Factors Influencing the Implementation of Patient Navigation Programs for Adults with Complex Needs: A Scoping Review of the Literature

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ABSTRACT: Patient navigation is a model of care that aims to improve access to care by reducing the complexity of navigating health, education, and social services across the continuum of care and care settings. Little is known about the processes that facilitate or impede the implementation of patient navigation programs (PNPs). We conducted a scoping review to identify and summarize the current state of knowledge regarding the implementation and outcomes of existing implemented PNPs. We employed a 6-stage scoping review framework to identify and review eligible articles. Sixty-articles met the inclusion criteria (58 peer-reviewed and 2 grey literature). The Consolidated Framework for Implementation Research served as the theoretical framework during analysis to help extract factors relevant to implementation of navigation programs. Results of the scoping review are reported thematically. Influences on implementation were identified: (a) planning to ensure alignment with organizational need (b) funding (c) multidisciplinary engagement (d) establishing workflow (e) mechanisms for communication (f) stakeholders to encourage buy-in (g) appropriate caseload (h) in kind resources. PNPs improve the experiences of patients and families. The findings of this scoping review provides implementation considerations of PNPs across global care settings. Strategies for overcoming pragmatic and logistical issues must be developed for optimal implementation.

KEYWORDS: Patient navigation, social work, continuity of care, review, integrated care

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Introduction

Navigating across the healthcare system can be very challenging, which may include having to transition between healthcare providers (HCPs), settings (eg, hospital to community), and stages of illness, and/or recovery. For adults with complex conditions (ie, multiple physical, mental, social, cultural, and/or spiritual needs) transitions across the healthcare system are common.1-4 Transitions between HCPs and care settings are often fragmented, which limits patients’ access to services and hinders the quality and effectiveness of care.5-7 Fragmentation of the healthcare system has been recognized as problematic worldwide.8-10

The experiences of adults with complex conditions and their family caregivers (caregivers) navigating a fragmented healthcare system are largely negative.11 Poor communication between patients and HCPs during transitions can lead to suboptimal outcomes (eg, increased hospital re-admissions, being discharged to long-term care).12-14 When patients and caregivers are cared for in an integrated system, they have better experiences and health outcomes (eg, better satisfaction with care, reduced feelings of caregiver burden).15-18 For the purpose of this review, we define integrated care as care provided by a team of HCPs working together within and across settings.19

Based on the pioneering work of Doctor Freeman in the late 1980s,20,21 patient navigation programs (PNPs) have gained traction across the globe as a solution to integrating care.22 Although the intent of Freeman’s first PNP was to improve breast cancer diagnostic and treatment services for African-American women,23 PNPs now exist in the context of a variety of illnesses (eg, diabetes, hip-fractures, dementia).24,25 Despite this increase in navigation-type programs, there is no unambiguous definition of PNPs or the patient navigator role.26,27 Likewise, significant gaps remain in the literature about processes that facilitate or impede implementation of PNPs as there is variation in the design and implementation of these programs.25 We define PNPs as a program whereby a patient navigator provides patients and/or their family member with support in accessing healthcare resources.28-30

Given the evolution of patient navigation (PN) over the past 30 years, numerous researchers have begun to synthesize the scientific literature on PN to help advance the field and inform future models of care. However, recent reviews
published within the past 5 years in the area of PN have tended to focus on cancer,31 failed to consider grey literature where implemented programs may be described,25 focused on adults aged 18 or older rather than adults with complex needs,12 and were constrained to areas of primary care.33

For adult patients with complex needs, the type of support required often occurs outside of primary care in settings such as hospitals and rehabilitation.34 No scoping review to date has summarized the characteristics of existing programs nor the facilitators to the successful implementation of PNPs that extend past primary care.35 Existing reviews also do not report on the role of caregivers within navigator programs. This information is needed for stakeholders who plan to develop family-centered PN models of care for adults with complex needs. This scoping review aims to advance our knowledge about PNPs, which are an increasingly important topic for health services research. We present a synthesis of the current state of knowledge regarding the implementation considerations of PNPs to identify areas of further research and provide some initial practice recommendations.

Methods

Study design

We utilized a scoping review methodology based on Arksey and O'Malley’s35 6-stage methodological framework and the Preferred Reporting Items for Systematic Review and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR).36 A protocol for this study was registered prospectively with Open Science Framework (osf.io/a9ynh). Briefly, our methodology followed the following 6 stages: (1) identifying the research question; (2) identifying relevant studies; (3) study selection; (4) charting the data; (5) collating, summarizing, and reporting the results; and (6) consultation with stakeholders.35 Table 1 details the methods we used for each stage.

The main objective of this review was to identify and summarize the current state of knowledge regarding the implementation and outcomes of existing implemented PNPs. We aimed to answer the following 5 questions: (1) What is the scope of PNPs available for adults age 26 years or older with complex needs? (2) Who are the target patients of the existing programs? (3) How were these programs developed and implemented? (4) What is the content of the programs?; (5) What are the reported impact of these programs on patient and/or caregiver outcomes? We have chosen to define adults as individuals aged 26 or older, as much of the health service research classifies individuals aged 18 to 25 as young adults and individuals under 18 as youth, who have unique service needs different from the 26 and older adult population.37

We define implementation as the processes intended to incorporate PN within an organization.38 The Consolidated Framework for Implementation Research (CFIR) was used to explore the factors that may be encountered during process of implementation.39 The CFIR is comprised of different categories of factors and domains proven to affect program implementation.39 The CFIR was selected due to the wide range of constructs included in its domains and ability to be applied to examine a variety of health services.39 The categories of implementation outlined by the CFIR domains (see Figure 1) assisted with the extraction of data (ie, inner setting, outer setting, individuals involved, process of implementation). In our paper, inner setting refers to the characteristics unique to the organization including patient needs, whereas outer setting includes the economic, political, and social context external to the organization.40

Results

The database search identified 419 unique peer-reviewed articles that were screened for eligibility. Following title/abstract and full-text review, 60 articles were included in this scoping review. Fifty-eight articles came from the database searches and 2 sources from the grey literature searches (see Figure 2).

The majority of included articles were quantitative studies (n = 36),28,41-75 with a few qualitative (n = 16)76-91 and mixed methods (n = 6).92-97 Of the quantitative studies, 6 studies were randomized control trials,57,53-55,61,71,83 The United States (n = 50)28,41-45,47,49-55,57,58,60-73,75-80,82-84,86-91,93,94,96,99 and Canada (n = 7)48,59,81,92,95,97,99 were the most common countries where initiatives were implemented. The other initiatives were implemented in New Zealand (n = 1),46 Malaysia (n = 1),74 and Nepal (n = 1).85 Six studies described the same 3 interventions.48,81,88,89,92,97 Table 2 describes the characteristics of included articles.

Characteristics of programs: Setting, mode, and study population

The initiatives varied in terms of the target chronic condition and the type of healthcare setting in which PNPs were implemented. Most programs were implemented in community settings such as outpatient clinic settings or individuals’ homes (n = 29)41-43,49,51-53,56,57,62,64,69-73,76-80,88,90,92,95,97,100 followed by hospitals (n = 26).28,44,45,47,48,50,58-61,63,65-68,74,75,81,85-87,89,93,96,98,99 Although PNPs were initiated in 1 setting, PNPs guided patients through care received at other health settings including primary care, hospitals, and outpatient centers.77 Ten studies utilized follow-up care through home-visits.49,53,61,70,77,79,80,91,95 Three programs used a virtual (web or phone-based) application.54,83,94 One study used a mobile medical unit for the purpose of diagnosis.90 Table 3 outlines the delivery setting and mode of the interventions.

The initiatives most commonly targeted cancer (n = 40) (including breast, colorectal, cervical, head, and neck).28,41,43,44,47-50,52-55,58-60,62,65,67-71,76,78-80,88,90,92,94,96-98 HIV (n = 5),42,61,64,88,91 diabetes (n = 1),57 heart failure/cardiovascular disease (n = 2),45,59 Hepatitis C (n = 2),51,70 patients with complex social needs/multiple chronic conditions (n = 6),46,53,77,79,93,99 kidney transplant (n = 1),89 and end-of-life/palliative care (n = 3).49,95
Table 1. Methods for conducting the scoping review.

| Stage | Methodology Stage | Study Details |
|-------|-------------------|---------------|
| Stage 1: Identifying the research question(s) | ARKSEY AND O’MALLEY 35 | METHODOLOGY STAGE |
| | | | |
| Stage 2: Identifying relevant studies | | STUDY DETAILS |
| | | Stage 1: identifying the research question(s) |
| | | We collaborated with an interdisciplinary team of stakeholders (i.e., current patient navigator, representatives from a nondoctor community support service program, and patient advocates) to develop a preliminary scoping framework for implementation research. | |
| | | The framework was revised following feedback from stakeholders to ensure that the research questions were relevant to existing programs and practice. | |
| | | To identify grey literature, we searched Google and numerous national and international healthcare and government websites. We also reached out to key stakeholders, including members of our advisory group, to send us relevant reports and presentations. | |
| | | For Phase 2, we identified the following research questions: (1) What is the scope of patient navigation programs available for adults age 26 years or older with complex needs? (2) Who are the target patients of the existing programs? (3) When and how were these programs developed and implemented? (4) What are the content of these programs and how does the content describe the needs of patients and families? (5) What are the reported outcomes of patient and caregiver education? | |
| | | Stage 2: identifying relevant studies |
| | | To identify peer-reviewed literature, we searched CINAHL, Embase, MEDLINE, Psych, JBI, Scopus, Web of Science, and PubMed on the 18th of October, 2020, using the key terms “patient navigation” or “care navigation” and implement. (See Supplemental Material 1 for a complete list of the search terms). | |
| | | To identify grey literature, we searched Google and numerous national and international healthcare and government websites. We also reached out to key stakeholders, including members of our advisory group, to send us relevant reports and presentations. | |
| | | Stage 3: study selection |
| | | We excluded duplicates and articles that did not meet the inclusion criteria (see Stage 3). We identified 839 studies for consideration. After duplicates were eliminated, 419 articles remained. A two-phase screening process was undertaken. For Phase 1, three authors independently conducted title scans and abstract reviews to assess eligibility against the following inclusion criteria: (a) written in English; (b) peer-reviewed or grey literature; and (c) published in a peer-reviewed journal. For Phase 2, a second two-phase screening process was used to identify 60 articles for inclusion in the review. (See Figure 1 for a PRISMA Flow Diagram of article selection). | |
| | | | For grey literature, KMK and JESH first reviewed a total of 38 grey literature had to meet the same inclusion criteria as the peer-reviewed articles. Twenty articles were considered. Grey literature that did not provide sufficient details on the implemented program (such as lacking a description of the components of the program) were excluded. Two grey literature sources were included. | |
| | | In total, 60 articles were included in our review. | |
| | | Stage 4: charting the data |
| | | The entire research team discussed data characterization and extraction methods as a team at the beginning of the review. For each article, we extracted data on patients, programs, and outcomes. For each article, we extracted data on patient, and caregiver population characteristics, implementation characteristics, study outcomes, and conclusions. | |
| | | Stage 5: collating, summarizing, and reporting the results |
| | | KMK followed qualitative thematic analysis techniques, including developing a codebook and coding the data in NVivo software to sort the extracted data. Coded data was reviewed by KMK and JESH. We discussed high-level extraction forms were compared for any discrepancies. No discrepancies were identified. Key information, such as lack of data presented in the results section, was discarded. | |
| | | Stage 6: consultation with stakeholders |
| | | The research team presented findings of the scoping review to our advisory team of stakeholders through the planning process and opioid crisis. The research team presented findings of the scoping review to our advisory team of stakeholders through the planning process and opioid crisis. The research team presented findings of the scoping review to our advisory team of stakeholders through the planning process and opioid crisis. The research team presented findings of the scoping review to our advisory team of stakeholders through the planning process and opioid crisis. The research team presented findings of the scoping review to our advisory team of stakeholders through the planning process and opioid crisis. The research team presented findings of the scoping review to our advisory team of stakeholders through the planning process and opioid crisis. The research team presented findings of the scoping review to our advisory team of stakeholders through the planning process and opioid crisis. The research team presented findings of the scoping review to our advisory team of stakeholders through the planning process and opioid crisis. The research team presented findings of the scoping review to our advisory team of stakeholders through the planning process and opioid crisis. The research team presented findings of the scoping review to our advisory team of stakeholders through the planning process and opioid crisis. The research team presented findings of the scoping review to our advisory team of stakeholders through the planning process and opioid crisis. The research team presented findings of the scoping review to our advisory team of stakeholders through the planning process and opioid crisis. The research team presented findings of the scoping review to our advisory team of stakeholders through the planning process and opioid crisis. The research team presented findings of the scoping review to our advisory team of stakeholders through the planning process and opioid crisis. The research team presented findings of the scoping review to our advisory team of stakeholders through the planning process and opioid crisis. The research team presented findings of the scoping review to our advisory team of stakeholders through the planning process and opioid crisis. The research team presented findings of the scoping review to our advisory team of stakeholders through the planning process and opioid crisis. The research team presented findings of the scoping review to our advisory team of stakeholders through the planning process and opioid crisis. The research team presented findings of the scoping review to our advisory team of stakeholders through the planning process and opioid crisis. The research team presented findings of the scoping review to our advisory team of stakeholders through the planning process and opioid crisis. The research team presented findings of the scoping review to our advisory team of stakeholders through the planning process and opioid crisis. The research team presented findings of the scoping review to our advisory team of stakeholders through the planning process and opioid crisis. The research team presented findings of the scoping review to our advisory team of stakeholders through the planning process and opioid crisis. The research team presented findings of the scoping review to our advisory team of stakeholders through the planning process and opioid crisis. The research team presented findings of the scoping review to our advisory team of stakeholders through the planning process and opioid crisis. The research team presented findings of
Peer reviewed articles identified for screening (n=839)  
Duplicates removed (n=420)  
Title and abstract screening (n=457)  
Irrelevant articles excluded (n=248)  
Full-text assessed for eligibility (n=209)  
Articles included in the scoping review (n=60)  
Grey literature articles identified for screening (n=38)  

Articles excluded (n=149)  
(n=29) wrong patient population  
(n=27) no full text  
(n=26) Does not describe one patient navigator program but rather provides a summary or review of many programs and does not focus on implementation  
(n=23) duplicate  
(n=13) wrong intervention  
(n=12) not implemented  
(n=10) does not define the intervention as a patient navigator program  
(n=7) wrong study design  
(n=2) pediatric population

Figure 1. Consolidated framework for implementation research model (image from Tink et al., p. 100).

Figure 2. PRISMA diagram.
| AUTHORS, COUNTRY, AND DESIGN | OBJECTIVE | PARTICIPANTS AND SAMPLE SIZE | KEY CONCLUSIONS |
|-------------------------------|-----------|-----------------------------|-----------------|
| 1. Anderson et al,92 Canada, mixed methods | To implement a patient navigation (PN) role into the existing clinical environment. | Cancer (N=81) | Collective learning occurs when implementing patient navigation programs. |
| 2. Basu et al,41 USA, quantitative | To assess the effect of nurse navigation on timeliness of care following the diagnosis of breast cancer through the comparison of patients treated in a comprehensive cancer center with and without the assistance of nurse navigation. | Women with breast cancer (N=176) | There was a decreased time in medical consultation for older patients, but not younger patients. Further studies are indicated to assess the long-term effects and durability of this quality improvement initiative. |
| 3. Battaglia et al,93 USA, mixed-methods | To evaluate the feasibility of incorporating chronic disease navigation. | Patients with complex social needs/chronic conditions (N = 109) | Results support the use of chronic disease PN in primary care. |
| 4. Bradford et al,42 USA, quantitative | To assess the effectiveness of a PN with HIV-infected disadvantaged populations. | HIV-infected individuals (N = 437) | “HIV System Navigation” (an adapted navigation approach) has promise for improving access to HIV care and warrants further development. |
| 5. Brown et al,76 USA, qualitative | To determine the utility of patient navigation to provide genetic counseling services for patients with ovarian and breast cancer. | Patients with newly diagnosed ovarian and breast cancer (N=50) | PN may improve access to genetic counseling services in patients with ovarian and breast cancer. |
| 6. Campbell et al,43 USA, quantitative | To determine whether patient navigation in a comprehensive community cancer center affects patient and staff perceptions of patient preparation for treatment, access to care, and overall satisfaction. | Newly diagnosed cancer patients (N = 48) | PN is effective in increasing patient satisfaction and decreasing barriers to care. |
| 7. Castaldi et al,44 USA, qualitative | To determine the effectiveness of patient navigation on reducing delays and initiating treatment of cancer. | All patients with newly diagnosed breast cancer (N=117) | Results are inconclusive as navigation efforts had a limited impact during the first 90d of care. There was a lack of consistency in favor of navigation on all 3 quality measures. |
| 8. Chan et al,94 USA, mixed methods | To develop and implement an electronic intervention (InterNet LETter (NetLET) to increase interest and use of CRCS among patients with and without e-mail access at home or work. | Colon cancer screening patients (N = 97) | It was not feasible to implement NetLET. |
| 9. Esperat et al,77 USA, qualitative | To facilitate behavior change among people with chronic diseases, by using a trained PN. | Individuals with multiple chronic conditions (N = 200) | It was a cost-effective method to use Community Health Workers (CHWs) CHWs as the PNPN as it improved access to to quality, cost-effective, primary healthcare services, and facilitation of chronic disease self-management. |
| 10. de la Riva et al,78 USA, qualitative | To assess provider’s perspectives on the implementation and community impact of the navigation program. | Individuals with cancer (N = 19) | By incorporating navigators who serve a dual working purpose embedded in the community and clinics, clinical teams may benefit, as they enhance the service delivery for vulnerable populations. |
| 11. Di Palo, et al,45 USA, quantitative | To evaluate the effect a PNP has on readmissions and improving access to follow-up care post discharge. | Individuals with heart failure/cardiovascular disease (N = 43) | By embedding a PN into existing initiatives, readmission rates can be reduced. |
| 12. Doolan-Noble et al,46 New Zealand, quantitative | To describe the evolution, purpose, and effects of a lay-led health navigator model in primary care. | Individuals with multiple chronic conditions (n = 296) | Overall, survey respondents were highly satisfied with PN. |

(Continued)
**Table 2. (Continued)**

| AUTHORS, COUNTRY, AND DESIGN | OBJECTIVE | PARTICIPANTS AND SAMPLE SIZE | KEY CONCLUSIONS |
|------------------------------|-----------|-----------------------------|-----------------|
| 13. Ell et al, USA, quantitative | To compare two programs aimed at improving adjuvant treatment adherence and follow-up low-income females. | Women with breast or gynecologic cancer (N = 487) | Treatment adherence across randomized groups was notably higher than reported in previous studies. This suggests that active telephone PN or written resource informational materials may facilitate adherence among low-income, predominantly Hispanic women. |
| 14. Ferrante et al, USA, qualitative | To evaluate the pilot use of a PN in primary care practices. | Patients with complex social needs/chronic conditions (N = 75) | PN in community primary care practices is useful for patients who have complex needs. |
| 15. Ferrante et al, USA, qualitative | To describe the experiences of a cancer PN. | PN to individuals with cancer (N = 1) | Key attributes for success as a patient include being accessible, resilient, and resourceful. Areas to address for future PNP in this setting include: ensuring safety when working in potentially dangerous neighborhoods and helping navigators set boundaries and avoid burnout. |
| 16. Fillion et al, Canada, qualitative | To provide a qualitative description of the implementation process of the PN role and its effects. | Individuals with head and neck cancer (N=19) and their family members (N=15) | Implementing PNs can result in the improvement of interdisciplinary work and continuity of care. |
| 17. Fillion et al, Canada, qualitative | To discuss the role, models implementation process and outcomes of patients and families dealing with head and neck cancers enrolled in a PNP. | Individuals with head and neck cancer (N = 158) | Implementing a PNP can improve continuity of care and empowerment for patients with head and neck cancer. |
| 18. Fink et al, USA, quantitative | To evaluate intervention aimed at improving the palliative care outcomes for Hispanics with advanced cancer. | Hispanic individuals with cancer at the end of life (N = 223) | Palliative care access to underserved populations can be improved by adapting and implementing PNs. |
| 19. Fleisher et al, USA, quantitative | To evaluate the acceptability, feasibility, and impact of a navigator program. | Individuals with cancer (N = 44) | Provided valuable information to determine the resources, both personnel and infrastructure that are necessary to promote sustainability in the real-world, community setting. |
| 20. Ford et al, USA, quantitative | To evaluate a program aimed at addressing barriers to hepatitis C virus care and treatment. | Individuals with hepatitis C (HCV) (N = 388) | Clinic-based patient navigation services can improve the HCV care continuum. Sustainable PN services for HCV infection may improve clinical outcomes in high-need persons. |
| 21. Freund et al, USA, qualitative | To report the findings from a stakeholder panel aimed at developing a core set of standard activities of lay navigators that would be implemented at each clinical site. | Women with breast cancer (N=NR) | The stakeholders recommend the need to standardize navigation activities that are patient-specific and address practices for identifying patients eligible for navigation, how and when navigators should contact patients and processes for patients who are not adherent with recommended care. |
| 22. Gabel, USA, quantitative | To determine the effect of oncology nurse navigation on access to care, patient, and provider satisfaction and clinical trial enrollment of patients with cancer. | Patients with gynecologic and hematologic cancers (N = 107) | Patients and providers were satisfied with the navigator role. Enrollment in the clinical trial increased. |
| 23. Guo et al, USA, quantitative | To determine if the Wellness Incentive and Navigation (WIN) intervention can improve health-related quality of life among Medicaid enrollees. | Individuals with multiple chronic conditions (N = 1089) | Providing navigator support with wellness account is effective in improving health-related quality of life among Medicaid enrollees. WIN intervention can be successfully implemented in state Medicaid programs. |
| AUTHORS, COUNTRY, AND DESIGN | OBJECTIVE | PARTICIPANTS AND SAMPLE SIZE | KEY CONCLUSIONS |
|-----------------------------|-----------|------------------------------|-----------------|
| 24. Helzlsouer et al,54,83 USA, quantitative | To determine if access to a web-based navigation program improves treatment completion among low-income patients with breast cancer. | Women with breast cancer (N = 98) | Centralized virtual navigation is feasible for low-income populations and potentially improves treatment completion. |
| 25. Helzlsouer et al,54,83 USA, quantitative | To develop a centralized “virtual” navigation program. | Women with breast cancer (N = 98) | A “virtual” interdisciplinary navigator program can be used by low-income breast cancer patients who had a wide range in age, education levels, and prior computer experience. |
| 26. Hendren et al,55 USA, quantitative | To determine the effects patient navigation has on cancer-specific quality of life. | People with breast cancer or colorectal cancer (N = 319) | PN was not associated with improved quality of life. |
| 27. Hook et al,56 USA, quantitative | To explore patient satisfaction among newly diagnosed patients with breast cancer using a nurse navigation model in a rural setting using a researcher-developed survey. | Women with breast cancer (N = 103) | Patients using navigation are highly satisfied with the services offered in this setting. Study highlighted the effectiveness of an individualized supportive care approach to nurses and providers of oncology care. |
| 28. Horný et al,57 USA, quantitative | To appraise the effect of a PNP on medical and administrative outcomes. | Patients of diabetic clinic (N = 422) | Navigation associated with improved glycemic control and better clinic engagement among patients with diabetes. In order to understand navigator roles in other settings and to identify features that are key in navigation of diabetes care, further research is needed. |
| 29. Hunt et al,58 USA, quantitative | To describe PNP and the metrics used to measure navigation outcomes. | Patients living with cancer (N = 4661) | Working with a PN resulted in patients having an improved understanding of how the healthcare system works. |
| 30. Jean-Pierre et al,84 USA, qualitative | To describe the processes that navigators use when working with individuals with cancer. | Navigators to individuals with breast cancer or colorectal cancer (N = 3) | Navigators use relationship-building and instrumental assistance when working with patients. |
| 31. Koh et al,59 USA, quantitative | To examine the timeliness of a PNP in terms of access to cancer care and the effect of the navigator on barriers and satisfaction. | Individuals with breast cancer (N = 55) | PN can assist with patient barriers and patients were highly satisfied with their navigated care experience. |
| 32. Kwan et al,59 Canada, quantitative | To evaluate the PNP implemented at a hospital. | Inpatients, the majority of whom have cardiovascular disease. (N = 2213) | PN was associated with a reduction in length of stay. |
| 33. Luckett et al,60 USA, quantitative | To evaluate the effect of a PNP on no-show rates and to explore factors associated with missed appointments. | Individuals with cancer (N = 419) | No show rates declined and targeted education by the PN following screening could improve follow up treatment. |
| 34. Messeri et al,61 USA, quantitative | To evaluate the effects of PN on sustained engagement in medical care for HIV-positive members of a health plan. | Individuals with HIV (N = 856) | PNP based in a Medicaid health plan can improve access to HIV medical care among disadvantaged populations. |
| 35. Miesfeld et al,62 USA, quantitative | To describe the association between PNs and institutional follow-through to cancer genetic counseling and testing services. | Lynch syndrome (LS) patients undergoing surgery (N = 451) | There may be an association between PN–directed care coordination and appropriate follow-through genetic counseling for colorectal cancer and uterine cancer cases with positive LS universal tumor screening results. |

(Continued)
| AUTHORS, COUNTRY, AND DESIGN | OBJECTIVE | PARTICIPANTS AND SAMPLE SIZE | KEY CONCLUSIONS |
|-----------------------------|-----------|------------------------------|-----------------|
| 36. Molina et al,63 USA, quantitative | To determine the effect on PN on care uptake and time to diagnosis. | New patients who had been referred for a mammography appointment (N = 675) | Results suggest the effectiveness of PN on improving adherence to screening and early detection through timely follow-up of abnormal test results. |
| 37. Myers et al,64 USA, quantitative | To describe how navigators can enhance medical and support service co-ordination and ensuring linkage to medical care for people living with HIV released from jail. | People living with HIV released from jail (N = 185) | Navigation reduces barriers to linkage, retention, and engagement in HIV care among individuals leaving jail. |
| 38. Nonzee et al,65 USA, quantitative | To implement and evaluate the efficacy of a PN intervention. | Individuals with prostate cancer (N = 546) | Data analysis is in progress. PNs performed activities to facilitate timely follow-up and social support. |
| 39. Ohlstein et al,66 USA, quantitative | To evaluate the impact of a PNP on the time from presentation to formulation of treatment planning. | Patients with head and neck cancer (N = 93) | Most patients received treatment recommendations within 3 wk of presentation. |
| 40. Pesut et al,65 Canada, mixed methods | The effect of volunteer PNs on the quality of life of individuals receiving palliative care. | Individuals at the end-of-life (N = 18), family members (n = 3), volunteers (n = 7) | The use of volunteer PNs can foster compassionate care at the end of life. |
| 41. Raut et al,65 Nepal, qualitative | To describe patients’ subjective experiences of care. | Hospital patients (2 case studies) | PNPs can improve the subjective patient experience of care delivery and improve the workflow of hospitals. |
| 42. Robinson et al,86 USA, qualitative | To describe a PNP aimed at improving communication. | Not reported | PN programs enforce effective communication across interdisciplinary teams. |
| 43. Rocque et al,67 USA, mixed methods | To evaluate implementation of lay navigator-led Advanced Care Planning conversations. | Geriatric (age >=65y) patients with cancer (N = 953) | A navigator-led program may be associated with lower rates of resource utilization at the end-of-life |
| 44. Rocque et al,67 USA, quantitative | To describe the implementation of navigation services and the impact. | Patients with cancer (N = 8787), PNs (N = 37) | Patient satisfaction with the navigation program is high and therefore, PNPs may contribute to high-quality, high-efficiency healthcare. |
| 45. Simon et al,87 USA, qualitative | To describe the (of the Chinatown PN Collaborative’s patient navigation intervention for breast and cervical cancer. | Chinese women with cancer (N = 678) | PNPs should take into account to the cultural, organizational, and community context of the intervention. |
| 46. Steinberg et al,68 USA, quantitative | To describe the implementation of a PNP for underserved cancer patients. | People with cancer (N = 135) | Implementing a community-based navigator program is feasible and there is high levels of satisfaction with PN from the perspective of patients, providers, and navigators. |
| 47. Sullivan et al,88 USA, qualitative | To explore patients’ experiences in the PNP. | Women of color new to or re-engaging in HIV care (N = 21) | PN can support women with HIV by providing them with information and skills, facilitating access to resources, and conveying kindness which may eliminate barriers to engagement in HIV care, and facilitate self-management. |
| 48. Sullivan et al,89 USA, qualitative | To understand the experiences of trained kidney transplant recipients as PNs. | Kidney transplant recipients (N = 6) | Kidney transplant recipients trained as PNs can offer support during the transplant process. |
| 49. Treiman et al,69 USA, quantitative | To evaluate the LIVESTRONG Cancer Navigation Services program | Individuals with cancer (N = 761) | PN services should be offered at all points in a patient’s cancer journey. |
| 50. Trooskin et al,70 USA, qualitative | To implement and evaluate a hepatitis C (HCV) screening and linkage-to-care intervention using a PN. | Philadelphia residents with and at risk for HCV (N = 1301) | PN services may be an effective way to diagnose and care for individuals infected with HCV. |
Specific characteristics of the intended population (ie, age, sex, gender, ethnicity/race, education, marital status, household composition, employment status, comorbidities) were not reported in the majority of articles, except in instances where the intervention only included females (eg, in the context of cervical cancer) or males (eg, in the context of prostate cancer), Hispanic individuals, Chinese individuals, or American Indian/Alaska Native individuals. Some studies referred to their target population as low-income but did not define this term. Of the studies that reported participant age, the mean ages were most often 55 to 65. The eldest included patient was 93. Some programs also aimed to improve families’ experiences of care within the context of cancer. Four studies examined the perceptions and experiences of navigators. One study explored the perspectives of HCPs (ie, medical administrators (non-clinicians), nurses, social workers physicians/physician assistants) on the implementation and impact of the navigation program. Very few studies described the implementation of the PNP in detail.

**Planning to ensure alignment with organizational need**

Planning for program implementation was important for success. The initial step for most organizations was to determine the organizational need for the PNP. Many times, this was identifying barriers to care for specific patient populations (eg, Myers et al and Wells et al) and having an organizational commitment in place to overcome barriers to care. System-level factors (ie, characteristics of healthcare systems) that also motivated organizations
Table 3. Intervention delivery characteristics.

| AUTHORS                  | SETTING         | PRIMARY MODE OF DELIVERY |
|--------------------------|-----------------|--------------------------|
| 1. Anderson et al92      | Community       | In person                |
| 2. Basu et al41          | Community       | In person and telephone  |
| 3. Battaglia et al93     | Hospital        | In person and telephone  |
| 4. Boston Medical CenterR8| Hospital        | In person                |
| 5. Bradford et al42      | Community       | In person                |
| 6. Brown et al76         | Community       | In person and telephone  |
| 7. Campbell et al43      | Community       | In person and telephone  |
| 8. Castaldi et al44      | Hospital        | In person and telephone  |
| 9. Chan et al74          | Virtual         | Virtual                  |
| 10. Esperat et al77      | Community       | In person                |
| 11. de la Riva et al58   | Community       | Not reported             |
| 12. Di Palo et al45      | Hospital        | In person and telephone  |
| 13. Doolan-Noble et al46 | Primary Care    | In person                |
| 14. Ell et al47          | Hospital        | Telephone, written communication |
| 15. Ferrante et al79     | Community       | In person and telephone  |
| 16. Ferrante et al80     | Community       | In person                |
| 17. Fillion et al81      | Hospital        | In person                |
| 18. Fillion et al48      | Hospital        | In person                |
| 19. Fink et al49         | Community       | In person                |
| 20. Fleisher et al50     | Hospital        | In person and telephone  |
| 21. Ford et al51         | Community       | In person and telephone  |
| 22. Freund et al82       | Community       | Not reported             |
| 23. Gabel et al52        | Community       | In person and telephone  |
| 24. Guo et al53          | Community       | In person and telephone  |
| 25. Helzlsouer et al54,83| Virtual         | Virtual                  |
| 26. Helzlsouer et al54,83| Virtual         | Virtual                  |
| 27. Hendren et al55      | Primary Care    | In person and telephone  |
| 28. Hook et al56         | Community       | In person                |
| 29. Horný et al57        | Community       | In person and telephone  |
| 30. Hunt et al58         | Hospital        | In person and telephone  |
| 31. Jean-Pierre et al84  | Community       | In person and telephone  |
| 32. Koh et al58          | Hospital        | Not reported             |
| 33. Kwan et al59         | Hospital        | In person and telephone  |
| 34. Luckett et al50      | Hospital        | In person and telephone  |
| 35. Messeri et al61      | Hospital        | In person and telephone  |
| 36. Miesfeld et al62     | Community       | Telephone and email      |
| 37. Molina et al63       | Hospital        | In person, mail, and telephone |
| 38. Myers et al64        | Community       | In person                |
| 39. Nonzee et al65       | Hospital        | In person and telephone  |
| 40. Ohlstein et al66     | Hospital        | In person                |
| 41. Pesut et al95        | Community       | In person and telephone  |

(Continued)
Table 3. (Continued)

| AUTHORS                  | SETTING               | PRIMARY MODE OF DELIVERY |
|--------------------------|-----------------------|--------------------------|
| 42. Raut et al           | Hospital              | In person                |
| 43. Robinson et al       | Hospital              | In person                |
| 44. Rocque et al         | Hospital              | In person                |
| 45. Rocque et al         | Hospital              | In person                |
| 46. Simon et al          | Hospital              | In person, application, and telephone |
| 47. Steinberg et al      | Hospital              | In person                |
| 48. Sullivan et al       | Hospital              | In person and telephone  |
| 49. Sullivan et al       | Hospital              | In person                |
| 50. Sunnybrook Health Sciences | Hospital          | In person                |
| 51. Treiman et al        | Community             | In person, email, and telephone |
| 52. Trooskin et al       | Community             | In person and telephone  |
| 53. Warren-Mears et al   | Community             | In person and telephone  |
| 54. Watson et al         | Community             | In person                |
| 55. Weber et al          | Community             | In person                |
| 56. Wells et al          | Community             | Telephone                |
| 57. Wells et al          | Community             | In person, mail, and telephone |
| 58. Westergaard et al    | Community             | In person                |
| 59. Yeo et al            | Hospital              | In person                |
| 60. Yu et al             | Hospital              | Telephone                |

to implement a PNP included medical insurance and the need to improve coordinative care for patients when facing workforce shortages.46,49,65,66,79,85,87,90

Following this planning phase, organizations had to determine the type of PNP to implement, the qualifications of the navigator, and define their responsibilities.43,46,48,68,73,79,82,90,92 In some instance, the navigator function was co-designed among operational leaders.92 The daily work schedule of the PN was also discussed.79 One program described setting timelines for each of the navigators’ responsibilities.82 Clear inclusion and exclusion criteria for patients to enroll in the PNP, or to guide navigators in selecting patients also were established.48,60,63,71,79

Funding

A crucial linkage between organizational willingness to implementing an effective PNP was the amount of funding available. Financial incentives to implement the PNP include the provision of initial funds to cover upfront costs from government granting agencies (including research funding),45,46,50,56,57,73,77,82,87,90 donations from physicians,59 and foundations.43,44,59,69,71,79,90,92 The amount of funding often influenced the type of navigator to hire, as professional navigators were more costly and could hinder the sustainability of a program.57,68 Some studies had the professional navigator as the only program-related cost,44,59 whereas others used funding to pay patients for their enrollment in the initiative.53 Further work to establish the cost-effectiveness through formal evaluations of the incentives were suggested as strategies to help overcome cost-related barriers to implementation.43,70,77,96

Multidisciplinary engagement

Multidisciplinary engagement throughout all stages of the development and implementation processes can help improve the effective implementation of PNPs. Programs were largely implemented by hospital organizations, although specific leaders of the programs were often not discussed. In the articles that did discuss program leaders, these were often either community organizational leads;41,43,46,56,66,73,77,99 hospital administrators;63,65,75,81,85,96 or physicians.68,75,79,81,96 Some studies described the creation of an implementation committee that was composed of clinical, administrative, and research representatives.43,73,81,82 Many times these committees provided ongoing feedback on program implementation and progress. Initiatives that described developing a mobile application did so in consultation with patient partners who also piloted the prototype.54,83

Research staff were often included in program implementation. Research coordinators or assistants also served as a resource for all program evaluations and sometimes the delivery of the intervention.45,49,50,77,87,92 and coordination of the
Some programs stated that the PN could be available for as long as needed\(^6\) whereas other programs specified a maximum of 3,\(^4,61\) \(6.8\) \(8.8\) \(9.4\) \(9.1\) or 12 months.\(^5,4,79,79,95\) Frequency ranged from 2 in-person visits during the first month\(^9\) to phone calls or visits every 1 to 3 weeks\(^52,54,61,78,95\) to at least 5 home visits over 3 months\(^49\) and a follow up at 6 and 12 month periods.\(^4,91\) Some interventions tailored the frequency of follow up by a PN to the needs of the patient\(^58,63\) such as by conducting weekly home visits for the first month, followed by bi-weekly visits during the second month, and then potentially monthly visits.\(^77\)

Few studies described the role of the navigator on supporting family members. Some studies described that the PN role included promoting patient and family empowerment, such as through delivering supportive care and education to support self-management.\(^4,9,93\) Others described providing emotional support to families.\(^52\) One study described that the navigators were to help patients cope with family matters.\(^54\)

**Establishing workflow**

Alterations to workflows created by the introduction of PNPs may also influence program implementation,\(^87\) as existing HCPs do not have the capacity to take on PN responsibilities.\(^4,46,66,68,86\) Strategies to overcome challenges related to existing workflows included leveraging existing organizational structures, such as using the same documentation systems and embedding navigators into existing teams.\(^45,59,65,79,85,87,92,94,97\) Similarly, some studies had the navigator work in dual roles such as being a navigator and a clinic nurse.\(^56,83\) While competing priorities and demands of these navigators were not discussed, some studies discussed the challenges HCPs had in supporting PN.\(^71\) Nonetheless, ensuring role standardization and clear communication about the functions of the navigator minimized role confusion and any overlapping functions between existing clinical roles and the navigators.\(^92\)

**Training and supervision**

A handful of programs that utilized lay navigators connected them with a supervisor\(^53,55,58,73,78,87\) or professional, including a nurse, social worker, case manager, or community health educator to monitor adherence to care plans for patients.\(^57,64,65,73,77,84,95\) However, remote supervision by researchers caused difficulty in assessing navigator’s reliability.\(^50\) The availability of individuals to support navigators training was also identified as critical factors to support program implementation. The training of navigators was not always described in detail within the included studies (eg, Nonzee et al\(^9\)). Formal training in navigation was sometimes taught by the senior principal investigator of the study,\(^63,77,78\) educators of community health workers,\(^78,84,93\) or medical directors or clinicians.\(^57,87,94,96\) Some programs developed their own training curriculum through interdisciplinary collaboration (ie, between multidisciplinary clinicians, researchers, advisory committee).\(^50,67,92,95\) The implementation sites also provided institutional orientation for navigators,\(^50,57,78\) that included training on electronic medical records,\(^65,92\) and providing education to families.\(^74\) Training occurred in person\(^99\) or virtually\(^92\) and sometimes involved ongoing training\(^59,61,78,92,93\) and supplemental learning resources (eg, case studies).\(^95\)

**Mechanisms for communication**

Communication was also an important aspect of implementation. Several studies noted the prominence of communication between patients, navigators, and other HCPs.\(^50,59,62,66,67,71,73,84\)\(^,86,87,95\) Communication between patients, HCPs, and navigators most often took place in person. Some communication was
also provided via telephone (n = 30), including via texting or mobile chatting applications (n = 3), or email (n = 2). Some patients were difficult to reach due to a lack of a telephone number or migration and thus, served as a barrier to program delivery.73,93

Communication between the individuals involved in the programs and ongoing communication between key stakeholders were often referred to, which can be seen as an enabler to implementation in some studies.50,66,67,73,82,87,89 Mechanisms of communication were often not described in detail, with many studies just referring to ongoing meetings between program implementers.50,82,83,92 One study described that yearly retreats were held to encourage communication and team-building among navigators in the same program.49 Other studies described employing peer-to-peer communication strategies62 or weekly meetings to discuss progress or current patients.65,66,77,83,87,89 To provide education to the public, community presentations were often used.45,58,80,92 One program also had a dedicated webpage that outlined the role of the navigators.92

Communication between patients and navigators were seldom described. Mutual trust and open communication between patients and navigators may help facilitate the positive uptake of a PNP by patients.58,84 One study described that navigators communicated with patients in a professional but friendly manner whereby they used lay terms to describe medical processes.84 Another study reported disrespectful communication (ie, not consistently concerned and impolite tone) among the navigators toward the patients.85

**Stakeholders to encourage buy-in**

The engagement of stakeholders as champions,66,73,92 were most often physicians,52,68,73,79,81,82,96 hospital leaders,82,85,96 partnering not-for-profit organizations,56,69,89,92 or principle investigators (researchers)63 may have influenced the implementation of PNPs. Champions were often utilized to help delineate the role of the PN in healthcare settings.67,81,82,92 Likewise, some studies were championed by advisory boards comprising of community partners and/or family members and patients.63,65,73,81,82,87,95 Champions often had several years of experience in PN50,63,65,69 and provided the program team with information about resources available to patients in the community.51,73,95 Open and planned communication helped to encourage stakeholder relationships.73,82,87

The uptake of PN may also be facilitated by interdisciplinary HCP engagement. Collaborations between professional staff at the organization and the PN may influence the buy-in of the organization hosting the PNP62,66,67,73,75,82,90,96 While collaboration between physicians and navigators were strong,76,77 navigators report difficulty collaborating with nurses and social workers, although reasons for this were not described.59,96

Enhancing stakeholder partnership with partnering organizations was used as a strategy to help encourage referral support.56,62,71,73,76,82,90 The referral of patients by HCPs, community organizations, and healthcare clinics acted both as facilitators and barriers to implementation and acceptance of the PN role.44,47,50,52,60,65,67,71,73,74,76,79,80,87,91,96 In addition to facilitating referrals, PNs often liaised with healthcare clinic staff to schedule appointments for patients.51,58,75 The time to seek out potential patients to enroll in the PNP was reported as a challenge for programs.71

**Appropriate caseload**

Having an appropriate caseload could help program sustainability. In some cases HCPs were hesitant to refer to the navigators due to concerns over navigators’ caseload.71 Navigators who were overwhelmed by their caseload provided poor patient care.85 The number of newly diagnosed patient referrals limited navigators’ caseload.43

**In-kind resources**

Several authors described the available or lack of available resources to the program implementation team, including the availability of resources within an organization and organizational workflows. Resources often were developed as a result of a history of collaboration between organizations,50,69 whereby formal partnerships became defined in a memorandum of understanding for the purpose of PN implementation.87,90

Resources often included physical (eg, room availability)44,50,57,62,63,65,67,73,87 and technological infrastructure (eg, use of the electronic health record or dedicated phone lines/cell phones).42,45,47,50,57,59,60,65,73,74,87 Programs were able to adapt some of the electronic medical records or intake procedures to fit the needs of the PNs,57,69,75,92 However, technology sometimes caused challenges for recruiting patients due to inconsistent or delayed documentation of diagnosed patients suitable for PN.71 Likewise, the manual entry of patient information by navigators may pose as a challenge for intervention dissemination.75 Thus, mechanisms for improving early diagnosis reporting has been suggested.71 Often, physical resources meant having hospital partners to implement the program in areas where patient need was high (eg, locations whereby there are high levels of concentrated poverty and racial discrimination58,60,63,71,85,87,90,91,96). Medical resource agreements for specific health services to increase service allocation also served as a resource factor important for implementation.58,94,90 One study permitted navigators to give low-income patients financial resources to assist with their wellness.53

Access to informational materials was also important for the implementation of PNPs aimed at improving patient education. Some programs developed or adapted their own educational resource materials to help facilitate patient education through the PN (eg, on medical procedures).47,49,69,73,87,90 In general the access to, or the creation of, appropriate, and easily available resource material was reported as a facilitator to implementation.49,73,90 Appropriate educational materials often
included ones suitable for a variety of individuals in terms of health literature and languages.49,73,90

Patient and caregiver outcomes

The majority of studies provided evidence that the addition of navigators to a patient’s care team increases not only a patient’s overall satisfaction of their treatment, but also improved access to primary healthcare,45,59,77 education,87,90 adherence to medication,47 treatment completion,54,83 reduced wait-times,57,71 and decreased the number of no-shows or appointment cancellations.50 Medical records predominately analyzed to report on re-admission rates and decreased wait times (eg, Ferrante et al79). Patient satisfaction was commonly measured using a survey instrument that was given to patients prior to working with a navigator, and after the service was complete.53 However, Fleisher et al50 administered a self-reported nine-item patient satisfaction survey at 4 and 12 weeks into the program. The results demonstrated a significant increase within that time period. Survey data collected by Rocque et al96 on patient satisfaction was able to determine that 83% of patients in the program stated they were either satisfied or very satisfied attributing to how valuable a PNP can be. Mixed methods research were often employed in many of the studies in a combination of patient and caregiver outcomes. Researchers participating in interviews in order to better understand their experience.97 Generally, navigators found their work rewarding.97 Navigators reported feeling appreciated by both patient and family and felt they were able to help with a broader range of patient needs than other clinicians.97 In some circumstances, it was reported by other HCPs that the navigator improved communication between the different members of a patient’s healthcare team and aided in facilitating interdisciplinary work.91

Discussion

The present scoping review characterized the various approaches being used to successfully implement PNPs across diverse care settings. The outcomes of evaluated PNPs demonstrate positive impacts on the experiences of patients, families, and HCPs. Positive outcomes could be attributed to navigators engaging with and advocating for patients. Our work expands on the original work by Freeman90,21 by considering patient navigation for all adults. There was a lot of variability with the process to which PNPs were implemented, which results in a lack of standardized best-practices for implementing PNPs to improve access to, and the quality of, care. However, common themes related to implementation emerged that can help advance implementation of PNPs for all adults and not just those with breast cancer as the original model suggests. For example, the most described approach to program implementation included focusing on the inner setting characteristics (CFIR; organizational) and individuals involved (CFIR; characteristics of the individuals). This involved multidisciplinary groups of individuals working toward an organizational commitment to improving barriers to care for particular groups of patients. Outer-setting factors such as funding and the availability of partnering organizations also influences program implementation. Suggestions for future research, practice, and policy are provided below to help inform the planning process of implementing PNPs into community and acute care settings.

Future research

Researchers may help facilitate the implementation of PNPs and thus are encouraged to continue their work in the delivery of PNPs. The implementation of PNPs can be impacted by differences in national healthcare culture and funding. The majority of PNPs have been implemented in the United States and thus, research done in other countries, particularly those with publicly funded medical services (eg, Canada), is encouraged. Such research would allow comparisons to be made in terms of patient/family outcomes and different implementation approaches based upon healthcare funding models. Our studies included mostly the patient perspective and thus, there is an opportunity for future research to explore the impact HCPs have on caregiver and stakeholder perspectives. A more fulsome understanding of the facilitators and barriers to PNPs from the perspective of leaders, decision-makers, and advisory committees could help researchers make recommendations for strategies to address challenges to PNP implementation. Future work should explore the impact that HCP engagement (CFIR; inner-setting)
has on implementing PNPs. Additionally, participant demographics (eg, income levels, education levels, comorbidities) were generally not reported. Future research should more fully capture participant characteristics so that differences in outcomes and differences in programs to meet the needs of patients by social location could be better understood. Future research evaluating PNPs should also focus on reporting on the characteristics of the community settings and hospital units to provide more contextual information about the inner setting influences on implementation for those looking to implement PNPs. Lastly, many authors have recommended that a cost-analysis of PNPs be conducted.31 We recommend future research explore the cost or cost-effectiveness of PN across disease continuums and in a variety of healthcare settings.

Policy
This review described some of the broad organizational-outer characteristics that were reported as influencing the implementation of PN initiatives. The majority of included studies reported that their PNPs were a response to the existing health system not adequately meeting the needs of patients. Thus, comprehensive policy is needed to enact system change to meet the needs of all patients.

The reported organizational characteristics are strongly influenced by the resources available to the program implementation team including individuals, funding, and resources (ie, location, technological). System-level (CFIR; outer setting) improvements such as creating policies and processes that encourage the implementation of PNPs are encouraged. Governments are encouraged to provide funding for acute and community health-care settings looking to implement PNPs. As obtaining adequate levels of health service funding is an ongoing challenge, more research on the cost-effectiveness of PN and a variety of cost-effective implementation approaches to support PNPs may encourage governments and organizations to fund PNPs.

Practice
A lack of PNPs exist outside of North America and cancer care. Many of the included articles implemented PNPs in community-based settings, suggesting the feasibility of meeting patients and families in these settings. Electronic (ie, email, phone) and virtual methods of program delivery may be useful for widespread PNPs. Special consideration should be taken by organizations to determine the most appropriate type of navigator and mechanism of delivery that would be best suited for their given setting and target population.

The implementation of PNPs resulted in practice change for healthcare settings. Most PNPs were implemented by organizations and multidisciplinary teams. Practice change often required resources (human, physical, technological, and financial) and multidisciplinary leaders, consultants, and stakeholders to encourage buy-in. Other domains with the potential to impact implementing PNPs include (CFIR) outer-level factors (eg, existing barriers to care, external government funding), inner-level (eg, communication processes), individuals involved (eg, establishing workflow among various clinicians) and processes (eg, processes for referrals). Examined together, the implementation strategies identified in this review could provide the starting of a framework that can be used by service providers and researchers in the implementation and evaluation of PNPs to improve care to adult individuals. It is important that those looking to implement PNPs into standard healthcare practice be aware of strategies to overcome barriers to implementation over time. Moreover, as politics can either hinder or facilitate implementation,101 it is important that organizations implementing PNPs be nimble to, and aware of, changing political climates.

In order for organizations implementing PNPs to achieve their mandate, patients must be recruited to the program. Our review found that program recruitment was largely dependent upon stakeholder referrals, particularly from physicians. Thus, organizations must prioritize and address factors that impede physician support of PN. Having strong networks and effective, ongoing communication among HCPs within partnering organizations or the organization itself may help to facilitate patient referrals. Organizations are encouraged to develop resources to educate HCPs about the PN and have referral systems that do not interrupt existing workflow. As reaching clinicians for referral training and PN education may be challenging for some organizations, multiple methods of communication such as face-to-face and email are encouraged.

Limitations
It is possible that some relevant articles were missed because the search was limited from January 1, 2009 to October 19, 2020 and conducted in English. However, to minimize the potential of missed articles a search strategy was comprehensive, peer-reviewed, and we conducted an in-depth search of grey literature.

Conclusions
In this paper, we synthesize the literature on the characteristics, outcomes, and implementation of PNPs. Patient navigators often begin their interaction with patients shortly after diagnosis and continue to assist with their treatment and care. Factors that may influence implementation are identified. Reviewing existing implemented programs can help shed light on the challenges that new adopters of PN may encounter. This review provides an important foundation to guide future research, policies, and practices aimed at implementing PNPs to improve patient and family experiences.

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Author Contributions

KMK and SLH were responsible for the conception and design of the study. KMK and JEH developed the search strategies for peer-reviewed and grey literature. JEH conducted the literature searches. KMK, JEH and JR led the screening of articles. KMK and JEH led the analysis and interpretation of data, but all authors contributed to the analysis and interpretation. KMK wrote the first draft of the manuscript with feedback from SLH. All authors contributed meaningfully to the drafting, editing, and approval of the final manuscript. All of the authors read and approved the final manuscript.

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Supplemental Material

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