funding and reimbursement options available to fund

these types of navigation programs. However, in order for this to be feasible, consensus on PN core competencies needs to be established.

Participants reported being employed at a variety of organizations, and the majority of participants reported that their patient navigation program was supported by operational funding alone. These findings indicate that PN is a model that has been adopted more broadly in healthcare. While there have been several studies investigating the cost of PN[10,25], additional studies should investigate characteristics associated with successful implementation of cancer PN in these health care systems[26].

In addition, given the differences found across staffing models of PN, future studies should investigate whether navigator characteristics impact navigation outcomes, and compare differences in the outcomes and costs of PN by type of navigation staffing models in cancer diagnosis, treatment, and survivorship. Early studies indicate there is no differences between PN staffing models in early detection outcomes, but there have been no studies comparing outcomes for different navigation staffing models in other areas of the cancer continuum. As it is clear that some navigators rarely perform certain core navigation tasks, future studies should evaluate which types of PN tasks are the most effective in reducing cancer-related disparities and improving quality of care.

Although novel, this study has limitations. The previous nationwide study used respondent-driven sampling[16,20], but the present study used convenience sampling, as no list of all patient navigators in the United States exists. Thus, we are unable to calculate a response rate for the study. Also, fewer non-clinical navigators participated when compared to the previous national study, and most clinical navigators were nurses, potentially reflecting changes in the field or differences in sampling participants. It is also important to note that while social work and nurse navigators were collapsed into a single clinical navigator category, their duties likely differ according to scope. Future studies should seek more significant social worker navigator participation. Compared the previous study,[16,20] substantially fewer demographic data were collected from patient navigators.

This study and the previous nationwide study[16,20] provide salient information on how navigator staffing models differ in navigation services, patient populations served, and work setting characteristics. Although many non-clinical navigators have comparable education levels to clinical navigators, non-clinical navigators are less engaged across the cancer care continuum. Non-clinical navigators are probably more likely to face job insecurity, as they mainly work for programs that are fully or partially funded by grants[26]. Finally, very few practicing oncology navigators reported providing clinical trial navigation, indicating that this is not a core task performed by oncology patient navigators, even nurse navigators. Future research should investigate if there are differences in cancer-related outcomes by PN staffing model. Finally, given the effectiveness of PN, policy makers should create uniform approaches to reimbursee all cancer patient navigators' services nationwide.

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Table 1.

Description of Patient Navigation Tasks.*

Task	Description of Task
Care coordination	Coordination of medical visits and medical appointment scheduling
Treatment support	Supporting treatment by providing information regarding the treatment plan; assessing and supporting emotional health and psychosocial concerns
Clinical trials and peer support	Facilitation of clinical trials and arrangements for peer support
Basic navigation	Identifying and addressing patient needs and barriers; providing information; patient follow-up
Making arrangements and referrals to services	Making arrangements for services, referring patients to resources

* Table adapted from: Wells KJ, Valverde P, Ustjanauskas AE, Calhoun EA, Risendal BC. What are patient navigators doing, for whom, and where? A national survey evaluating the types of services provided by patient navigators. *Patient Educ Couns*. 2018;101(2):285-294.

Table 2

Comparisons of Demographic and Work Characteristics of Non-Clinical and Clinical Navigators.

Characteristic	All Navigators (n=527) (%)	Non-Clinical Navigator (n=126) (%)	Clinical Navigator (n=401) (%)	Chi-Square p-value
Navigator education				< 0.001
High school/GED, Associate's Degree/ some college	15.8	30.3	11.3	
Bachelor's degree	55.3	43.4	58.9	
Master's, postgraduate education, or Doctorate	28.9	26.2	29.7	
Years in role as a navigator				0.627
Navigator < 1 year	11.4	9.5	12.0	
Navigator 1-2 years	22.2	25.4	21.2	
Navigator 3-5 years	30.0	31.0	29.7	
Navigator 6-10 years	23.1	19.8	24.2	
Navigator 11+ years	13.3	14.3	13.0	
U.S. region where navigation program is located				< 0.001
Northeast	22.2	41.3	16.2	
West	18.0	33.3	13.2	
Midwest	34.0	37.3	32.9	
South	37.0	32.5	38.4	
Multi-region	4.0	15.9	0.2	
Setting in which navigator works				0.221
Rural or frontier	18.6	21.4	17.7	
Urban	41.6	45.2	40.4	
Suburban	39.8	33.3	41.9	
Primary practice or work environment setting				< 0.001
National Cancer Institute Cancer Programs	11.4	8.7	12.2	
Academic and Teaching Institutions	12.5	9.5	13.5	
Non-Academic Institutions (< 500 newly diagnosed patients per year)	34.2	24.6	37.2	
Non-Academic Institutions (> 500 newly diagnosed patients per year)	17.1	4.8	20.9	
Community Based and Non-Profit Organizations	10.2	36.5	2.0	
Primary Care Practice or Other Work Setting	14.6	15.9	14.2	
Navigation program funding source(s)				< 0.001
Operational/budget only	72.9	35.7	84.4	
Operational and grant	15.6	35.7	9.4	
Grants only	11.5	28.7	6.2	
Responsibilities and expectations in job description				
Ethical, cultural, legal, professional issues	89.4	78.6	92.8	< 0.001
Client and care team interaction and communication skills	93.5	83.3	96.8	< 0.001
Health knowledge	90.9	75.4	95.8	< 0.001
Patient care coordination	86.5	67.5	92.5	< 0.001

Characteristic	All Navigators (n=527) (%)	Non-Clinical Navigator (n=126) (%)	Clinical Navigator (n=401) (%)	Chi-Square p-value
Practice-based learning	79.9	71.4	82.5	0.007
Systems-based practice	79.1	67.5	82.8	< 0.001
Where on the cancer continuum navigator provides navigation				
Outreach/education	60.2	58.7	60.6	0.709
Screening/early detection	38.0	46.8	35.2	0.019
High risk screening	29.8	32.5	28.9	0.439
Up to diagnosis	35.7	35.7	35.7	0.991
Treatment	81.2	64.3	86.5	< 0.001
Survivorship	63.6	54.0	66.6	0.010
End of life	34.7	20.6	39.2	< 0.001
Palliative care	44.8	31.7	48.9	0.001

Table 3.

Differences in the Average Number of Various Tasks Performed by Non-Clinical and Clinical Navigators.

	All navigators (n=527)		Non-clinical navigators (n=126)		Clinical navigators (n=401)		Differences		
	Mean	SD	Mean	SD	Mean	SD	Difference	*t*	*p*
Care coordination	5.13	2.74	4.11	3.30	5.44	2.46	−1.34	4.9	<.001
Treatment support	5.31	3.06	2.47	2.71	6.21	2.58	−3.73	14.0	<.001
Clinical trials and peer support	4.15	2.43	3.61	2.73	4.31	2.31	−0.70	2.8	.005
Basic navigation	8.84	1.94	7.41	2.68	9.29	1.36	−1.87	10.4	<.001
Making arrangements	2.52	3.03	3.07	3.45	2.35	2.86	0.72	2.3	.020

Table 4

Percentages of Patient Navigators Who Reported Performing Patient Navigation Tasks.

	Nurse patient navigators (n = 369)		Non-clinical patient navigators (n = 126)		Social work patient navigators (n = 32)		All patient navigators (n = 527)	
	% Do myself	% Refer elsewhere	% Do myself	% Refer elsewhere	% Do myself	% Refer elsewhere	% Do myself	%Refer elsewhere
Basic navigation								
Provide general health education	86.18	11.92	61.90	30.16	56.25	28.13	78.56	17.27
Provide cancer related information	99.19	0.81	80.16	16.67	78.13	12.50	93.36	5.31
Assess patient literacy	88.35	7.32	64.29	14.29	71.88	12.50	81.59	9.30
Assess/identify patient needs/barriers to care	97.56	2.44	78.57	9.52	93.75	0.00	92.79	3.98
Develop plan of action to minimize/ address barriers to care	92.95	6.78	65.08	19.05	93.75	0.00	86.34	9.30
Problem solve with patient related to patient's issues/needs	97.56	2.44	82.54	11.90	93.75	0.00	93.74	4.55
Follow-up to see how patient is doing	95.12	3.25	86.51	6.35	84.38	3.13	92.41	3.98
Making arrangements and referrals to services								
Arrange transportation	40.38	58.27	49.21	28.57	71.88	21.88	44.40	48.96
Arrange financial & medication assistance	30.08	68.29	39.68	40.48	62.50	31.25	34.35	59.39
Arrange insurance coverage assistance (e.g., Medicaid)	10.03	88.89	28.57	51.59	46.88	46.88	16.70	77.42
Arrange housing & lodging	20.60	71.54	28.57	44.44	56.25	37.50	24.67	63.00
Arrange food resources	21.41	73.98	32.54	40.48	68.75	25.00	26.94	63.00
Arrange utility resources	15.99	79.13	26.19	46.83	65.63	28.13	21.44	68.31
Arrange legal resources	8.67	84.55	16.67	57.14	43.75	46.88	12.71	75.71
Refer for employment issues	15.18	78.86	23.81	48.41	65.63	25.00	20.30	68.31
Care coordination								
Help patients find health care provider	72.36	19.78	46.03	29.37	50.00	28.13	64.71	22.58
Schedule appointment(s) for cancer screening	27.37	50.68	32.54	32.54	9.38	46.88	27.51	46.11
Schedule appointment(s) for diagnostic follow up	44.17	44.72	35.71	34.92	15.63	50.00	40.42	42.69
Schedule appointment(s) for treatment	40.11	52.03	26.98	39.68	21.88	50.00	35.86	48.96

	Nurse patient navigators (n = 369)		Non-clinical patient navigators (n = 126)		Social work patient navigators (n = 32)		All patient navigators (n = 527)	
	% Do myself	% Refer elsewhere	% Do myself	% Refer elsewhere	% Do myself	% Refer elsewhere	% Do myself	%Refer elsewhere
Schedule/coordinate medical appointment(s)	67.75	27.64	45.24	25.40	34.38	40.63	60.34	27.89
Remind patients of future appointments	59.89	29.81	50.79	19.84	46.88	28.13	56.93	27.32
Prepare patients for doctor visits	78.05	12.47	53.97	19.05	56.25	18.75	70.97	14.42
Go with patient to appointments	54.74	11.11	32.54	19.84	40.63	9.38	48.58	13.09
Arrange language interpretation services	58.54	38.75	46.03	29.37	65.63	28.13	55.98	35.86
Treatment support								
Review and discuss treatment plan with patient	92.95	5.42	30.16	34.92	34.38	40.63	74.38	14.61
Administer distress screening	46.34	45.26	12.70	47.62	59.38	18.75	39.09	44.21
Discuss death and dying issues	57.72	36.59	22.22	46.83	75.00	18.75	50.28	37.95
Conduct psycho-social assessment	59.62	35.50	19.05	48.41	78.13	9.38	51.04	37.00
Refer for spiritual guidance	61.79	35.23	33.33	41.27	78.13	12.50	55.98	35.29
Refer/coordinate counseling appointments	51.22	45.53	30.95	42.86	78.13	21.88	48.01	43.45
Clinical trials/peer support								
Consent and enroll in clinical trials	6.78	73.98	4.76	50.79	3.13	62.50	6.07	67.74
Refer to support group	78.59	19.24	67.46	23.81	93.75	6.25	76.85	19.54