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## Patient Navigation in Cancer: The Business Case to Support Clinical Needs

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## Abstract

**PURPOSE**—Patient navigation (PN) is an increasingly recognized element of high-quality, patient-centered cancer care, yet PN in many cancer programs is absent or limited, often because of concerns of extra cost without tangible financial benefits.

**METHODS**—Five real-world examples of PN programs are used to demonstrate that in the pure fee-for-service and the alternative payment model worlds of reimbursement, strong cases can be made to support the benefits of PN.

**RESULTS**—In three large programs, PN resulted in increased patient retention and increased physician loyalty within the cancer programs, leading to increased revenue. In addition, in two programs, PN was associated with a reduction in unnecessary resource utilization, such as emergency department visits and hospitalizations. PN also reduces burdens on oncology providers, potentially reducing burnout, errors, and costly staff turnover.

**CONCLUSION**—PN has resulted in improved patient outcomes and patient satisfaction and has important financial benefits for cancer programs in the fee-for-service and the alternative payment model worlds, lending support for more robust staffing of PN programs.

## INTRODUCTION

Patient navigation (PN), defined by various professional organizations as “individualized assistance offered to patients, families, and caregivers to help overcome health care system barriers and facilitate timely access to quality health and psychosocial care from pre-diagnosis through all phases of the cancer experience,”<sup>1(p251)</sup> was originally designed to reduce barriers to care for those with cancer care disparities manifested as presentation at an advanced stage and/or decreased survival.<sup>2,3</sup> It has now been shown to bridge a variety of gaps and to address diverse needs in the cancer care system.<sup>4,5</sup> Reported benefits include improving access to screening,<sup>6,7</sup> patient care coordination,<sup>8</sup> symptom management,<sup>9,10</sup> and, ultimately, reducing cost.<sup>9,11</sup> The success of early programs resulted in a substantial body of literature supporting the positive impact of PN on patients, clinicians, and institutions. Ramirez et al<sup>12</sup> showed improved quality of life and treatment adherence for Latino survivors of breast, prostate, and colorectal cancers who received PN versus those who did not. PN has facilitated improved uptake in mammography among African American Medicare recipients<sup>13</sup> and has also improved guideline-concordant colorectal cancer screening.<sup>14,15</sup> PN has also benefited patients by reducing the time to diagnostic

resolution<sup>16</sup> and providers and institutions by decreasing the number of patients missing clinic appointments.<sup>17</sup>

Despite the value shown, uptake and staffing of PN programs has been variable across cancer programs in the United States.<sup>18</sup> Patient navigators can be either nonclinical members of the community or health care professionals (usually nurses or social workers).<sup>19,20</sup> A lack of clarity about the navigator role, scope of practice, and the appropriate level of training for diverse navigation roles<sup>20</sup> contributes to the heterogeneity of navigation across the United States. Furthermore, adoption of PN programs is limited by uncertainty about sustainable financial models to support navigation programs (eg, coverage of PN services by Centers for Medicare & Medicaid Services [CMS] and commercial insurers).<sup>21</sup>

In 2012, the American College of Surgeons' Commission on Cancer (CoC) established a standard requiring that by 2015, every CoC-accredited cancer program have a PN service to support patient care.<sup>22</sup> Although this standard has increased adoption of PN, many programs continue to have challenges with the financial aspects of the service, as well as defining scope of practice.

## DEMONSTRATING VALUE

Existing literature clearly demonstrates improved clinical outcomes for patients with cancer who receive navigation services.<sup>9,11,12</sup> It also shows a positive return on investment (ROI) for patients in a PN program in alternative payment model systems.<sup>23–26</sup> In addition to reviewing results in two large health systems, we present new data on the ROI for PN in three other health systems operating in a fee-for-service (FFS) environment. The following case studies provide examples of how cancer centers have evaluated the value of their PN programs.

### The Patient Care Connect Program

The University of Alabama at Birmingham received a 2012 CMS award under the Center for Medicare and Medicaid Innovation's Health Care Innovation Awards to develop and implement a lay (ie, nonclinical staff) navigation program, Patient Care Connect, across 12 cancer centers in the southeastern United States. Patient Care Connect focused on improving the triple aim of enhancing the patient experience of care, improving population health, and reducing the per capita cost of health care.<sup>27</sup> This program employed lay navigators, who provided an extra layer of support to more than 10,000 patients with cancer from diagnosis through survivorship and end-of-life care over 3 years.<sup>28,29</sup> The navigators performed routine distress screening to identify patient barriers to care and worked to empower patients to actively participate in their health care to overcome these barriers.<sup>28</sup>

An independent (non-CMS) analysis, demonstrated that navigators were able to address 92% of patient concerns, and 90% of patients stated that they would recommend the program to another cancer survivor.<sup>29</sup> In addition, although the percentage of ED visits, hospitalizations, and intensive care unit admissions declined for all patients, they declined by 6.0%, 7.9%, and 10.6% more per quarter, respectively, for patients in the Patient Care Connect program as compared with matched control subjects. The reduced use contributed to the finding that

costs for patients in the PN program declined by \$781.29 more per quarter than they did for control patients, resulting in an estimated 10:1 ROI.<sup>24</sup> Substantial cost reductions were observed in both inpatient and outpatient care.<sup>24</sup> The aggregate findings from this program suggested that PN could contribute value to cancer centers in value-based health care payment models in which the health system has the capacity to recoup costs avoided through navigator engagement rather than relying exclusively on payments for billable services.

### **The Levine Cancer Institute - Atrium Health**

The Levine Cancer Institute (LCI), based in Charlotte, NC, has a robust nurse navigation program that grew from eight nurse navigators at one location to 25 nurse navigators across seven locations. Patient volumes have increased dramatically, with an average navigator load of 280 patients. To ensure that all patients were receiving the same quality of navigation, LCI standardized processes across all facilities and conducted formal research on its PN program implementation to document improvements in health care received in the acute care setting.

In an analysis of 970 patients with a diverse group of stage III and IV cancers, the median number of encounters between nurse navigators and patients was 1.7 per 30-day interval. For each disease subset, except melanoma, patients in the PN program had a statistically significant reduction in the percentage of health care use in the acute care setting, compared with patients receiving standard care. Patients in the PN program received 18% of their care in an acute care setting, whereas patients not in the program received 30% of their care in an acute care setting ( $P < .001$ ).<sup>25</sup>

In another analysis, propensity score matching with 35 demographic and tumor-specific factors was used to closely pair patients in a PN program and patients who were not across all cancer types. Analysis of 958 patients not in a PN program and 1,190 who were in a PN program that the former were 52% more likely to have a 30-day all-cause readmission than patients in the PN group ( $P = .04$ ).<sup>26</sup> In another survival analysis focused on poor-prognosis cancers (as defined by the American Cancer Society), investigators found a trend toward longer survival for patients in a PN program ( $n = 408$ ) when compared with patients receiving the standard of care ( $n = 408$ ), with 12-month median survivals of 355 days versus 329 days, respectively ( $P = .06$ ).<sup>30</sup>

Given the costs associated with acute care and penalties for excess 30-day readmissions under CMS' Hospital Readmissions Reduction Program, these results indicate that engaging navigators may help reduce hospital costs. In addition, when navigators find reimbursement resources for those who are uninsured or help decrease emergency department visits or hospitalizations, they help mitigate the negative financial impact of providing this care.

### **University of Pennsylvania Health System**

In an internal, retrospective, observational study conducted in 2016 in three of the University of Pennsylvania Health System hospitals, patients assisted by nurse navigators were compared with those not in the PN program across all cancer types. In total, 13,421 patients were studied, of whom 2,996 (22%) were in the PN program. These patients were 10% more likely to stay for treatment compared with those not in the program. In addition, patients

working with nurse navigators were more likely to receive treatment-related services across various modalities, as indicated by a 27% greater use of infusion services and a 17% greater use of radiation oncology services (exclusive of proton beam therapy; Cancer Service Line and Strategic Decision Support Group at the University of Pennsylvania Health System, L. N. Shulman, personal communication, December 21, 2018).

### **Sarah Cannon Cancer Institute**

Sarah Cannon, the Cancer Institute of HCA Healthcare, has a PN program that supports 65 hospitals across seven states. The 104 nurse navigators in these markets work with patients with the following eight types of cancer: breast, lung, complex GI, colon, gynecologic, neurologic, sarcoma, and blood. These oncology nurses navigated more than 15,000 patients in 2018. The Sarah Cannon program focuses its patient interactions and support on the critical period of vulnerability between diagnosis and the initiation of definitive treatment. The navigators then continue to engage patients at pivotal transitions throughout their cancer journey. Navigators help organize the patients' experience across multiple locations and providers, greatly improving an experience that has traditionally been fragmented and disorganized.

Leveraging technology as a tool to enhance navigator efficiency and impact has been a vital strategy for the program. In addition to physician referrals, the patients are brought to the attention of the navigators through PatientID, an internal artificial intelligence program with natural language processing capabilities that reads pathology reports to identify, categorize, and report cancer diagnoses. This tool is highly valuable because biopsy procedures are conducted by multiple physicians in different clinical settings. Internal data demonstrate that the PatientID tool has substantially increased the time navigators interact with patients and physicians.

Since its introduction, the patient and physician demand for navigation services has grown dramatically. Between 2017 and 2018, 59% growth in patients in the PN program was observed, correlating with increased patient volumes. In addition, loyalty among surgeons participating in Sarah Cannon programs increased from 70% to greater than 90% of cases performed when a surgeon made use of nurse navigation. An important quality measure was time from first diagnosis to first treatment, with the goal of less than 30 days met across all disease sites. Other end points evaluated include: less than 7% nurse navigator turnover and 75% Press Ganey top box score for overall navigation.

When patients are engaged by a navigator early in their cancer journey, they elect to receive services within the network of Sarah Cannon facilities and affiliated providers more than 90% of the time. This trend was noted in all cancers but was most pronounced in breast cancer, where, historically, patients chose to stay within network only approximately 50% of the time (internal data).

### **Northern California Health Care Organization**

A large health care organization in California that serves approximately 27% of the northern California population conducted internal surveys in 2016. Results showed significant variation in navigator scope of practice, with providers and navigators unclear on PN

roles and responsibilities. In response, the organization formed a system-wide PN Charter Committee with the creation of a standardized job description, orientation and preceptorship model, and ongoing education and support for individual navigators.

In 2017, practitioners were again surveyed on their perception and use of oncology nurse navigators. Variability was noted in how and when these providers referred patients to navigators. Specifically, there was diversity in provider preferences for when (in the clinical sequence of care) and how navigators were involved. One example concerned navigator involvement at different points in the evaluation process of a possible cancer diagnosis. Sixty-three percent of providers preferred navigation to begin at the time of a biopsy-proven diagnosis, 32% preferred it to begin at the time of a suspicious finding (eg, a worrisome finding on a breast ultrasound), and 5% preferred it to begin at the time of screening (eg, breast mammogram). The variability illustrated the lack of defined expectations for navigators. Indeed, one of the lowest scores on the survey was in the category of physician/clinician understanding of the navigation role and program.

Subsequently, the organization conducted a pilot program to test differences in patient retention between patients with breast cancer for whom the PN program was initiated earlier and later in the diagnostic continuum. The patients in the pilot program (n = 25) had navigator contact at the time of a suspicious finding. Other patients (n = 111) were contacted by the navigator 5 to 12 days after they learned of their diagnosis from a provider. Thirty-five percent fewer patients were lost to other health systems if they were in the PN program from the point of a suspicious finding. These findings support evidence published by Desimini et al<sup>31</sup> that showed greater patient volume and retention as direct results of the addition of navigation programs.

A financial analysis was performed for each patient with breast cancer diagnosed in the network but treated elsewhere. Based on the average cost for a nurse navigator in California, revenue from the retention of just two patients in the system, who would otherwise have received oncology care elsewhere, covered the costs of one nurse navigator. Evidence from the organization suggests that early patient navigation at stressful and difficult times may result in more cohesive care at the institution where the diagnosis is made, which can support the business case for PN.

In conclusion, because of the complexity and fragmentation of cancer care and the physical and psychosocial sequelae of the cancer experience, PN has become an increasingly important part of high-quality cancer care. Unfortunately, Medicare and the vast majority of commercial insurance companies do not directly pay for PN services. This may reinforce the perception that PN programs are financially taxing to a practice or health care system, rather than beneficial. Programs may look at the up-front costs of hiring navigators and be concerned that the promissory gains for downstream financial benefits will not be met. This perspective significantly underestimates the financial value that PN may bring to practices while also providing improved care to patients.

A growing body of evidence supports the financial benefits of navigators to health systems, individual cancer programs, and patients and families. In this article, we show that in an

FFS payment system, PN can generate financial benefits by significantly decreasing the outmigration of patients to other health facilities for their oncology care, as demonstrated by data from the University of Pennsylvania, the Sarah Cannon Cancer Center, and a large northern California health care system. Additional downstream revenue is gained through patient retention in health systems that provide ancillary services. In addition, PN adds to patient satisfaction,<sup>7,32,33</sup> making it less likely that, in a highly competitive health care environment, patients will choose to go elsewhere for oncology treatment.

In evolving bundled payment systems that financially incentivize high-value care and value over volume, the business case for cancer PN is stronger and more direct. In these payment models, practices can recoup avoided costs through performance-based payments rather than relying exclusively on payments made for billable services. CMS' Oncology Care Model (OCM) is the most significant example of such a payment system in clinical oncology.<sup>34,35</sup> Data from the University of Alabama at Birmingham and LCI clearly demonstrate fewer ED visits, hospitalizations, and intensive care unit admissions with the use of either nonclinical or nurse-driven PN programs. The LCI data even show a trend for increased survival. Therefore, PN has the potential to increase topline revenue (in an FFS payment system) and decrease costs (in a bundled payment system).

An indirect financial benefit of PN may be improved provider well-being. Multiple studies have indicated that clinicians increasingly cite the administrative, nonpatient care elements of their workload as a source of unhappiness, frustration, and burnout.<sup>36–38</sup> Increased use of PN may mitigate, to some degree, the administrative burden on clinicians associated with ensuring that their patients are seen by appropriate specialists in a timely manner. Although PN does not address provider frustrations at the system level, such as cumbersome preauthorization processes, the added burdens of electronic health record documentation,<sup>39</sup> and addressing the patient burden of skyrocketing pharmaceutical costs, by proactively addressing patient and family needs, PN can make clinician time more efficient. Thus, PN may have the downstream financial benefit of higher-quality care provided by a more satisfied and stable clinical workforce. Research in this area is warranted.

Additional research can help identify specific populations and points along the care continuum where PN can be particularly cost-effective and important for patient care quality. Freund et al<sup>40</sup> showed that PN had the greatest effect when the specific population or disease had low baseline (ie, nonnavigated) rates of follow-up and treatment. Wilson et al<sup>41</sup> showed that a colonoscopy screening program directed at Hispanic men demonstrated cost-effectiveness by identifying precancerous lesions and cancer at earlier stages, thus potentially decreasing future treatment costs. Based on the findings of the northern California health care organization described in this article, navigation at the time of a suspicious finding can be most beneficial to both the bottom line and the quality of care for patients.

Establishing clearer expectations for the navigator role at various points on the cancer care continuum is critical.<sup>20</sup> Navigator duties must vary on the basis of whether the work is at the time of an adverse finding or treatment commencement. Duties should be based on the type of cancer and on the barriers to care specific to a particular system or region.

Recent studies have shown that focusing navigator tasks on resolving patient-level (rather than systems-level) barriers to care optimizes quality of patient care.<sup>42</sup>

Important issues that remain for PN programs include identifying what processes can best match navigator duties to specific patient needs, the potential for standardized distress screening to support PN triage of patient concerns, and alternatives when navigators cannot resolve patient concerns. Although evidence described here shows the value of PN in various contexts, little attention has been given to specific implementation factors affecting PN program success and sustainability.<sup>43</sup> Standardized distress screening may be a way to optimize PN efficiency by triaging concerns on the basis of type and gravity of patient barriers to care. However, the role of distress screening within PN has rarely been directly addressed in the literature.<sup>28</sup> In addition, it is important to note that even when navigators are able to identify patient concerns, they may not always be able to resolve barriers to care. For example, a recent survey showed that navigators frequently identify financial toxicity among patients but have insufficient resources to address this need.<sup>44</sup>

Because evidence supports both the importance of PN for quality cancer care and the financial benefit to practices and health systems, what can be done to create broad acceptance of PN programs across the United States? Initial efforts include the navigation requirements of the CoC and OCM. CoC accredits 1,500 hospital-based cancer programs that are responsible for the care of 70% of oncology patients.<sup>45</sup> OCM includes 176 practices, approximately 6,000 practitioners, and 200,000 unique beneficiaries per year, encompassing greater than 20% of Medicare FFS beneficiaries receiving chemotherapy for cancer care.<sup>46,47</sup> CoC and CMS implemented cancer survivorship requirements in their respective programs and, together, these two organizations have had a significant impact on adoption of these requirements (L.N. Shulman and R. Kline, personal communication) and may have a similar impact on PN services.

Because evidence supports the importance of cancer PN for patients and the financial benefit to practices and health systems, changes may be on the horizon that could transform PN from an intervention that a cancer practice has to offer to an intervention that a cancer practice wants to offer. This could certainly be described as a win-win-win for patients, practices, and providers.

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