

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 navigator 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 sub-optimal 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 unanimous 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,³² 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.³³ 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.^{47,53-55,63,71,83} The United States ($n=50$)^{28,41-45,47,49-55,57,58,60-73,75-80,82-84,86-91,93,94,96,98} 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 ($n=29$)^{41-43,49,51-53,56,57,62,64,69-73,76-80,84,88,90-92,95,97,100} 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),^{28,41,43,44,47-50,52,54-56,58,60,62,63,65-69,71-76,78,80-84,87,90,92,94,96-98} 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.

ARKSEY AND O'MALLEY ³⁵ METHODOLOGY STAGE	STUDY DETAILS
Stage 1: identifying the research question(s)	We collaborated with an interdisciplinary team of stakeholders (i.e., a current patient navigator, representatives from a not-for-profit community support service agency, the Director of Interprofessional Practice from a large urban hospital), to identify our research questions. Questions were also informed by the Consolidated Framework for Implementation Research (CFIR). ³⁷ We identified the following research questions: (1) What is the scope of patient navigation programs available for adults age 26 y 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 the programs and how does the content of these programs change to meet the needs of patients and families; (5) What are the reported impact of these programs on patient and caregiver outcomes?
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. The search strategy was tailored to each database using the key terms: "patient navigat*" or "care navigat*" and implement*. (See Supplemental Material 1 for Medline search strategy). References were imported into EndNote and duplicates were deleted. Following our inclusion and exclusion criteria (see Stage 3) we reviewed the reference lists of all included articles to determine any articles that we missed.
Stage 3: study selection	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. The database searches produced 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) published from January 1990 to present, (b) implemented patient navigator program (PNP) for individuals aged 26 y or older with an acute complex condition or situation or a chronic condition(s), (c) peer-reviewed or grey literature, and (d) published in English. Articles were excluded if they were (a) published before 1990, (b) does not define their program as a "PNP," (c) program was not implemented, (d) for youth (individuals 25 and under or the majority of the participants were 18-26), (e) books, book chapters, opinion pieces, or editorials, (f) grey literature that did not sufficiently describe the initiative implemented (eg, implementation process, location, population, impact), (g) literature reviews, protocols, trial papers, or chart reviews, (h) conference abstracts or articles without an accessible full-text, (i) does not describe one PNP but rather provides a summary or review of many programs and does not focus on implementation (eg, a survey on providers but not around the implementation of a program), (j) describes a patient navigation (PN) project that could be for adults and youth, and (k) describes a PN for a non-medical diagnosis (eg, smoking cessation) or a healthy population (eg, cancer screening program; diagnosis only) This resulted in the identification of 207 articles for full-text review. For Phase 2, 3 authors reviewed the articles using the same inclusion and exclusion criteria. Discrepancies were resolved by SLH KMK following a discussion of the article with. Fifty-eight met the inclusion/exclusion criteria and were included in the review. Our hand-search first revealed 11 additional articles, however after adding them to the full-text review process we did not identify any additional 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, the outcomes of the program or the implementation process) were then 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, during the middle, and at the end of the review process until a consensus was reached. The data were charted independently by KMK and JESH using a data extraction form in Microsoft Excel. Throughout data extraction Blinded for KMK and JESH met periodically to discuss emerging thoughts on the data. The form was developed and tested by the research team in a series of team meetings prior to the extraction of all data. Any questions that arose during the charting process were discussed by the team. The two extraction forms were compared for any discrepancies. No discrepancies were identified. Key information that was collected across article types included: general information, program, characteristics, 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 according to crucial nuances in the data. Coded data was reviewed by JESH. Numerous meetings with the research team occurred whereby we discussed high level concepts and identified common themes across the included articles and in the coded data. The implementation process of each article was discussed in relevance to the components of the CFIR and summarized into descriptive themes characterizing components of implementation. Potential themes were discussed until consensus was achieved and final themes were developed with all members of the research team.
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 analysis of results. These meetings were used to inform the analysis as well as to obtain relevant documents as previously described. Consultation with our stakeholders also helped to identify knowledge gaps in order to develop targeted and actionable recommendations for implementing future patient navigation programs and research.

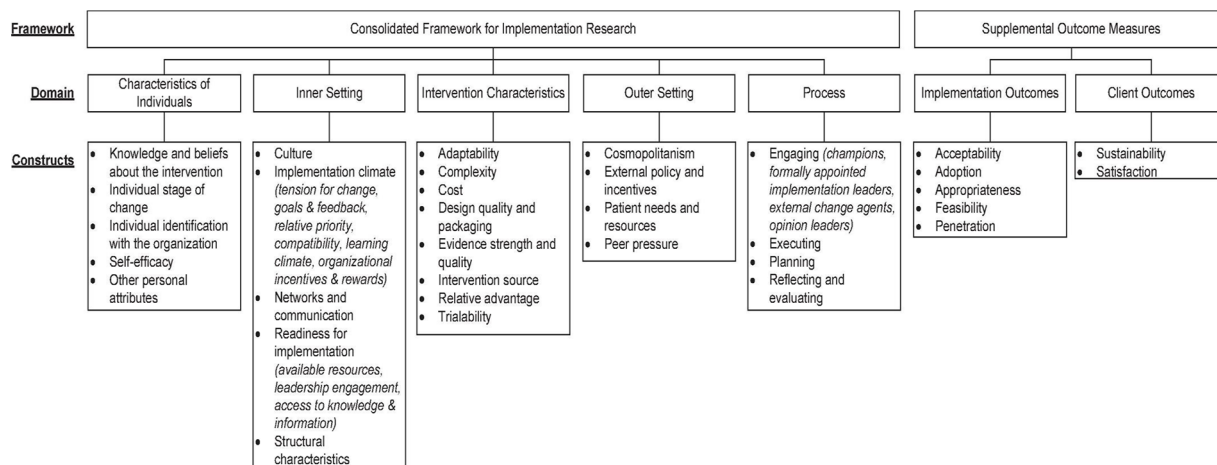


Figure 1. Consolidated framework for implementation research model (image from Tink et al., p. 100).

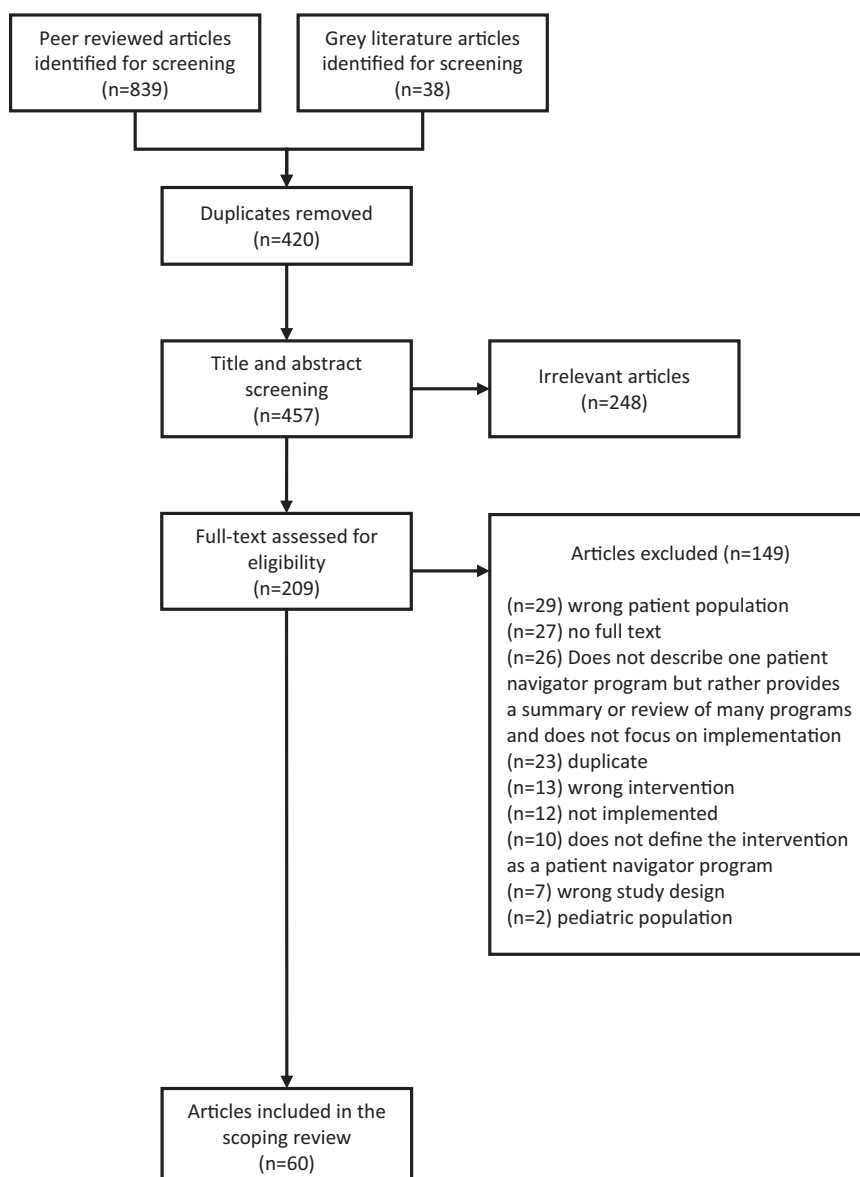


Figure 2. PRISMA diagram.

Table 2. Characteristics of included peer-reviewed studies.

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 90 d 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 Reasons for lack of success differed for the private and public access arms.
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 PNP as it improved access 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, ⁴⁷ 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, ⁷⁹ 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, ⁸⁰ 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 PNPs in this setting include: ensuring safety when working in potentially dangerous neighborhoods and helping navigators set boundaries and avoid burnout.
16. Fillion et al, ⁸¹ 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 PNPs can result in the improvement of interdisciplinary work and continuity of care.
17. Fillion et al, ⁴⁸ Canada, quantitative	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, ⁴⁹ 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 PNPs.
19. Fleisher et al, ⁵⁰ 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, ⁵¹ 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, ⁸² 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, ⁵² 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, ⁵³ 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.

Table 2. (Continued)

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)	<p>Patients using navigation are highly satisfied with the services offered in this setting.</p> <p>Study highlighted the effectiveness of an individualized supportive care approach to nurses and providers of oncology care.</p>
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)	<p>Navigation associated with improved glycemic control and better clinic engagement among patients with diabetes.</p> <p>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.</p>
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, ²⁸ 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. Lockett 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=4199)	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)

Table 2. (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, ⁹⁵ 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, ⁸⁵ 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, ⁹⁶ USA, mixed methods	To evaluate implementation of lay navigator-led Advanced Care Planning conversations.	Geriatric (age ≥65 y) 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, PNP 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, quantitative	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.

(Continued)

Table 2. (Continued)

AUTHORS, COUNTRY, AND DESIGN	OBJECTIVE	PARTICIPANTS AND SAMPLE SIZE	KEY CONCLUSIONS
51. Warren-Mears et al, ⁷¹ USA, quantitative	To estimate the effect of PN services in reducing the time between suspicious cancer-related finding and definitive diagnosis.	Patient with cancer (N = 1036)	PN appears promising, but there is a need to expand navigation to earlier stages of cancer care such as screening.
52. Watson et al, ⁹⁷ Canada, mixed methods	To describe the evaluation approach used and outcomes achieved in a patient navigation project.	Individuals with cancer (N = 81)	A PNP is feasible and may improve the patient and family care experience and healthcare teams' ability to collaborate care.
53. Weber et al, ⁷² USA, quantitative	To determine the impact of a PNP on the adherence to specific Breast Cancer Care Quality Indicators (BCCQI).	Women with newly diagnosed breast cancer (N = 134)	Implementation of a PNP improves the quality of care of newly diagnosed women with breast cancer.
			Retrospective study design and relatively short follow-up are limitations to study.
54. Wells et al, ⁷³ USA, quantitative	To describe the PNP and examine the characteristics of participants in the program and challenges the project has encountered.	Patients with breast related abnormalities, or colorectal cancer (CRC) screening abnormality (N = 729)	A strong relationship among clinic and community partners and significant resources are important for implementation.
55. Wells et al, ⁹⁰ USA, qualitative	To describe the implementation of a pilot PNP.	Patients with cervical cancer (N = 996)	Partnerships between community and academic organizations are important to PNP implementation.
56. Westergaard et al, ⁹¹ USA, qualitative	To describe the development, implementation the mPeer2Peer intervention.	Individuals with HIV (N = 19)	Peer health navigation using a smartphone-application are an acceptable approach to improve HIV care.
57. Yeoh et al, ⁷⁴ Malaysia, quantitative	To determine the feasibility of PNP and its impact.	Patients with breast cancer (N = 135)	When PN is incorporated with a state-run breast clinic, it is a feasible approach to improving diagnostic timeliness and improve treatment default.
58. Yu et al, ⁷⁵ USA, quantitative	To develop and evaluate the impact of a PNP.	Individuals with (CRC) (N = 5093)	Multi-modal interventions can result in substantial improvement in CRC screening uptake and communication between providers after a positive diagnosis has been made.

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 cancer⁹⁰) or males (eg, in the context of prostate cancer⁶⁵), Hispanic individuals,^{49,90} Chinese individuals,⁸⁷ or American Indian/Alaska Native individuals.⁷¹ Some studies referred to their target population as low-income but did not define this term.^{47,53,54,83} Of the studies that reported participant age, the mean ages were most often 55 to 65.^{43,44,48,50,52,55,57,62,70,72,75,81,83,87,93,95} The eldest included patient was 93.⁷²

Some programs also aimed to improve families' experiences of care within the context of cancer.^{48,69,71,81,97} Four studies examined the perceptives and experiences of navigators.^{67,80,84,89} 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.⁷⁸ 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 al⁶⁴ and Wells et al⁷³ and having an organizational commitment in place to overcome barriers to care^{50,66,68,69,81,82,84,85,90,92,97}). Identifying care needs often occurred through formative research conducted by the program implementers and informed the design protocol.^{50,65,73,87} Incorporating the implementation of a PNP into strategic plans of the organization demonstrated commitment.⁴³ 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 al ⁹²	Community	In person
2. Basu et al ⁴¹	Community	In person and telephone
3. Battaglia et al ⁹³	Hospital	In person and telephone
4. Boston Medical Center ⁹⁸	Hospital	In person
5. Bradford et al ⁴²	Community	In person
6. Brown et al ⁷⁶	Community	In person and telephone
7. Campbell et al ⁴³	Community	In person and telephone
8. Castaldi et al ⁴⁴	Hospital	In person and telephone
9. Chan et al ⁹⁴	Virtual	Virtual
10. Esperat et al ⁷⁷	Community	In person
11. de la Riva et al ⁷⁸	Community	Not reported
12. Di Palo et al ⁴⁵	Hospital	In person and telephone
13. Doolan-Noble et al ⁴⁶	Primary Care	In person
14. Ell et al ⁴⁷	Hospital	Telephone, written communication
15. Ferrante et al ⁷⁹	Community	In person and telephone
16. Ferrante et al ⁸⁰	Community	In person
17. Fillion et al ⁸¹	Hospital	In person
18. Fillion et al ⁴⁸	Hospital	In person
19. Fink et al ⁴⁹	Community	In person
20. Fleisher et al ⁵⁰	Hospital	In person and telephone
21. Ford et al ⁵¹	Community	In person and telephone
22. Freund et al ⁸²	Community	Not reported
23. Gabel et al ⁵²	Community	In person and telephone
24. Guo et al ⁵³	Community	In person and telephone
25. Helzlsouer et al ^{54,83}	Virtual	Virtual
26. Helzlsouer et al ^{54,83}	Virtual	Virtual
27. Hendren et al ⁵⁵	Primary Care	In person and telephone
28. Hook et al ⁵⁶	Community	In person
29. Horný et al ⁵⁷	Community	In person and telephone
30. Hunt et al ⁵⁸	Hospital	In person and telephone
31. Jean-Pierre et al ⁸⁴	Community	In person and telephone
32. Koh et al ²⁸	Hospital	Not reported
33. Kwan et al ⁵⁹	Hospital	In person and telephone
34. Lockett et al ⁶⁰	Hospital	In person and telephone
35. Messeri et al ⁶¹	Hospital	In person and telephone
36. Miesfeld et al ⁶²	Community	Telephone and email
37. Molina et al ⁶³	Hospital	In person, mail, and telephone
38. Myers et al ⁶⁴	Community	In person
39. Nonzee et al ⁶⁵	Hospital	In person and telephone
40. Ohlstein et al ⁶⁶	Hospital	In person
41. Pesut et al ⁹⁵	Community	In person and telephone

(Continued)

Table 3. (Continued)

AUTHORS	SETTING	PRIMARY MODE OF DELIVERY
42. Raut et al ⁸⁵	Hospital	In person
43. Robinson et al ⁸⁶	Hospital	In person
44. Rocque et al ⁹⁶	Hospital	In person
45. Rocque et al ⁶⁷	Hospital	In person
46. Simon et al ⁸⁷	Hospital	In person, application, and telephone
47. Steinberg et al ⁶⁸	Hospital	In person
48. Sullivan et al ⁸⁸	Community	Telephone
49. Sullivan et al ⁸⁹	Hospital	In person and telephone
50. Sunnybrook Health Sciences	Hospital	In person
51. Treiman et al ⁶⁹	Community	In person, email, and telephone
52. Trooskin et al ⁷⁰	Community	In person and telephone
53. Warren-Mears et al ⁷¹	Community	In person and telephone
54. Watson et al ⁹⁷	Community	In person
55. Weber et al ⁷²	Community	In person
56. Wells et al ⁷³	Community	Telephone
57. Wells et al ⁹⁰	Community	In person, mail, and telephone
58. Westergaard et al ⁹¹	Community	In person
59. Yeoh et al ⁷⁴	Hospital	In person
60. Yu et al ⁷⁵	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),^{45,46,50,56,57,73,77,78,82,87,90} 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,^{41,43,46,56,66,73,87,99} 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.^{65,73,81,82} 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

administrative functions of the PNPs.^{45,67,68,71,90} Sometimes research staff facilitated ongoing coaching for navigators.⁷⁸ Embedding researchers within program delivery, however, could be a barrier to implementation for some populations (ie, Indigenous groups) who have reported mistrust of research.⁷¹ Likewise researchers reported difficulty working with hospital leadership having limited experience in research.⁵⁰ A strategy to encourage research collaboration was to certify that navigators knew why data were being collected.⁹²

Navigating a patient navigator's role

There was a wide range in the content of the PNP. The most common definition for a PNP was a model of care delivery that incorporates elements of patient advocacy and health education^{49,57,64,68,86,90,96} to avoid delays in care.^{48,51,55,56,66,71,72,74,80,83,88,98}

Patient navigator qualifications included lay patient navigators defined as those with lived experience of a health condition or with the healthcare system who may be educated but have no formal training related to PN (n=20), navigators without a clinical license who received training in case management or patient navigation (n=15), navigators who were licensed HCPs (eg, nurses, social workers) (n=17), and students in a HCP program (n=1).

Scope of practice often began with diagnosis or suspected diagnosis.^{60,62,63} Next the PN supported the adult during the assessment and referral to appropriate services.^{59,63,66,67} Next PNPs assisted with counselling⁵¹ during follow-up during treatment (eg, Gabel⁵²) and post-service discharge.^{45,59} Patient navigators were also often tasked with providing ongoing health education tailored to the health literacy of the patients.^{45,46,85} Throughout the care continuum, navigators aimed to address patients' ongoing concerns and needs for support.^{47,49,69,80,96}

The duration and frequency of a navigators' involvement was often unspecified. Sometimes articles reported the data collection period of the study rather than the duration of the navigator's interaction with a patient. In the studies that did specify duration and frequency, there was great variability. Some programs stated that the PN could be available for as long as needed⁶⁸ whereas other programs specified a maximum of 3,^{49,61} 6,⁸³ 8,⁸⁸ 9,^{41,91} or 12 months.^{54,75,79,95} Frequency ranged from 2 in-person visits during the first month⁹¹ to phone calls or visits every 1 to 3 weeks^{52,54,61,78,95} to at least 5 home visits over 3 months⁴⁹ and a follow up at 6 and 12 month periods.^{47,91} 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.^{48,49,81} 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.^{43,46,66,68,86} 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.^{66,83} 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.^{57,64,65,68,73,77,84,95} 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 al⁶⁵). 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.^{67,87,94,96} 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 person⁸⁹ or virtually⁹² and sometimes involved ongoing training^{58,61,78,92,93} 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.^{50,59,62,66,67,71,73,84,86,87,96} 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.^{50,63,66,67,73,82,87,89} 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 strategies⁶⁷ 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,^{66,67,92} were most often physicians,^{52,68,73,79,81,82,92,96} 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 PN^{50,63,65,69} 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 PNP.^{62,66,67,73,75,82,90,96} While collaboration between physicians and navigators were strong,^{76,79} 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.^{44,47,50,52,62,65-67,71,73,74,76,79,87,89-91,96} 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)^{44,50,57,62,63,65,67,73,74,87} and technological infrastructure (eg, use of the electronic health record or dedicated phone lines/cell phones).^{42,45,47,50,52,54,57,59,60,65,73,74,87,91-94,96} 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 discrimination^{58,60,63,71,85,87,90,93,96}). Medical resource agreements for specific health services to increase service allocation also served as a resource factor important for implementation.^{58,74,90} 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.⁶⁰ 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.⁴³ 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 interviews and surveys in order to gather a more in-depth understanding of patients' views on PNPs.⁶⁸ Administering surveys at strategic points in program implementation was instrumental in understanding patient satisfaction throughout the implementation process.

Studies utilizing qualitative instruments such as structured or semi-structured interviews, diaries, observations, or those that employed surveys for their data collection, were often interested in examining the emotional support a navigator can provide a patient. A more frequently observed form of emotional support by navigators was when the patient felt the navigator acted as a counselor to them during the treatment process.^{47,69} Other forms of emotional support included developing a rapport with the patient, helping them to navigate the healthcare systems, and being attentive to their concerns.⁹⁶ Language, education, and a number of other factors can make it difficult for patients to fully grasp their illness and treatment plan. Emotional support was also reported by patients who were assigned a navigator from a similar cultural background, or who spoke the same language.^{28,74}

HCP outcomes

Few studies examined HCPs outcomes as the majority were focused on patient outcomes. Often surveys were given to navigators upon the completion of the program period or navigators participated 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.⁸¹

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 Freeman^{20,21} 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 PNPs 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 healthcare 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 PNP 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 PNP 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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