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Evaluating the sustainability of patient navigation programs in oncology by length of existence, funding, and payment model participation

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Abstract

BACKGROUND: For this study, the authors examined whether specific programmatic factors were associated with the sustainability of patient navigation programs.

METHODS: This cross-sectional survey explored navigation programmatic factors associated with 3 measures of sustainability: 1) length of program existence, 2) reliance on sustainable funding, and 3) participation in alternative payment models. In total, 750 patient navigators or program administrators affiliated with oncology navigation programs in clinical-based and community-based settings completed the survey between April and July 2019.

RESULTS: Associations were observed between both accreditation and work setting and measures of program sustainability. Accredited programs and larger, more resourced clinical institutions were particularly likely to exhibit multiple measures of sustainability. The results

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AUTHOR CONTRIBUTIONS

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also identified significant gaps at the programmatic level in data collection and reporting among navigation programs, but no association was observed between programmatic data collection/reporting and sustainability.

CONCLUSIONS: Navigation is not currently a reimbursable service and has historically been viewed as value-added in oncology settings. Therefore, factors associated with sustainability are critical to understand how to build a framework for successful navigation programs within the current system and also to develop the case for potential reimbursement in the future.

Keywords

cancer; navigation; nurse navigation; oncology; patient navigation

INTRODUCTION

Over the last 30 years, patient navigation has emerged as an effective strategy to address many of the barriers that prevent equitable access to timely, high-quality cancer care.¹ Patient navigation has been shown to increase cancer screening rates,²⁻⁷ increase adherence with follow-up for positive cancer screening tests,^{2,7} shorten the time to treatment initiation,^{2,7} improve patient satisfaction,^{2,7,8} and reduce anxiety for vulnerable populations.² Studies have also shown that patient navigation decreases utilization of certain high-cost services, including emergency department visits and hospital admissions among older patients with breast cancer⁹ and hospital readmissions among older, high-risk safety-net patients.¹⁰

The scope of patient navigation has historically been broad, involving various roles across the health care workforce—including nurse navigators, social workers, and nonclinical navigators—to meet a wide spectrum of patient needs.^{8,11} Therefore, professional organizations (including the Oncology Nursing Society, the Association of Oncology Social Work, and the National Association of Social Workers) have defined patient navigation services in broad terms, describing them as assistance offered to patients as well as families and caregivers tailored to their individual needs to help overcome health care system barriers and to expedite their timely access to quality health care and psychosocial care through all phases of the cancer experience.¹²

This broad, flexible framework has allowed health care institutions and nonprofits to develop models of patient navigation tailored to their individual needs and patient populations¹; however, it has also presented financial challenges. Despite the evidence supporting its value, patient navigation has not been integrated into traditional fee-for-service health care payment systems, which rely on narrowly defined roles and services. Medicare, Medicaid, and commercial insurance typically do not provide direct reimbursement for patient navigation. Instead, patient navigation programs have relied on alternative funding streams, such as grants, institutional/operational funding,¹³ and, more recently, value-based payment models.^{7,14}

In this environment, the sustainability of a patient navigation program may hinge on an array of factors beyond those that typically drive sustainability for reimbursable services.

The factors associated with sustainable patient navigation programs have not been closely examined or described in the existing literature.^{14,15} In this study, we analyze the results from a recent survey of navigators and navigation program administrators across the United States fielded by the National Navigation Roundtable (NNRT), as described elsewhere in this supplement,¹⁶ to identify institutional and program characteristics associated with sustainable patient navigation programs. A thorough understanding of these characteristics may help us identify key barriers and begin to create a professional model of sustainability to help guide navigation programs.

METHODS

Study Design

For this cross-sectional study, we used survey methodology to collect data on oncology patient navigation programs from individuals working in oncology patient navigation in the United States. Data were collected through a web-based survey sponsored by the Evidence-Based Promising Practices Task Group of the NNRT¹⁷ and in collaboration with the American Cancer Society Statistics and Evaluation Center.¹⁸ The goals of the survey were: 1) to describe the data and technology that navigators and program administrators use to track navigation outcomes, 2) to describe navigation program and navigator workforce variability, and 3) to identify additional tools and resources needed by patient navigators and navigation programs to support their work. The survey was not designed to be representative of all cancer patient navigators or their programs but, rather, to identify respondents' best knowledge and experience to begin the process of systematically understanding the practices, activities, and environments that characterize cancer patient navigation in general. This report presents a secondary analysis of survey data to explore measures of program sustainability.

Potential survey participants were identified by NNRT member organizations and were recruited through a convenience, snowball sampling process. Through this process, the survey was fielded to individuals in a range of institutional and community-based settings. Institutional settings were made up of clinical settings such as National Cancer Institute (NCI)-designated Comprehensive Cancer Centers, Academic Comprehensive Cancer Programs, Comprehensive Community Cancer Programs, oncology offices, community hospitals, and Federally Qualified Health Centers. Community-based settings included national and state-level community-based and nonprofit organizations.

Data were collected using Qualtrics, a secure online survey software program. Potential participants were sent an anonymous weblink to the online instrument by email and were encouraged to share it with other individuals involved in patient navigation. The survey was active between April 17, 2019, and July 3, 2019, and resulted in 750 completed surveys. Because of the recruitment method, there were some instances in which multiple respondents completed the survey from a single organization, often across different geographic sites. In total, surveys were submitted by respondents from 618 organizations and sites. All responses were included in our analysis because multiple navigation programs may operate at a single site or across multiple sites under a single organization. Criteria for inclusion included the following: 1) self-identify as a patient navigator or patient navigation

program administrator or supervisor and 2) English proficiency. The study protocol was approved by the University of Arizona Institutional Review Board.¹⁶

Measures

Sociodemographic, program, and institution characteristics—Study participants were asked to respond to questions about their sociodemographic characteristics (such as geographic location), professional characteristics (such as level of education, years of experience, navigator type, navigator responsibilities, point of care within the continuum, certification, and training experience), characteristics of their patient navigation program (such as electronic medical record use and data collection and reporting), as well as characteristics of their institution (such as program type and accreditation participation). Some survey questions (such as length of program existence) were limited to program administrators. In all other cases, questions were fielded to all respondents but included options allowing respondents to indicate that they were *unsure* where appropriate (such as source of funding, participation in accreditation and alternative payment models, and creation of data reports).

Robust data variable—We combined information related to program data collection and reporting to create an overall categorical measure of the use of data for program purposes, which we call the *robust data variable*. The robust data variable measured both the infrastructure in place for data collection and the ways programs used the data. This variable assigns equal weighting to each factor included. With respect to data collection, we assigned 1 point for reporting any data collection; 1 point for each type of data collection—1) patient-level, 2) navigator-level, and 3) operational-level; and 1 point for each use of technology—1) to assist data collection (eg, a tablet) and 2) to facilitate data storage and access (eg, electronic medical records). With respect to data use, we assigned 1 point for each type of report produced with the collected data—1) patient-focused, 2) navigator-focused, and 3) organization/operations-focused; 1 point for each type of report audience—1) cancer committee, 2) funders, and 3) leadership; and 1 point for each report purpose—1) monitoring navigator performance and 2) program design/process improvement. On the basis of this scoring, we divided respondents into 4 categories of data robustness: 1) none (no data collection or data-related activities), 2) minimal (1–4 points; some data collection with very limited utilization), 3) moderate (5–8 points; technology-assisted data collection and some utilization), and 4) extensive (9–14 points; robust data infrastructure and multiple uses).

Measures of sustainability—On the basis of the available data, we conceptualized sustainability using 3 survey measures: 1) length of program existence >5 years, 2) reliance on sustainable funding mechanisms (operational funding rather than grants), and 3) participation in alternative payment models that may create additional funds for nonreimbursable services such as navigation. These measures capture both program duration, which is the most common way that sustainability is defined and assessed in the literature,^{19,20} and access to resources, including sustained and varied funding, a particularly common component of frameworks used to predict or assess sustainability in the health care sector.²⁰

Length of program existence—Respondents were asked the length of time their navigation program was in existence. The length of program existence variable was fielded only to administrators and not to individual navigators (N = 223). For the analysis, we categorized responses as: 1) 0 to 5 years, 2) 6 to 10 years, or 3) 11 years. Longer program duration was hypothesized to indicate higher sustainability, based on the assumption that programs that have been in existence for a longer period of time have demonstrated an ability to maintain the funding and institutional support necessary to continuously operate a patient navigation program.

Funding mechanisms—All survey respondents were asked about the source of their funding, and it was categorized in 3 ways: 1) operational only, 2) operational and grants, or 3) grants only. Responses of *unsure* to the question about funding sources were excluded from all secondary analyses for this measure, limiting the analysis to respondents who felt competent to comment on their program funding (N = 705). Operational funding, which we define as funding from the organization's budget rather than from grants or direct reimbursement, was hypothesized to indicate higher sustainability, based on the assumption that such funding is typically more stable than grant funding and indicates an institutional commitment to financial support for services that are not directly reimbursable.

Alternative/merit-based payment model participation—All survey respondents were asked about their program's participation in merit-based or alternative payment models, including Merit-Based Incentive Payment System Alternative Payment Models (MIPS APMs) and the Oncology Care Model (OCM) (N = 750). Responses were dichotomized as participates in alternative/merit-based payment models or not. Participation in the assessed alternative/merit-based payment models was hypothesized to indicate higher sustainability, based on the assumption that programs that participate in such models typically have access to—or the potential to access—additional flexible funds to support traditionally nonreimbursable services.

Cumulative number of sustainability measures—We also created a summary index based on the sustainability domains. According to this measure, programs can be associated with 0, 1, 2, or 3 measures of sustainability. Analysis of this summary index was limited to administrative respondents because only these respondents reported length of program existence; respondents who were unsure of their source of funding were also excluded from this analysis (N = 218).

Data Analysis

The analyses presented here focus on programmatic factors associated with each of the different measures of sustainability already described. In each case, each measure is either collected (eg, length of program existence) or constructed (eg, the robust data variable) as a categorical variable. Because many of these measures are multidimensional (ie, more than a single category) Pearson χ^2 tests were used to assess the statistical significance of differences in the distribution of factors associated with sustainability and data activities across categories (as opposed to between-group differences). All cell sizes fell within the ranges generally accepted as appropriate for χ^2 tests; however, when some cells were

significantly smaller than others, the reported χ^2 results were confirmed using Fisher exact tests. Statistical significance was assessed at the 5% level ($\alpha = .05$).

RESULTS

Participant, Program, and Institution Characteristics

In total, 750 completed surveys were included in the analyses, including 223 self-identified navigation program administrators or supervisors and 527 self-identified patient navigators (Table 1). Respondents were from various regions of the United States, and, although most were located in an urban (42.5%) or suburban (38.1%) area, 19.3% operated in rural or frontier environments. The 6 primary work settings were: 1) NCI-designated Comprehensive Cancer Centers (11.1%), 2) academic and teaching institutions (other than NCI-designated centers; 14.7%), 3) nonacademic clinical settings (treating <500 newly diagnosed oncology patients per year; 30.9%), 4) nonacademic clinical settings (treating >500 newly diagnosed oncology patients per year; 22.7%), 5) community-based and nonprofit organizations (8.8%), and 6) primary practice and other work settings (11.9%). The vast majority of respondents (80.0%) indicated that their institution participated in at least 1 type of cancer accreditation program. The most common accreditation program was the American College of Surgeons' Commission on Cancer (CoC) (75.3%).

Robust Data Variable

Among all respondents, 15.9% scored zero data robustness, 33.5% scored minimal data robustness, 26.0% scored moderate data robustness, and 24.7% scored extensive data robustness (Table 2). Respondents who reported participating in any accreditation program were more likely to score as having more robust data ($P < .001$) (Fig. 1). Survey responses also indicated a relation between work setting and data robustness ($P = .018$) (Fig. 2). Respondents from academic and teaching institutions were most likely to score extensive data robustness (33.6%), followed by respondents from NCI-designated Comprehensive Cancer Centers (26.5%). Respondents from community-based and nonprofit organizations (47.0%), nonacademic clinical settings (treating <500 patients per year; 36.6%), and primary practice or other settings (33.7%) were most likely to score minimal data robustness.

Measures of Sustainability

Survey responses indicated a wide distribution of the sustainability measures, as noted in Table 1. Among administrative respondents, only 26.5% reported that their programs had been in existence for 11 years, whereas 36.8% reported that their programs had been in existence for 5 years, and 36.8% reported that their programs had been in existence for 6 to 10 years. Approximately 69.7% of all respondents reported institutional operational funding only, 14.5% reported operational and grant funding, and 9.7% reported grant-only funding, with 6.0% unsure of their funding source. Only 18.1% of all respondents reported participating in the OCM or the MIPS APMs.

Associations between measures of sustainability and work setting—Responses indicated an association of the type of work setting with the length of program existence ($P = .027$), the type of program funding ($P < .001$), participation in alternative/merit-based

payment models ($P < .001$), and the cumulative number of sustainability measures ($P = .002$) (Table 3).

Length of program existence—Respondents from NCI-designated Comprehensive Cancer Centers (47.8%) and nonacademic clinical programs (treating <500 patients; 50.0%) were most likely to report that their programs had been in existence for <5 years. Respondents from academic settings (40.9%), nonacademic clinical-based programs (treating >500 patients per year; 42.5%), and primary care and other work settings (58.3%) were more likely to report program durations of 6 to 10 years. In contrast, 58.3% of respondents from community-based and nonprofit navigation programs reported that their programs had been in existence for 11, and these comprised the highest proportion of long-standing programs in all 6 category and institution types. Respondents from academic settings were also the second most likely to report programs of the longest duration.

Funding mechanisms—Respondents from NCI-designated Comprehensive Cancer Centers (77.0%), academic settings (83.5%), nonacademic clinical settings (treating <500 patients per year; 86.6%), nonacademic clinical settings (treating >500 patients per year; 84.9%), and primary practice or other work settings (58.8%) reported that they secured the majority of their funding from operational sources. Meanwhile, respondents from community-based and nonprofit organizations received the majority of their funding (66.7%) from a mix of operational and grant sources.

Alternative/merit-based payment model participation—Although participation in the assessed alternative/merit-based payment models was low across all settings, respondents from NCI-designated Comprehensive Cancer Centers (26.5%) and academic settings (28.2%) reported the highest percentage of participation. Respondents from community-based and nonprofit organizations reported the lowest percentage of participation in such models (4.5%).

Cumulative number of sustainability measures—Respondents from NCI-designated Comprehensive Cancer Centers (31.8%), academic settings (56.8%), nonacademic clinical settings (treating <500 patients per year; 45.1%), and nonacademic clinical settings (treating >500 patients per year; 48.1%) were most likely to exhibit 2 measures of sustainability. In contrast, respondents from community-based and nonprofit organizations (58.3%) and from primary practice and other work settings (60.0%) were most likely to exhibit 1 measure of sustainability. Of all work settings, respondents from community-based and nonprofit organizations were the most likely to exhibit no measures of sustainability (33.3%). Respondents from NCI-designated Comprehensive Cancer Centers were the most likely of all to exhibit all 3 sustainability measures (22.7%). Notably, however, respondents from NCI-designated Comprehensive Cancer Centers were also the second most likely setting to exhibit no measures of sustainability (18.2%).

Associations between measures of sustainability and accreditation—Responses also demonstrated that accreditation was related to program funding ($P < .001$), participation in alternative/merit-based payment models ($P < .001$), and the cumulative number of sustainability measures ($P < .001$) (Table 4).

Funding mechanisms—Respondents who participated in an accreditation program were far more likely to secure the majority of their funding from operational sources (82.4%) compared with nonaccredited respondents (38.6%) and were far less likely to depend solely on grants (5.8% vs 30.3%).

Alternative/merit-based payment model participation—Accredited respondents (20.7%) were more likely to report participating in the assessed alternative/merit-based payment models than nonaccredited respondents (8.0%).

Cumulative number of sustainability measures—Respondents from accredited programs were most likely to exhibit 2 measures of sustainability (48.4%), whereas respondents from nonaccredited programs were most likely to exhibit 1 measure of sustainability (42.9%). Respondents from nonaccredited programs were also far more likely to exhibit no measures of sustainability (35.7% vs 3.7%), and respondents from accredited programs were more likely to exhibit 3 measures of sustainability (15.8% vs 7.1%).

Associations between measures of sustainability and data robustness—We did not identify any associations between data robustness and the measures of sustainability (Table 5).

DISCUSSION

This study contributes to our current understanding of patient navigation by identifying a noted gap in the literature—the current lack of an analysis of factors that may promote the sustainability of patient navigation programs.^{14,15} Research over the last 30 years has done much to establish the positive impact of patient navigation on patient health, especially for individuals from medically underserved areas and communities of color.²¹ Conversely, far less attention has been paid to program sustainability, an issue that is both complex and critical given the historic exclusion of patient navigation from standard payment structures such as Medicare and Medicaid reimbursement.

Studies to date that have considered the sustainability of patient navigation programs have focused on establishing navigation services as cost-saving or cost-effective.^{21–26} Although this financial analysis provides important information regarding the cost implications of maintaining patient navigation programs, it may overlook other factors that also drive decision making. In the current study, we leveraged NNRT survey data to examine other programmatic characteristics associated with 3 measures of sustainability: length of program existence, use of operational funds, and participation in alternative/merit-based payment models.

At the outset, it is worth noting that the survey results showed several broad trends with respect to these measures themselves that add to our overall understanding of the sustainability of US navigation programs. First, the majority of all respondents indicated that their navigation program was supported by operational funding only. Operational funding may indicate more sustainable support for navigation, as evidenced by a commitment to financial support for a nonreimbursable service. Therefore, this result is encouraging

because it indicates that there is relatively widespread institutional support for patient navigation services. We acknowledge, however, that a range of factors can affect operational funding—including the evolving insurance coverage landscape,²⁷ Medicare and Medicaid reimbursement levels,²⁸ and other external pressures—which could result in deprioritization of nonreimbursable services.

Most respondents also stated that their institution did not participate in MIPS APMs or the OCM, a model in which navigation services are required.²⁹ Several previous studies have noted the potential role that alternative/merit-based models could play in sustaining navigation programs.^{14,15,30} Therefore, this finding is notable. Further investigation of potential barriers to participation could help to refine these models or facilitate the possible future adoption of patient navigation as a reimbursable service.

The primary goal of this study, however, was to go beyond these broad trends and examine the relations between program characteristics and measures of sustainability. This analysis identified several relations worth noting. First, participation in cancer accreditation was found to be closely associated with program sustainability. Respondents from accredited programs were more likely to be primarily supported by operational funding, to participate in the assessed alternative/merit-based payment models, and to exhibit multiple measures of sustainability. Because patient navigation has been a requirement of CoC accreditation,³¹ these findings are not surprising and support the argument for navigation to continue to be systematically incorporated (through either mandate or incentives) into cancer care systems such as accreditation to promote sustainability.

Work setting also was significantly related to each of the 3 measures of sustainability and to the cumulative numbers of these measures. In general, respondents from larger clinical and academic programs were more likely to report multiple measures of sustainability, potentially because of the greater resources and infrastructure available at these institutions and because some smaller institutions, such as community-based and nonprofit organizations, may not meet eligibility requirements for some alternative payment models (although some reported participating, potentially reflecting the participation of partner institutions in which these navigation programs operate [eg, hospitals or other clinical settings]). One key exception to this trend was that respondents from community-based and nonprofit organizations reported the most long-standing programs of 11 years. This finding was particularly interesting because these programs were least likely to be supported solely by operational funding. Instead, most respondents from community-based and nonprofit organizations reported that their programs were supported by a combination of grants and operational funds (66.7%) or by grants only (25.8%). These trends highlight the historically community-based nature of oncology navigation³² and indicate that sustainability may look different in these settings, potentially depending more on factors such as alignment with the core mission of the organization and grant funders. In addition, our results showed a bimodal response regarding NCI-designated Comprehensive Cancer Centers, organizations with significant infrastructure dollars to support innovative cancer care models. Respondents from NCI-designated Comprehensive Cancer Centers were most likely of all settings to report all 3 sustainability measures (22.7%) but also were the second most likely to report no measures of sustainability (18.2%). Further

research to understand the differences between NCI centers with and without longstanding navigation programs may be instructive in understanding the reasons why resources alone may not result in sustainable programs. Additional research, including in-depth, qualitative interviews with institutional decision makers, may better our understanding of which other factors may be driving sustainability in each of these settings.

Finally, although data robustness, which we defined as systematic collection and reporting about the navigation process for quality improvement and performance monitoring, was significantly related to accreditation and work setting, it was not related to any of our measures of sustainability. The lack of connection between data robustness and program sustainability in our results is surprising—although it should be interpreted with caution given the preliminary nature of the robustness variable. This lack of connection may be caused by the low levels of data collection and use reported by respondents or limitations of the survey questions from which the robustness variable was developed. Moving forward, the robustness variable can be further refined to explore this potential disconnect and to understand how program data can be better leveraged to inform institutional decision making.

Broader results regarding this characteristic also revealed notable gaps. Survey results indicated that there is currently great diversity in data robustness among patient navigation programs. However, it is critical to note that, overall, respondents were most likely to be scored as having minimal data robustness, and almost one-half (49.4%) of all respondents were scored as having either minimal or no data robustness. Health care reimbursement generally involves standardized reporting, which requires providers to be able to track, report on, and bill for services delivered. This lack of data collection and reporting, therefore, is an area of opportunity for oncology patient navigation programs to improve if patient navigation is ever to be considered for reimbursement.

These study results contain several limitations. First, by design (as stated above), the study is not representative of all cancer patient navigation programs. In rare instances, the results also include multiple responses from a single organization (because we are unable to discern whether these results represent distinct navigation programs within the organization). In these cases, responses were typically submitted from differing geographic locations and/or levels of program administration, reducing the likelihood of program overlap. Second, respondents' answers represent their best understanding of the operations of their individual programs, so conclusions should be approached with caution. Results regarding certain measures, such as participation in alternative/merit-based payment models or specific details of data reporting, may not reflect actual practices but, rather, a lack of awareness on the part of the survey respondents about these elements of their organization. Therefore, future research should seek to build upon this study by using our initial results to guide the development of a representative study.

The study was also cross-sectional and exploratory in nature. The data robustness variable has not been validated or subjected to a reliability assessment and is an area for future research. Such research could also include consideration of the relative importance—and subsequent weighting—of the factors included. Previous studies have also used

a wide range of approaches to assess sustainability of health care and public health interventions.^{19,20} Although we conceptualized sustainability based on common measures from the literature, including maintenance of activities over time (represented by our length of program existence measure) and access to resources (represented by our funding and participation in alternative/merit-based payment models measures), various other measures exist (eg, demonstrating effectiveness, number of referrals, spread of the program to other organizations or internally, existence of leadership and champions, etc).^{19,20} In addition, our alternative payment model measure was limited to the models included in the survey—MIPS APMs and OCM—whereas programs may participate in a broader range of models. Therefore, future research could build upon this analysis by expanding the scope of measures considered. Finally, in analyzing sources of program funding, this study viewed operational funds as more sustainable than grant support. However, this notion may benefit from further examination because current events make operational funding less stable than in the past.³³

Despite these limitations, the current study adds important new information to the literature and serves as a critical starting point as the field of patient navigation continues to explore approaches to enhancing program sustainability and establishing navigation as a reimbursable service.

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CONFLICT OF INTEREST DISCLOSURES

Elizabeth F. Franklin reports a range of financial support from corporate partners to The Cancer Support Community (The Cancer Support Community's corporate support policy can be found online at <https://www.cancersupportcommunity.org/corporate-support-policy>) outside the submitted work. Tracy A. Battaglia reports institutional grants from the National Center for Advancing Translational Sciences at the National Institutes of Health during the conduct of the study and serves as Chair of the National Navigation Roundtable (unpaid) outside the submitted work. Andrea J. Dwyer reports a grant from the National Cancer Institute/Centers for Disease Control and Prevention Cancer Prevention's and Control Research Network Flagship Program (U48DP006399-01-01) during the course of the study. Karen M. Freund reports grants from the American Cancer Society outside the submitted work. The other authors made no disclosures.

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REFERENCES

1. Riley S, Riley C. The role of patient navigation in improving the value of oncology care. *J Clin Pathways*. 2016;2:41–47.

2. Shusted CS, Barta JA, Lake M, et al. The case for patient navigation in lung cancer screening in vulnerable populations: a systematic review. *Popul Health Manag.* 2019;22:347–361. [PubMed: 30407102]
3. Community Preventive Services Task Force. Cancer Screening Interventions for Engaging Community Health Workers—Breast Cancer. Community Preventive Services Task Force; 2019. Accessed November 24, 2020. <https://www.thecommunityguide.org/sites/default/files/assets/Breast-Cancer-Screening-CHW-508.pdf>
4. Community Preventive Services Task Force. Cancer Screening: Interventions for Engaging Community Health Workers—Cervical Cancer. Community Preventive Services Task Force; 2019. Accessed November 24, 2020. <https://www.thecommunityguide.org/sites/default/files/assets/Cervical-Cancer-Screening-CHW-508.pdf>
5. Community Preventive Services Task Force. Cancer Screening: Interventions for Engaging Community Health Workers—Colorectal Cancer. Community Preventive Services Task Force; 2019. Accessed November 24, 2020. <https://www.thecommunityguide.org/sites/default/files/assets/Colorectal-Cancer-Screening-CHW-508.pdf>
6. DeGroff A, Schroy PC, Morrissey KG, et al. Patient navigation for colonoscopy completion: results of an RCT. *Am J Prev Med.* 2017;53:363–372. [PubMed: 28676254]
7. Lopez D, Pratt-Chapman ML, Rohan EA, et al. Establishing effective patient navigation programs in oncology. *Support Care Cancer.* 2019;27:1985–1996. [PubMed: 30887125]
8. Rohan EA, Slotman B, DeGroff A, Morrissey KG, Murillo J, Schroy P. Refining the patient navigation role in a colorectal cancer screening program: results from an intervention study. *J Natl Compr Canc Netw.* 2016;14:1371–1378. [PubMed: 27799508]
9. Rocque GB, Williams CP, Jones MI, et al. Healthcare utilization, Medicare spending, and sources of patient distress identified during implementation of a lay navigation program for older patients with breast cancer. *Breast Cancer Res Treat.* 2018;167:215–223. [PubMed: 28900752]
10. Balaban RB, Galbraith AA, Burns ME, Vialle-Valentin CE, Laroche MR, Ross-Degnan D. A patient navigator intervention to reduce hospital readmissions among high-risk safety-net patients: a randomized controlled trial. *J Gen Intern Med.* 2015;30:907–915. [PubMed: 25617166]
11. Willis A, Reed E, Pratt-Chapman M, et al. Development of a framework for patient navigation: delineating roles across navigator types. *J Oncol Navig Surviv.* 2013;4:20–26.
12. Oncology Nursing Society; Association of Oncology Social Work; National Association of Social Workers. Oncology Nursing Society, the Association of Oncology Social Work, and the National Association of Social Workers joint position on the role of oncology nursing and oncology social work in patient navigation. *Oncol Nurs Forum.* 2010;37:251–252. [PubMed: 20439209]
13. Willis A, Hoffler E, Villalobos A, Pratt-Chapman M. *Advancing the Field of Cancer Patient Navigation: A Toolkit for Comprehensive Cancer Control Professionals.* The George Washington University Cancer Institute; 2016. Accessed October 12, 2020. <https://smhs.gwu.edu/cancercontroltap/sites/cancercontroltap/files/PN%20Toolkit%20FINAL.pdf?src=ATE9notes>
14. Kline RM, Rocque GB, Rohan EA, et al. Patient navigation in cancer: the business case to support clinical needs. *J Oncol Pract.* 2019;15:585–590. [PubMed: 31509483]
15. Freund KM. Implementation of evidence-based patient navigation programs. *Acta Oncol.* 2017;56:123–127. [PubMed: 28033027]
16. Battaglia TA, Fleisher L, Dwyer A, et al. Barriers and opportunities to measuring oncology patient navigation impact: a national survey. *Cancer.* 2022;128(13 suppl):2568–2577. [PubMed: 35699612]
17. National Navigation Roundtable. National Navigation Roundtable website. Accessed October 12, 2020. <https://navigationroundtable.org/>
18. American Cancer Society, Statistics and Evaluation Center. American Cancer Society website. Accessed October 12, 2020. <https://www.cancer.org/research/we-conduct-cancer-research/statistics-evaluation-center.html>
19. Francis L, Dunt D, Cadilhac DA. How is the sustainability of chronic disease health programmes empirically measured in hospital and related healthcare services?—a scoping review. *BMJ Open.* 2016;6:E010944.

20. Lennox L, Maher L, Reed J. Navigating the sustainability landscape: a systematic review of sustainability approaches in healthcare. *Implement Sci.* 2018;13:27. [PubMed: 29426341]
21. Bernardo BM, Zhang X, Beverly Hery CM, Meadows RJ, Paskett ED. The efficacy and cost-effectiveness of patient navigation programs across the cancer continuum: a systematic review. *Cancer.* 2019;125:2747–2761. [PubMed: 31034604]
22. Bensink ME, Ramsey SD, Battaglia T, et al. Costs and outcomes evaluation of patient navigation after abnormal cancer screening: evidence from the Patient Navigation Research Program. *Cancer.* 2014;120:570–578. [PubMed: 24166217]
23. Kim KE, Randal F, Johnson M, et al. Economic assessment of patient navigation to colonoscopy-based colorectal cancer screening in the real-world setting at the University of Chicago Medical Center. *Cancer.* 2018;124:4137–4144. [PubMed: 30359474]
24. Markossian TW, Calhoun EA. Are breast cancer navigation programs cost-effective? Evidence from the Chicago Cancer Navigation Project. *Health Policy.* 2011;99:52–59. [PubMed: 20685001]
25. Rice K, Sharma K, Li C, Butterly L, Gersten J, DeGross A. Cost-effectiveness of a patient navigation intervention to increase colonoscopy screening among low-income adults in New Hampshire. *Cancer.* 2018;125:601–609. [PubMed: 30548480]
26. Shih YT, Chien C, Moguel R, Hernandez M, Hajek RA, Jones LA. Cost-effectiveness analysis of a capitated patient navigation program for Medicare beneficiaries with lung cancer. *Health Serv Res.* 2016;51:746–767. [PubMed: 26119569]
27. Rovner J Without Ginsburg, judicial threats to the ACA, reproductive rights heighten. *Kaiser Health News*; September 21, 2021. Accessed October 12, 2020. <https://khn.org/news/without-ruth-bader-ginsburg-judicial-threats-to-the-aca-reproductive-rights-heighten/>
28. Centers for Medicare & Medicaid Services. Medicare program: hospital outpatient prospective payment and ambulatory surgical center payment systems and quality reporting programs; new categories for hospital outpatient department prior authorization process; clinical laboratory fee schedule: laboratory date of service policy; overall hospital quality star rating methodology; and physician-owned hospitals. *Fed Regist.* 2020;85: 48772–49082.
29. Centers for Medicare & Medicaid Services (CMS). Oncology Care Model. CMS; 2020. Accessed October 12, 2020. <https://innovation.cms.gov/innovation-models/oncology-care>
30. Rocque GB, Pisu M, Jackson BE, et al. Resource use and Medicare costs during lay navigation for geriatric patients with cancer. *JAMA Oncol.* 2017;3:817–825. [PubMed: 28125760]
31. Commission on Cancer, American College of Surgeons. Cancer Program Standards: Ensuring Patient-Centered Care. Commission on Cancer; 2016. Accessed October 12, 2020. <https://www.facs.org/quality-programs/cancer/coc/standards/2016>
32. Freeman HP, Rodriguez RL. History and principles of patient navigation. *Cancer.* 2011;117(15 suppl):3537–3540. [PubMed: 21780087]
33. Khullar D, Bond AM, Schpero WL. COVID-19 and the financial health of US hospitals. *JAMA.* 2020;323:2127–2128. [PubMed: 32364565]

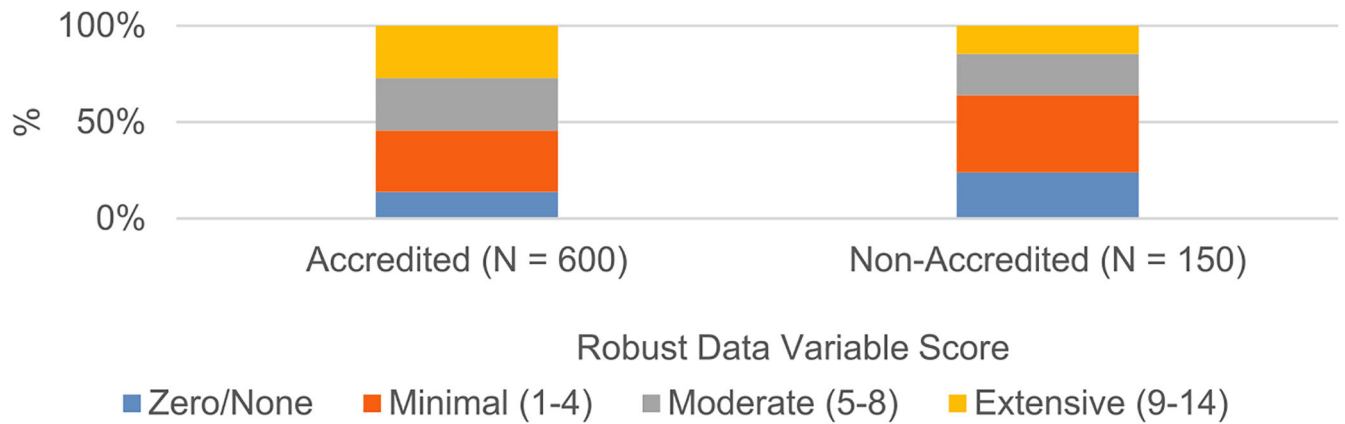


Figure 1.

Respondents from accredited patient navigation programs reported greater robustness of data collection and use (N = 750; $P < .001$). Accreditation types include the Quality Oncology Practice Initiative, the American College of Surgeons' Commission on Cancer, the National Accreditation Program for Breast Centers, the National Accreditation Program for Rectal Cancer, and the National Committee for Quality Assurance. See the text for a description of the robust data variable score. Briefly, it is a measure of data use and reporting and is scored from zero, indicating no systematic data collection or use, to extensive, with a robust data infrastructure and multiple uses in reporting to stakeholders for performance monitoring and process improvement.

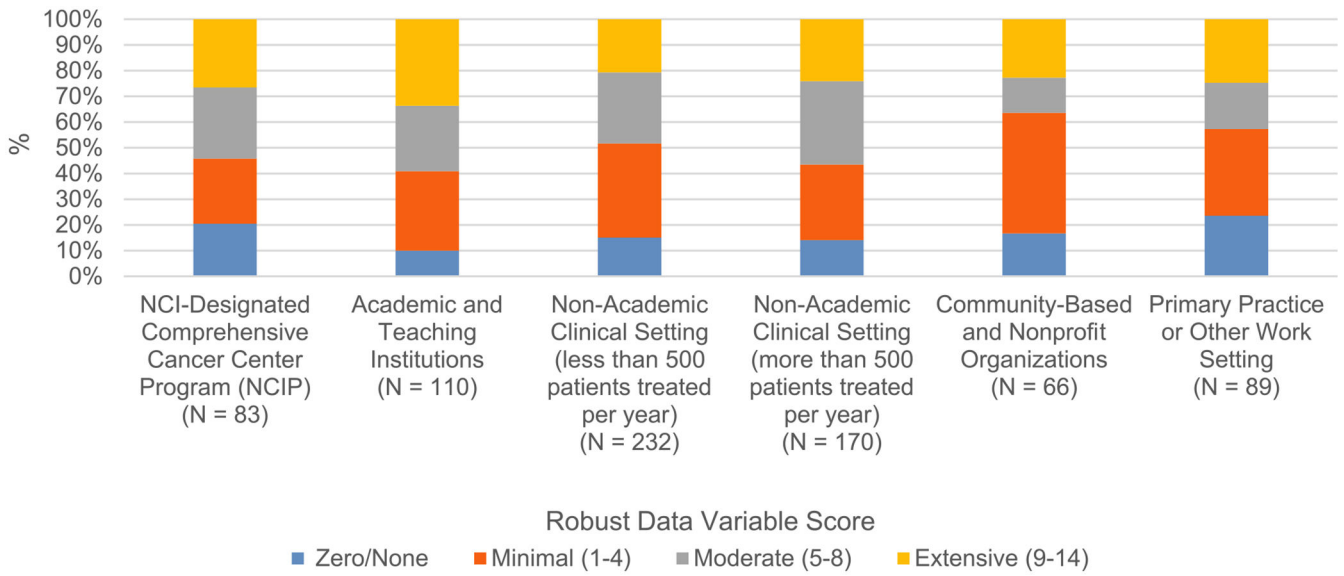


Figure 2. The robustness of data collection and use at patient navigation programs varied by respondents’ work setting (N = 750; $P = .018$). See the text for a description of the robust data variable score. Briefly, it is a measure of data use and reporting and is scored from zero, indicating no systematic data collection or use, to extensive, with a robust data infrastructure and multiple uses in reporting to stakeholders for performance monitoring and process improvement. NCI indicates National Cancer Institute.

TABLE 1.**Characteristics of Respondents: Results From the Survey of the National Navigation Roundtable**

Characteristic	Percentage
Region, N = 750	
Northeast	21.6
West	17.5
Midwest	34.4
South	37.5
Multiregion	4.4
Geographic setting, N = 750	
Rural or frontier	19.3
Urban	42.5
Suburban	38.1
Work setting, N = 750	
NCI-designated Comprehensive Cancer Center Program	11.1
Academic and teaching institutions	14.7
Nonacademic clinical setting (<500 oncology patients treated per y)	30.9
Nonacademic clinical setting (>500 oncology patients treated per y)	22.7
Community-based and nonprofit organizations	8.8
Primary practice or other work setting	11.9
Program accreditation, N = 750	
Any accreditation program (QOPI/CoC/NAPBC/NAPRC/NCQA)	80.0
Quality Oncology Practice Initiative (QOPI)	24.9
Commission on Cancer (CoC)	75.3
National Accreditation Programs (NAPBC and NAPRC)	46.4
National Committee for Quality Assurance (NCQA)	7.7
Does not participate in accreditation program	20.0
Program funding mechanisms, N = 750	
Operational budget only	69.7
Operational and grant	14.5
Grants only	9.7
Funding unsure/not specified	6.0
Alternative payment model participation, N = 750 ^a	
Does participate	18.1
Length of program existence, N = 223 ^b	
<5 y	36.8
6–10 y	36.8
11 y	26.5

Abbreviations: NAPBC, National Accreditation Program for Breast Centers; NAPRC, National Accreditation Program for Rectal Cancer; NCI, National Cancer Institute.

^aPayment models include the Merit-Based Incentive Payment System Alternative Payment Models and the Oncology Care Model.

^bThe question regarding length of existence was fielded to program administrators only.

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TABLE 2.

Robust Data Variable Score: Results From the Survey of the National Navigation Roundtable, N = 750

Robust Data Variable Score^a	Percentage
Zero/none	15.9
Minimal (1–4)	33.5
Moderate (5–8)	26.0
Extensive (9–14)	24.7

^aSee the text for a description of the robust data variable score. Briefly, it is a measure of data use and reporting and is scored from zero, indicating no systematic data collection or use, to extensive, with a robust data infrastructure and multiple uses in reporting to stakeholders for performance monitoring and process improvement.

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TABLE 3. Work Setting by Measures of Program Sustainability: 1) Length of Existence, 2) Funding Mechanism, and 3) Payment Model Participation

Measures of Program Sustainability	Work Setting of the Navigation Program					$\chi^2 P$
	NCI-Designated Comprehensive Cancer Center Program	Academic and Teaching Institutions	Nonacademic Clinical Setting (<500 Oncology Patients Treated Per Year)	Nonacademic Clinical Setting (>500 Oncology Patients Treated per Year)	Community-Based and Nonprofit Organizations	
Length of program existence, N = 223 ^a						
No. of respondents	23	44	52	80	12	12
Response, %						
<5 y	47.8	22.7	50.0	35.0	33.3	25.0
6–10 y	30.4	40.9	28.8	42.5	8.3	58.3
11 y	21.7	36.4	21.2	22.5	58.3	16.7
Funding mechanism, N = 705 ^b						
No. of respondents	74	103	216	166	66	80
Response, %						
Operational only	77.0	83.5	86.6	84.9	7.6	58.8
Operational and grant	12.2	12.6	6.0	10.8	66.7	15.0
Grants only	10.8	3.9	7.4	4.2	25.8	26.3
Alternative payment model participation, N = 750 ^c						
No. of respondents	83	110	232	170	66	89
Does participate, %	26.5	28.2	13.4	22.4	4.5	12.4
No. of sustainability measures, N = 218 ^d						
No. of respondents	22	44	51	79	12	10
Response, %						
0 Measures	18.2	2.3	5.9	5.1	33.3	10.0
1 Measure	27.3	22.7	41.2	29.1	58.3	60.0
2 Measures	31.8	56.8	45.1	48.1	8.3	20.0
3 Measures	22.7	18.2	7.8	17.7	0.0	10.0

Abbreviation: NCI, National Cancer Institute.

^aThe question regarding length of existence was fielded to program administrators only.

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- ^bThe question regarding funding mechanisms was fielded to all respondents; however only 705 of 750 respondents knew their program's source of funding.
- ^cThe question regarding participation in alternative payment models was fielded to all respondents. Payment models include the Merit-Based, Incentive Payment System Alternative Payment Models and the Oncology Care Model.
- ^dResponses for the cumulative number of sustainability measures—1) length of existence, 2) funding, and 3) alternative payment model participation—were limited to administrative responses because length of existence was fielded to program administrators only. In addition, respondents who were not aware of their source of funding were excluded from this measure.

TABLE 4.

Accreditation Status by 3 Measures of Sustainability: 1) Length of Existence, 2) Funding Mechanism, and 3) Payment Model Participation

Measures of Sustainability	Accreditation Status ^a		χ^2 P
	Yes	No	
Length of program existence, N = 223 ^b			.057
No. of respondents	195	28	
Response, %			
<5 y	33.8	57.1	
6–10 y	38.5	25.0	
11 y	27.7	17.9	
Funding mechanism(s), N = 705 ^c			<.001
No. of respondents	573	132	
Response, %			
Operational only	82.4	38.6	
Operational and grant	11.9	31.1	
Grants only	5.8	30.3	
Alternative payment model participation, N = 750 ^d			<.001
No. of respondents	600	150	
Does participate, %	20.7	8.0	
No. of sustainability measures, N = 218 ^e			<.001
No. of respondents	190	28	
Response, %			
0 Measures	3.7	35.7	
1 Measure	32.1	42.9	
2 Measures	48.4	14.3	
3 Measures	15.8	7.1	

^aAccreditation types include the Quality Oncology Practice Initiative, the American College of Surgeons' Commission on Cancer, the National Accreditation Program for Breast Centers, the National Accreditation Program for Rectal Cancer, and the National Committee for Quality Assurance.

^bThe question regarding length of existence was fielded to program administrators only.

^cThe question regarding funding mechanisms was fielded to all respondents; however, only 705 of 750 respondents knew their program's source of funding.

^dThe question regarding participation in alternative payment models was fielded to all respondents. Payment models include the Merit-Based Incentive Payment System Alternative Payment Models and the Oncology Care Model.

^eResponses for the cumulative number of sustainability measures—1) length of existence, 2) funding, and 3) alternative payment model participation—were limited to administrative responses because length of existence was fielded to program administrators only. In addition, respondents who were not aware of their source of funding were excluded from this measure.

TABLE 5. Robust Data Variable Score by 3 Measures of Sustainability: 1) Length of Existence, 2) Funding Mechanism, and 3) Payment Model Participation

Measures of Sustainability	Robust Data Variable Score ^d				χ^2 P
	Zero/None	Minimal (1–4)	Moderate (5–8)	Extensive (9–14)	
Length of program existence, N = 223 ^b					.498
No. of respondents	34	61	57	71	
Response, %					
<5 y	29.4	45.9	38.6	31.0	
6–10 y	47.1	32.8	33.3	38.0	
11 y	23.5	21.3	28.1	31.0	
Funding mechanism(s), N = 705 ^c					.223
No. of respondents	107	238	182	178	
Response, %					
Operational only	80.4	71.4	78.6	69.7	
Operational and grant	14.0	17.2	12.6	16.9	
Grants only	5.6	11.3	8.8	13.5	
Alternative payment model participation, N = 750 ^d					.573
No. of respondents	119	251	195	185	
Does participate, %	32.4	21.3	29.8	23.9	
No. of sustainability measures, N = 218 ^e					.362
No. of respondents	32	61	55	70	
Response, %					
0 Measures	3.1	11.5	5.5	8.6	
1 Measure	18.8	39.3	36.4	32.9	
2 Measures	59.4	32.8	47.3	44.3	
3 Measures	18.8	16.4	10.9	14.3	

^aSee the text for a description of the robust data variable score. Briefly, it is a measure of data use and reporting and is scored from zero, indicating no systematic data collection or use, to extensive, with a robust data infrastructure and multiple uses in reporting to stakeholders for performance monitoring and process improvement.

^bThe question regarding length of existence was fielded to program administrators only.

^cThe question regarding funding mechanisms was fielded to all respondents; however, only 705 of 750 respondents knew their program's source of funding.

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The question regarding participation in alternative payment models was fielded to all respondents. Payment models include the Merit-Based Incentive Payment System Alternative Payment Models and the Oncology Care Model.

Responses for the cumulative number of sustainability measures—1) length of existence, 2) funding, and 3) alternative payment model participation—were limited to administrative responses because length of existence was fielded to program administrators only. In addition, respondents who were not aware of their source of funding were excluded from this measure.