

# Rapid Synthesis

Examining System Navigation for Ontario  
Health Teams  
11 April 2023



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**Rapid Synthesis:  
Examining System Navigation for Ontario Health Teams  
30-day response**

11 April 2023

## McMaster Health Forum

The McMaster Health Forum's goal is to generate action on the pressing health and social issues of our time. We do this based on the best-available research evidence, as well as experiences and insights from citizens, professionals, organizational leaders and government policymakers. We undertake some of our work under the Forum banner, and other work in our role as secretariat for Rapid-Improvement Support and Exchange, COVID-19 Evidence Network to support Decision-making (COVID-END) and Global Commission on Evidence to Address Societal Challenges.

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## Timeline

Rapid syntheses can be requested in a three-, 10-, 30-, 60- or 90-business day timeframe. This synthesis was prepared over a 30-business day timeframe. An overview of what can be provided and what cannot be provided in each of the different timelines is provided on McMaster Health Forum's Rapid Response program webpage (<https://www.mcmasterforum.org/find-domestic-evidence/contextualized-es>).

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## Conflict of interest

The authors declare that they have no professional or commercial interests relevant to the rapid synthesis. The funder played no role in the identification, selection, assessment, synthesis or presentation of the research evidence profiled in the rapid synthesis.

## Merit review

The rapid synthesis was reviewed by a small number of policymakers, stakeholders and researchers in order to ensure its scientific rigour and system relevance.

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### **Why is the issue important?**

- Ontario Health Teams (OHTs) are responsible for providing patients, families and caregivers with enhanced 24/7 patient navigation supports to their attributed population.
- OHTs have been given the flexibility to pursue solutions that work best to meet the needs of their prioritized populations.
- As OHTs begin to move towards maturity and scale their work to an entire attributed population, having clear definitions of concepts like system navigation, knowledge of evidence-based approaches, and considerations for scaling up are critical to guide directions from Ontario Health as well as to help inform individual OHT approaches.

### **QUESTIONS**

- 1) How is system navigation defined in the literature and how does it differ from concepts such as care coordination?
- 2) What do we know from the best-available evidence about system navigation and at what level it should operate?
- 3) What does the evidence say about how approaches to system navigation can be scaled up?

### **WHAT WE FOUND**

We identified eight evidence syntheses and 14 primary studies that addressed questions 1 and 2. We also included five evidence syntheses on frameworks for scaling up interventions (question 3).

#### **Question 1: How is system navigation defined in the literature and how does it differ from concepts such as care coordination?**

##### **Key findings**

- There is no consensus on a single definition for ‘system navigation’ within the evidence base and it is often used interchangeably with ‘patient navigation.’
- At its broadest, it was defined as “efforts to improve access to and continuity of health and social programs and services for patients, families and caregivers by identifying and reducing barriers to care.”(1)
- With respect to differentiating from other concepts, it is unique in its focus on reducing barriers to care and has been positioned as a component of care coordination.

There was significant heterogeneity in how system navigation was defined. At its broadest, one evidence synthesis defined it as “efforts to improve access to and continuity of health and social programs and services for patients, families and caregivers by identifying and reducing barriers to care.”(1) The literature on system navigation can generally be split into two camps:

- one that focuses on interventions (primarily digital technologies) that assist in navigating the health system broadly (i.e., central website repositories, AI chatbots)
- one that focuses on individual system navigation, whereby supporting patient navigation is the responsibility of a given health worker (in some cases this is a dedicated role).

The majority of the identified literature focused on the latter rather than the former (though a fulsome review of the use of digital technologies to enable system navigation was outside of the scope for this work). While initially it was hypothesized that the term ‘patient navigation’ would refer to the latter (i.e., one-on-one supports) and system navigation to the former (i.e., enabling patient self-navigation), this has not borne out in the literature and the two are used interchangeably. One evidence synthesis notes that research on system navigation is hampered by:

“a lack of clear definition about what the role is . . . whether or not it is occupied by a health professional, whether it is defined as concordant with aspects of the target patient population, and where navigation is located organizationally.”(1)

Though the synthesis where this quote was taken from was completed in 2011, the literature has not significantly advanced. Though no consistent definition of system navigation was identified, we identified the following common elements, which could be used to develop a specific definition for use with OHTs. These include using the following strategies to remove patients’ barriers to care:

- providing information to patients, including service options and health education
- sharing knowledge of available services and supports for patients, including outside of health
- bridging uncoordinated domains of healthcare by supporting transition planning
- facilitating communication between health professionals, including filling out referral forms
- involving individuals, caregivers and families in decision-making.(1; 2)

With respect to differentiating the concept of system navigation from others, an older high-quality evidence synthesis produced as part of the [Closing the Quality Gap series by the Agency for Health Research and Quality](#) in the U.S. explicitly examined terminology and noted that system navigation can be considered a component of care coordination.(3)

#### Box 1: Our approach

We identified synthesized research evidence addressing the question(s) by searching: 1) Health Systems Evidence and 2) PubMed. All searches were conducted between February 13 and 15. The results from the searches were assessed by one reviewer for inclusion. A document was included if it fit within the scope of the questions posed for the rapid synthesis. The search strategies are included in Appendix 1.

Appendix 2 provides additional evidence synthesis tables that have been used to develop the high-level findings included in the main text of this rapid synthesis.

We appraise the methodological quality of evidence syntheses using AMSTAR. Ratings for each of the reviews can be found alongside detailed data extraction in Appendix 3.

#### Question 2: What do we know from the best-available evidence about system navigation and at what level it should operate?

##### Key findings

- System navigation efforts frequently focused on particular populations for whom care is already complex (e.g., patients who see multiple specialists) or who are at rising levels of risk (e.g., care for specific age groups who may be at transition points within the health system).
- System navigation was often provided by staff within primary care or community care organizations and by a range of different providers (e.g., registered nurses, social workers, community health workers, lay health workers) and included providing patients with resources and guidance, identifying service needs, identifying barriers to accessing care, facilitating communication between providers, confirming eligibility and tracking progress on care plans.
- Two examples of digital navigation supports were identified, including a central website repository and an AI chatbox.
- We were unable to find specific evidence on what level navigation supports should operate.

Included evidence syntheses and primary studies focused largely on answering questions related to who can benefit from system navigation and who should be providing system navigation.

The majority of syntheses and studies focused on system navigation for particular populations. This finding aligned to the results of a scoping review on system navigation, which found six major categories of populations, many of which are reflected in the work of the OHT home care leading projects:

- individuals with specific diseases
- individuals from specific ethnocultural background
- individuals experiencing economic barriers
- individuals of specific ages (e.g., pediatrics and older adults)
- individuals that could be considered part of a vulnerable population (defined broadly)
- individuals from underserved populations.

A second review described clients who could benefit from navigation services as including those who were:

- seeing multiple specialists
- using internal resources frequently (high staff demands, frequent phone calls or visits)
- requiring social services
- needing a difficult or complex referral
- homebound
- having family communication issues (and as a result lack a caregiver)
- require mental health or pain management support.(1)

System navigation was frequently provided by workers within primary care (1) or community care organizations. Those providing system navigation are typically nursing professionals for those with complex needs or lay navigators or social workers for populations further down the population-health management risk pyramid.(4-9)

System navigation was most frequently provided in-person and via telephone communication.(10)

Two instances of digital navigation supports were identified in the literature. These included a central website repository (in this case, to support access to assistive technology), and an AI chatbot that provides information based on individual patient needs, assesses them for eligibility based on responses to prompts, and connects them with appropriate services.(11; 12) Digital technologies have also been used to assist health workers in their navigation role including way-finding tools, information access via apps, and online portals with service information, including information on wait times.(13)

Specific interventions provided as part of system navigation included:

- providing patients, families and caregivers with resources and guidance
- undertaking needs assessment, screening for further services and providing information about service choices
- identifying barriers to accessing care and working to develop solutions
- facilitating communication between providers, including assisting providers in filling out referral forms
- confirming patient eligibility for specific services and tracking through completion via electronic health record.(7; 14-20)

In general, evidence syntheses and primary studies found that system navigation was effective at increasing accessibility to care, led to more timely access to services for populations that frequently face barriers, and reduced caregiver burden.(2; 6; 10; 13; 17) Importantly, these models also helped to ensure referrals to appropriate specialists for select equity-deserving populations (e.g., trans individuals).(2)

**Question 3: What does the evidence say about how approaches to system navigation can be scaled up?**

**Key findings**

- Structures to support scale and spread of system innovations included: ensuring the right legislation and regulations are in place; clearly defining new roles and responsibilities for team members or groups; and providing dedicated funds to cover the costs of the innovation as well as training, evaluative and administrative costs, among others.
- Processes to support the scale and spread of system innovations included: gathering evidence on the benefits of the innovation when implemented elsewhere to support communication; undertaking a baseline assessment to understand the specific context for implementation; and communicating a ‘why’ that frames the innovation simply and advertise its benefits.
- We also identified three frameworks that have been used to support the implementation of innovations and evidence-based programs in health systems and that can be combined to inform and guide the scale-up of system navigation for OHTs.

We did not identify any literature specific to scaling up system-navigation interventions. However, we recently completed a [rapid evidence profile on structures and processes to scale and spread health system innovations](#), from which we extended the following key findings.

The following structures were identified as supporting spread and/or scale-up of innovations:

- legislation and regulations where necessary to advance the spread and scale of the innovation (e.g., providing the legal framework to establish or consolidate organizations or amending regulatory frameworks to include new digital supports)
- advisory groups made up of individuals with significant public trust/good will
- definitions of new roles and responsibilities for team members or groups
- dedicated funds to cover the costs of the innovation as well as for training, evaluative and administrative supports required to ensure fidelity when implementing
- dedicated intermediary with a mandate to spread or scale an innovation and whose role it is to build capacity within the system and to moderate between stakeholders
- specific forums to support dialogue and problem solving between delivery stakeholders and policy stakeholders.

The following processes were identified as supporting spread and/or scale-up of innovations:

- gathering evidence on the innovation of interest, including its outcomes from being implemented elsewhere and its cost effectiveness to support communication of benefits later on (and to be combined with any local evidence that has been generated)
- undertaking a baseline assessment to understand the problem, understand the specific contexts for implementation (this may differ between regions, communities or organizations), and determine whether communities and organizations are ‘ready’ for scale-up
- engaging stakeholders and creating trusted relationships with organizations required to implement the innovation
- communicating a ‘why’ that frames the innovation simply and clearly advertises the benefits (e.g., improving patient care, improving responsiveness of the health system, improving population health)
- providing capacity building, facilitation and technical assistance, including using coaching to advance general and innovation-specific skills and communities of practice to build new information pathways and support knowledge
- ensuring ongoing measurement, evaluation and reporting on outcomes to enable frequent adjustment of scale-up processes and to provide public updates on changes that are taking place.

In addition, three complementary frameworks have been used extensively to support the implementation of innovations in health systems. These include the Consolidated Framework for Implementation Research (CFIR), the Theoretical Domains Framework (TDF), and the Exploration, Preparation, Implementation and Sustainment (EPIS) framework.(21-23) CFIR has primarily been used to consider the barriers and facilitators that may affect (or did affect, when applied retrospectively) the implementation process.(23) By contrast, the Theoretical Domains Framework has been primarily used to consider how to support behaviour change when implementing innovations, and the EPIS framework describes the full implementation process.(21; 22). Table 2 in Appendix 2 provides an overview of all three of these tools.



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## Appendix 1: Background and methods

### Background to the rapid synthesis

This rapid synthesis mobilizes both global and local research evidence about a question submitted to the McMaster Health Forum's Rapid Response program. Whenever possible, the rapid synthesis summarizes research evidence drawn from systematic reviews of the research literature and occasionally from single research studies. A systematic review is a summary of studies addressing a clearly formulated question that uses systematic and explicit methods to identify, select and appraise research studies, and to synthesize data from the included studies. The rapid synthesis does not contain recommendations, which would have required the authors to make judgments based on their personal values and preferences.

Rapid syntheses can be requested in a three-, 10-, 30-, 60- or 90-business-day timeframe. An overview of what can be provided and what cannot be provided in each of these timelines is provided on the McMaster Health Forum's webpage on [contextualized evidence syntheses](#).

This rapid synthesis was prepared over a 30-business day timeframe and involved four steps:

- 1) submission of a question from a policymaker or stakeholder (in this case, the Ontario Ministry of Health)
- 2) identifying, selecting, appraising and synthesizing relevant research evidence about the question
- 3) drafting the rapid synthesis in such a way as to present concisely and in accessible language the research evidence
- 4) finalizing the rapid synthesis based on the input of at least two merit reviewers.

### Identification, selection and synthesis of research evidence

We identified research evidence (systematic reviews and primary studies) by searching (in February 2023) Health Systems Evidence ([www.healthsystemsevidence.org](http://www.healthsystemsevidence.org)) and PubMed. In Health Systems Evidence, we used a filter for "How care is designed to meet consumer needs" combined with an open search for (navigat\* AND system). In PubMed, we searched for (navigat\* AND system) and applied date restrictions to the past five years (i.e., 2018 inclusive).

The results from the searches were assessed by one reviewer for inclusion. A document was included if it fit within the scope of the questions posed for the rapid synthesis.

For each systematic review we included in the synthesis, we documented the focus of the review, key findings, last year the literature was searched (as an indicator of how recently it was conducted), methodological quality using the AMSTAR quality appraisal tool (see Appendix 3 for more detail), and the proportion of the included studies that were conducted in Canada. For primary research (if included), we documented the focus of the study, methods used, a description of the sample, the jurisdiction(s) studied, key features of the intervention and key findings. We then used this extracted information to develop a synthesis of the key findings from the included reviews and primary studies.

**Appendix 2: Additional evidence synthesis tables**

**Table 1: Definitions of system navigation where provided in the literature**

<b>Author and year</b>	<b>Definition provided</b>
Petts et al. 2021	Navigation models make use of an individual’s experience in navigating the health system to engage patients and their families in services by recognizing the structural barriers that families face.(10)
Kearns et al. 2021	An ecologically informed process that individuals and/or their caregivers negotiate with regards to healthcare needs, constraints and outcomes. Navigation pertains to the processes, decisions and conflicts that influence access to care, which can intersect with provider factors to help or hinder health outcomes.(2)
Carter et al., 2018	Refers to an individual or team engaging in specific activities that include: <ul style="list-style-type: none"> <li>• facilitating access to health-related programs and social services</li> <li>• promoting and facilitating continuity of care</li> <li>• identifying and removing barriers to care</li> <li>• effective and efficient use of the health system for patients/families, caregivers and practitioners.(1)</li> </ul>
Kokorelias et al., 2022	System navigation is designed to promote the integration of care by proactively assisting individuals living with chronic conditions and their caregivers to better access the healthcare services they require.(13)
Tan et al., 2015	A model of care entailing trained personnel that provide individual and assistive care to adult patients to overcome barriers.(15)
Manderson et al., 2012	System navigators help improve access to and coordination of care for groups of patients in the health system.(14)
Gaber et al., 2022	An individual or team engaging in specific activities that include the following concepts: <ul style="list-style-type: none"> <li>• facilitating access to health-related programs and services</li> <li>• promoting and facilitating continuity of care</li> <li>• identifying and removing barriers to care</li> <li>• effective and efficient use of the health system.(7)</li> </ul>
Valaitis et al., 2020	Improving access and minimizing barriers to services to better improve the continuity of care.(19)
Findley et al., 2012 (8)	A role for community health workers that includes assisting and supporting patients to reduce barriers and access services.(8)

**Table 2: Implementation frameworks to support the scale-up of innovations**

<b>Framework and description</b>	<b>Domains</b>
<p>Consolidated Framework for Implementation Research (CFIR)</p> <ul style="list-style-type: none"> <li>• can be used to guide the implementation process, but has been primarily been used to assess barriers and facilitators to implementation (either prospectively or retrospectively)</li> </ul>	<ul style="list-style-type: none"> <li>• intervention characteristics (e.g., stakeholder’s perceptions)</li> <li>• inner setting (e.g., leadership engagement and implementation climate)</li> <li>• outer setting (e.g., external policy and incentives)</li> <li>• characteristics of individuals involved in implementation (e.g., knowledge and beliefs)</li> <li>• implementation process (e.g., engaging appropriate individuals and reflecting and evaluating the intervention) (23; 24)</li> </ul>

<p>Theoretical Domains Framework (TDF)</p> <ul style="list-style-type: none"> <li>• used to understand the determinants of current and desired behaviours of actors when implementing an innovation and can assist in selecting behaviour change strategies</li> </ul>	<ul style="list-style-type: none"> <li>• knowledge</li> <li>• skills</li> <li>• social/professional role and identity</li> <li>• beliefs about capabilities</li> <li>• optimism</li> <li>• beliefs about consequences</li> <li>• reinforcement</li> <li>• goals</li> <li>• memory, attention and decision processes</li> <li>• environmental context and resources</li> <li>• social influences</li> <li>• emotion</li> <li>• behavioural regulation (21)</li> </ul>
<p>Exploration, Preparation, Implementation and Sustainment (EPIS) framework</p> <ul style="list-style-type: none"> <li>• Used to guide each phase of implementation and consider the contextual factors that may require adjustment to ensure successful implementation</li> </ul>	<ul style="list-style-type: none"> <li>• phases of the implementation process             <ul style="list-style-type: none"> <li>○ exploration</li> <li>○ preparation</li> <li>○ implementation</li> <li>○ sustainment</li> </ul> </li> <li>• contextual levels and factors             <ul style="list-style-type: none"> <li>○ outer context</li> <li>○ inner context</li> <li>○ bridging factors</li> <li>○ innovation factors (22)</li> </ul> </li> </ul>

### Appendix 3: Detailed data extraction tables

The following tables provide detailed information about the systematic reviews and primary studies identified in the rapid synthesis. The ensuing information was extracted from the following sources:

- systematic reviews – the focus of the review, key findings, last year the literature was searched and the proportion of studies conducted in Canada
- primary studies (in this case, economic evaluations and costing studies) – the focus of the study, methods used, study sample, jurisdiction studied, key features of the intervention and the study findings (based on the outcomes reported in the study).

For the appendix table providing details about the systematic reviews, the fifth column presents a rating of the overall quality of each review. The quality of each review has been assessed using AMSTAR (A Measurement Tool to Assess Reviews), which rates overall quality on a scale of 0 to 11, where 11/11 represents a review of the highest quality. It is important to note that the AMSTAR tool was developed to assess reviews focused on clinical interventions, so not all criteria apply to systematic reviews pertaining to delivery, financial or governance arrangements within health systems. Where the denominator is not 11, an aspect of the tool was considered not relevant by the raters. In comparing ratings, it is therefore important to keep both parts of the score (i.e., the numerator and denominator) in mind. For example, a review that scores 8/8 is generally of comparable quality to a review scoring 11/11; both ratings are considered 'high scores.' A high score signals that readers of the review can have a high level of confidence in its findings. A low score, on the other hand, does not mean that the review should be discarded, merely that less confidence can be placed in its findings and that the review needs to be examined closely to identify its limitations. (Lewin S, Oxman AD, Lavis JN, Fretheim A. SUPPORT Tools for evidence-informed health Policymaking (STP): 8. Deciding how much confidence to place in a systematic review. *Health Research Policy and Systems* 2009; 7 (Suppl1): S8.)

All of the information provided in the appendix tables was taken into account by the authors in describing the findings in the rapid synthesis.

**Table 1: Summary of findings from systematic reviews about system navigation**

Focus of systematic review	Definition of system navigation	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
Facilitating engagement in pediatric behavioural health services using system navigation models (10)	Study defines ‘system navigators’ as “individuals experienced in navigating the health system”	<p>The study aimed to review the literature on the implementation and effectiveness of system navigation models, specifically in regard to pediatric populations.</p> <p>The authors highlighted that system navigators are able to recognize structural, financial and cultural factors that may act as barriers to healthcare and help patients and their families engage in health services.</p> <p>The authors searched the following databases: PubMed, the Cumulative Index to Nursing and Allied Health Literature (CINAHL) and PsycINFO, and included eight studies in their qualitative synthesis. Included studies showed diversity in who decided to use navigation services, and variability in the manner in which they were used. System navigators in the literature were individuals from a variety of backgrounds trained to provide specific support in a variety of settings. This included support in completing assessments, identifying barriers to care and providing families with resources and guidance, as well as emotional, information and instrumental support. Additionally, patient navigators were community members or professionals from primary care clinics, schools or mental health services. Benefits of trained system navigators included higher rates of accepting treatment options, increased chances of attending follow-ups and greater amounts of time accessing health services.</p> <p>System navigation was found to be effective in a variety of settings; however, according to one study, the two primary means of system navigation delivery were in-person and telephone communication.</p> <p>The study found that, overall, system navigation models may be effective in increasing accessibility to care and overcoming pediatric behavioural health concerns. Effective system navigation models may lead to more timely access to services for populations that require early intervention and improve health outcomes for children and families.</p> <p>The authors note that high variability among the methodology of included studies may limit their findings.</p>	Published December 2021	4/10 (AMSTAR rating provided by McMaster Health Forum)	0/8
Accessing gender-affirming care for transgender and non-binary youth (2)	Study defines ‘healthcare navigation’ as an “ecologically informed process that individuals and/or their caregivers negotiate with regards to healthcare needs, constraints, and outcomes.”	<p>The study aimed to analyze experiences of transgender and non-binary youth in accessing gender-affirming healthcare.</p> <p>The authors searched PsycINFO, Medical Literature Analysis and Retrieval System Online (MEDLINE), Embase and CINAHL, and included 10 studies in their qualitative synthesis. The study contextualized people’s experiences navigating gender-specific healthcare into five themes composed of factors that can affect healthcare navigation: 1) disclosure of gender identity, 2) pursuit of care, 3) cost of care, 4) complex family/caregiver dynamics and 5) patient-provider relationships.</p>	Literature last searched 2020	5/9 (AMSTAR rating provided by McMaster Health Forum)	2/10

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Focus of systematic review	Definition of system navigation	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
	<p>Healthcare navigation “pertains to the processes, decisions, and conflicts that influence access to care, which can intersect with provider factors to help or hinder health outcomes.”</p>	<p>Several studies suggested that parents and their children navigated their gender journey together. Participants reported feelings of dread and fear in regard to navigation, which was likely due to the healthcare providers’ lack of confidence in dealing with these patients. The study highlights the need for competent healthcare professionals who have undergone specialized training on gender-related care, as well as healthcare navigation. The authors note that there might be various personal stages that trans individuals traverse in order to navigate healthcare systems, including self-acceptance, awareness, seeking information, disclosure, exploration and integration. Navigation was also found to be affected by factors such as age, race, education, religion, income, political stances and geography.</p> <p>Furthermore, the study claims that environmental factors in the pursuit of care could be remediated through the use of trans-specialist services, including healthcare navigators, to provide assistance to trans individuals. Parent/caregiver support and an individual’s home environment may also act as variables in healthcare navigation. Additionally, assistance from care navigators in gender services with paperwork and legal changes was also mentioned in a positive light.</p> <p>The study found the major factors that impede access to gender-affirming care in youth include personal, environmental, biomedical, economic and psychosocial barriers. The authors highlight that their study had some limitations; the synthesis was subject to interpretation, included a relatively small number of studies, was not geographically diverse and lacked the voice of healthcare providers.</p>			
<p>Investigating delivery models for system navigation and navigator roles in the primary care sector (1)</p>	<p>‘System navigation’ is defined by an individual or a team engaging in the following activities: 1) improving access to health and social programs and services for patients, families and caregivers; 2) enhancing the continuity of care; 3) identifying and reducing barriers to care; and 4) increasing the effectiveness and efficiency of the healthcare system for patients, families, caregivers and health professionals. A health or non-professional can assume the position of a</p>	<p>The primary aim of this review was to examine the models of care for system navigation in primary care, with a particular focus on navigations that are connected to community-based health and social services.</p> <p>The review included a total of 34 studies, which were a combination of descriptive, qualitative and quantitative studies. It analyzed various system navigation models and training methods, in addition to three areas of primary focus, which included: 1) health and social issues addressed by system navigators or navigation programs, 2) population of clients and 3) role titles for program personnel.</p> <p>System navigators played a critical role in addressing various issues in the health systems, including fragmentation, communication, inadequate care delivery, access to care, responding to disease-specific challenges (e.g., mental illness, substance abuse, cancer and chronic diseases) and addressing concerns associated with the social determinants of health, such as food insecurity, racism, insufficient social support and legal, financial and employment issues.</p> <p>The client population accessing services from system navigators can be categorized into five main groups: 1) individuals with specific diseases (e.g., mental illness, chronic diseases, cancer, diabetes, obesity, pediatric asthma and HIV/AIDS), 2) individuals from ethnic/cultural communities (e.g., Hispanic people, refugees and immigrants, rural Americans, Black people and People of Colour), 3) individuals facing financial barriers (e.g., low income and uninsured), 4) varying age groups (e.g., older adults, guardians of children, children and youth), 5) vulnerable populations (e.g., homeless,</p>	<p>Published February 2018</p>	<p>8/9 (AMSTAR rating provided by McMaster Health Forum)</p>	<p>2/34</p>



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	navigator, whereby they are trained to undertake certain tasks related to system navigation.	<p>victims of domestic abuse, at-risk mothers and unemployed veterans, among others) and 6) underserved communities.</p> <p>A total of 15 different terms were utilized within the literature for individuals responsible for navigation support, including but not limited to community health worker, community health liaison, community health advisor, patient navigator, case manager and guided care nurse.</p> <p>The authors reported various navigation models, including a layperson navigator model, a nurse navigator model and a team-based navigation models (which consisted of only health professionals, or a combination of health professionals and laypersons). System navigators often possessed prior community and counselling experience, social work and strong interpersonal skills, and knowledge of the healthcare system. The main form of training delivery was web-based, although in-person training activities, such as seminars, interactive role play and lectures, were employed as well.</p>			
Examining system navigation for individuals living with dementia and their caregivers (13)	System navigation is designed to promote the integration of care by proactively assisting individuals living with chronic conditions and their caregivers to better access the healthcare services they require.	<p>The primary focus of this systematic review was to examine system navigation outcomes, particularly for individuals living with dementia and their caregivers. The review included a total of 14 articles, of which seven were randomized controlled trials, four were non-randomized quantitative studies and the remaining three were a mixed-methods design.</p> <p>The paper found that the role and responsibilities of system navigators varied on a spectrum within the literature. Individuals occupying the position of a system navigator ranged from volunteers to clinically trained social workers, and responsibilities included informational management, improving communication among providers, aiding caregivers on an emotional and behavioural level, and decreasing hospitalization rates through improved community-based care. Telephone use was the most commonly mentioned technology-based intervention, although other web-based applications and in-person modes were also employed.</p> <p>The authors noted various key findings in relation to system navigation programs and their outcomes. System navigation programs were found to improve caregiver satisfaction and resiliency, lower caregiver burden, increase service use, decrease emergency department visits, delay institutionalization and better understand disease progression.</p>	Literature last searched October 2021	8/9 (AMSTAR rating provided by McMaster Health Forum)	2/14
Identifying the desired characteristics and effectiveness of various proposed system navigation models (14)	No explicit definition was provided; however, system navigation models typically required a navigator to advocate for patients and broker access to different parts of the healthcare system.	<p>The paper notes that the navigator role for the chronically ill older person is a relatively new one from studies included from 1999 until 2011. There are a number of considerations that impact the format and potential success of a navigation program.</p> <p>For ‘transitioning older adults,’ it is important that intervention begins early, before discharge, as to allow for proper time. In addition, if the patient is at high-risk of rehospitalization, ensuring the navigator has the necessary clinical skills to accurately assess and recognize any ‘red flags’ over the course of contact with the patient may be beneficial.</p> <p>The literature demonstrated mixed support for the effectiveness of navigators, with two studies finding little-to-no effect on navigation. The included studies, conducted in the U.S., Australia and</p>	Review published 2011	5/10 (AMSTAR rating provided by McMaster Health Forum)	2/15

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Focus of systematic review	Definition of system navigation	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
		<p>Canada, all used randomized controlled trials and generally targeted the transition from hospital-to-home.</p> <p>Qualifications identified in the study were post-secondary healthcare training (registered nurse or social work, depending on the population) and advanced gerontological training.</p> <p>The review finds that there is a need to further clarify and standardize the definition of navigation and for additional research to assess the effectiveness and cost of different approaches to the health system.</p>			
Experiences of cancer patients in a patient navigation program (15)	The study defined 'system navigation' as patient navigation, which is a model of care entailing trained personnel that provide individual and assistive care to adult patients to overcome barriers.	<p>The systematic review seeks to understand the experiences of adult oncology patients using patient navigation programs and how navigators affect the challenges patients experience. The study was a systematic review considering qualitative data of patient experiences, including one study from Australia, one from Canada and four from the United States.</p> <p>The authors outline three main conclusions from their results with respect to the experience of adult oncology patients using patient navigation programs: 1) emotional empowerment – patient navigators are important for providing assurance and accessibility throughout the cancer care continuum; 2) knowledge empowerment – patient navigators play an important role in ensuring accurate communication occurs between the patients and care providers so that patient expectations and needs are met; and 3) bridging the gaps – throughout the cancer care continuum the role of patient navigators is that of assurance and assistance to ensure a smooth road to recovery.</p>	Review published 2015	6/9 (AMSTAR rating provided by McMaster Health Forum)	1/6
Describing existing navigator models related to chronic disease management for older adults and the potential impact of each model (14)	No explicit definition for navigation models was provided; however, the authors describe various models and their provision of support which would help the reader understand the model.	<p>The current understanding in the literature is that chronically ill older adults with multiple morbidities transitioning across multiple care settings are at high risk of receiving fragmented care. The study aimed to describe the existing navigator models as well as their impact on this patient population.</p> <p>In this systematic review, studies were retrieved from the following online databases from January 1999 to April 2011: CINAHL, MEDLINE, Cochrane Evidence Based Medicine reviews, Embase and PsycINFO.</p> <p>When dealing with chronically ill older adults, there are a number of considerations that impact the format and success of the navigation. When transitioning from hospital to home, evidence suggests that interventions should start early on in the process and prior to discharge. With patients at risk of rehospitalization, navigators should be trained in 'red flags' and note when a patient is in need of care once again. This, of course, increases human resource and training costs; however, those studies that conducted economic evaluations suggest a net financial benefit. The articles included in this literature review demonstrate mixed support for the effectiveness of navigation roles. All in all, the navigator support role is relatively new and more research is necessary.</p>	Review published 2011	5/10 (AMSTAR rating provided by McMaster Health Forum)	2/9
Identifying and describing key characteristics of successful	Refers to community health navigators as "cultural brokers."	The main objective of this systematic review was to identify and describe key characteristics of successful CHN intervention programs for cancer screening, with a focus on strategies and approaches used in community versus clinic settings. The review synthesized lessons learned from these interventions and their implementation to inform the development, implementation and	Literature last searched April 2014	6/9 (AMSTAR rating provided by	Not reported

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Focus of systematic review	Definition of system navigation	Key findings	Year of last search/publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
community health navigator (CHN) intervention programs for cancer screening (6)		<p>dissemination of cancer screening interventions using CHNs and to address racial disparity gaps in cancer screenings. Dissemination and implementation issues in behavioral research were also considered.</p> <p>The authors searched MEDLINE, CINAHL and PsycINFO from January 2005 to April 2014. The article reviewed 27 CHN intervention studies and identified two major settings for CHN intervention models: community-based (15 studies) and clinic/hospital-based (12 studies). The majority of community-based programs referred to CHNs as community health workers/navigators/advisors, whereas clinic-based programs called them patient navigators. The review found that half of the cancer screening studies targeted colorectal cancer (CRC) screenings (13/26), while the other half targeted either cervical (4/26) or breast (5/26) or both cervical and breast cancer screenings (4/26). Only 20% of the community-based navigator screening interventions targeted CRC screenings, while the majority of the clinic-based navigator screening programs targeted CRC screenings (75%).</p> <p>The systematic review highlighted the effectiveness of CHNs or lay health workers (LHWs) in encouraging screening participation among various racial minority and disadvantaged communities. CHNs are chosen from the local community due to their status within the community and their understanding of cultural norms, and they receive training specific to the type of cancer targeted by their intervention. CHNs have been found to be effective in both community-based and clinic-based settings. Clinic-based CHNs are also effective in linking individuals to the cancer care spectrum. Studies show that participants who interacted with the CHNs had a higher rate of cancer screening at follow-up and would recommend CHNs to their friends and family.</p> <p>Overall, the review provided insights into successful CHN intervention programs for cancer screening and identified key characteristics and strategies that can help to close the racial disparity gaps in cancer screening. The review highlighted trends in current CHN intervention studies and provided descriptions of each key topical area of CHN training programs and CHN-led interventions. It emphasized the importance of CHNs as cultural brokers and their roles in linking individuals to the cancer care spectrum. These findings contribute to the dissemination and implementation of behavioural research and can inform the development of CHN programs across different settings and target groups to address cancer screening disparities among racial/ethnic communities.</p>		McMaster Health Forum)	
Using the Consolidated Framework for Implementation Research (CFIR) to guide research that addresses the	Not focused on patient navigation	<p>This article proposed using the CFIR to guide research that addresses the practical needs of stakeholders responsible for introducing healthcare delivery interventions. The approach focused on supporting rapid-cycle evaluation of the implementation of healthcare delivery interventions and producing actionable evaluation findings to improve implementation.</p> <p>The authors presented their approach through a formative cross-case qualitative investigation of 21 primary care practices participating in the Comprehensive Primary Care (CPC) initiative, a multi-payer supported primary-care practice transformation intervention led by the Centers for Medicare</p>	n/a	n/a	n/a

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Focus of systematic review	Definition of system navigation	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
practical needs of stakeholders (23)		<p>and Medicaid Services. The qualitative data collected includes observational field notes and semi-structured interviews with primary-care practice leadership, clinicians and administrative and medical support staff. The data was analyzed using intervention-specific codes and CFIR constructs to identify patterns of barriers and facilitators related to different CPC components.</p> <p>The CFIR framework is a conceptual framework that was created to systematically assess implementation contexts and identify factors that may impact the implementation and effectiveness of an intervention. It includes five major domains that may affect implementation: intervention characteristics, inner setting, outer setting, characteristics of individuals involved in implementation, and implementation process. The first domain, intervention characteristics, includes features of the intervention that may impact implementation, such as stakeholders' perceptions and the complexity of the intervention. The second domain, inner setting, includes features of the implementing organization, such as leadership engagement and implementation climate. The third domain, outer setting, includes external factors that may impact implementation, such as external policy and incentives. The fourth domain, characteristics of individuals involved in implementation, includes factors such as knowledge and beliefs about the intervention that may impact implementation. Finally, the fifth domain, implementation process, includes strategies and tactics that may impact implementation, such as engaging appropriate individuals and reflecting and evaluating the intervention.</p> <p>The authors proposed that their systematic approach can provide valuable insights to stakeholders on how to modify or enhance the implementation of an intervention in current or different settings. They suggested that the CFIR can assist in the design of implementation studies by guiding analysis and reporting to produce findings that delve deeper than just documenting intervention details and address significant research questions on the effectiveness of intervention implementation and the circumstances under which it is effective. The authors highlighted the significance of their use of multiple CPC program components together with CFIR constructs, which helped them in data collection, analysis and reporting, and could be adapted to other studies evaluating complex multicomponent interventions in healthcare and other fields.</p>			
Evaluating the extent to which the use of the CFIR has fulfilled the goals set by its creators (24)	Not focused on patient navigation	<p>The main objective of this systematic review was to evaluate the extent to which the use of the CFIR has fulfilled the goals set by Damschroder et al. (creators of the framework) in terms of breadth of use, depth of application, and contribution to implementation research. The specific objectives of this review were to determine the types of studies that use the CFIR, how the CFIR has been applied (including depth of application), and the contribution of the CFIR to implementation research.</p> <p>The authors searched Web of Science and Scopus, from August 2009 through January 2015. Of the 716 retrievals, 287 duplicate articles were removed, leaving 429 unique articles. The researchers excluded 403 articles, with 356 being non-meaningful uses of CFIR and 47 being syntheses or study protocols. Ultimately, 26 articles (6% of 429) were included in the final sample, which were reviewed to meet the study's three research objectives.</p>	Literature last searched January 2015	5/9 (AMSTAR rating provided by McMaster Health Forum)	Not reported

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		<p>Overall, the review highlighted how the CFIR has been widely applied across a variety of studies and settings, indicating that it is applicable to a range of interventions, settings and research designs. The depth of its application, however, needs improvement, as there is wide variation in which CFIR constructs are used and evaluated, and little reporting of methods for selecting CFIR constructs or domains. Most studies used the CFIR to identify barriers and facilitators to implementation of an innovation during or after implementation. Less than half of the included studies, however, assessed outcomes, and even fewer linked CFIR constructs to outcomes. This gap in the implementation literature is not necessarily constrained to those that reported use of the CFIR, and investigating outcomes is critical for advancing the understanding of implementation processes, comparative effectiveness of implementation strategies, and efficiency in implementation research.</p> <p>The authors offered four recommendations when using the CFIR in implementation research: 1) consider its use in different phases of implementation; 2) report on the selection and use of CFIR constructs; 3) assess the association of CFIR constructs with outcomes; and 4) integrate the CFIR throughout the research process.</p>			
Exploring the rationale for using the CFIR and the Theoretical Domains Framework (TDF) together (21)	Not focused on patient navigation	<p>The primary focus of this systematic review was to explore the rationale for using the CFIR and the TDF together by describing studies that have used both frameworks, how they used them and their stated rationale for using them.</p> <p>The authors searched MEDLINE/PubMed, PsycINFO, Web of Science, or Google Scholar in December 2015 and again in October 2016. Out of 77 articles screened, 12 were included in the final list, which comprised five protocols for empirical studies and seven completed empirical studies. The studies using CFIR and TDF were conducted in several countries, used many designs, methods and units of analysis, and assessed a variety of outcomes related to healthcare interventions at multiple intervention phases. The review notes that three studies indicated that using CFIR and TDF addressed multiple study purposes, six studies indicated that using CFIR and TDF addressed multiple conceptual levels, and four studies did not explicitly state their rationale for using CFIR and TDF.</p> <p>The review highlights how the CFIR and TDF are both well-operationalized, multi-level implementation-determinant frameworks derived from theory. The CFIR includes 39 constructs across five domains, while the TDF includes 128 constructs in 12 domains derived from 33 theories of behaviour change. Both frameworks have been applied to a diverse array of studies in health policy research. Implementation frameworks, however, may differ in their purpose, conceptual level, theoretical heritage and operationalizability. As such, the review suggested the need for further exploration of the rationale and benefits of using CFIR and TDF together.</p> <p>The systematic review concluded that the use of both CFIR and TDF is not uncommon among implementation researchers. As more studies combine multiple frameworks, however, there is a need to investigate whether using multiple frameworks leads to significant benefits beyond using a single framework. The review also notes that the field of implementation science lacks guidance for</p>	Literature last searched October 2016	5/9 (AMSTAR rating provided by McMaster Health Forum)	Not reported

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Focus of systematic review	Definition of system navigation	Key findings	Year of last search/ publication date	AMSTAR (quality) rating	Proportion of studies that were conducted in Canada
		<p>the explicit use of theories and frameworks and calls for the development of practical tools and reporting guidelines to improve the application and contribution of theories and frameworks in implementation research. These efforts can lead to a better understanding of implementation determinants, processes and outcomes.</p>			
<p>Examining and describing the research application of the Exploration, Preparation, Implementation, Sustainment (EPIS) framework (22)</p>	<p>Not focused on patient navigation</p>	<p>The primary focus of this systematic review was to examine and describe the research application of the EPIS framework, a widely used implementation framework that identifies key factors and processes to facilitate the effective implementation of evidence-based practices (EBPs).</p> <p>The EPIS framework has four well-defined phases that describe the implementation process, as well as identification of outer system and inner organizational contexts and their associated factors. It also includes innovation factors that relate to the characteristics of the innovation or EBP being implemented, and bridging factors that describe the dynamics, complexity and interplay of the outer and inner contexts.</p> <p>The authors searched PubMed, Scopus, PsycINFO, ERIC, Web of Science, Social Sciences Index and Google Scholar databases in May 2017. The review screened 762 full-text articles, resulting in 67 articles representing 49 unique research projects being included. Most projects (73%) investigated the implementation of a specific evidence-based practice. The EPIS framework was measured across an average of two phases, with the most frequent being Implementation (73%). On average, the overall depth of EPIS inclusion was moderate (2.8 out of 5). Most projects examined inner context factors (90%), while fewer examined outer context (57%), innovation (37%) and bridging factors (31%).</p> <p>The systematic review highlighted the potential of the EPIS framework to serve as a comprehensive and widely applicable framework for implementation science research and practice. The findings of the systematic review led the authors to make three recommendations regarding the future use of the EPIS framework: 1) the need for more precise operationalization of EPIS factors; 2) consideration of the interplay between inner and outer context through bridging factors; and 3) consistent incorporation of EPIS with greater depth and throughout the lifespan of an implementation project (breadth).</p>	<p>Literature last searched May 2017</p>	<p>7/9 (AMSTAR rating provided by McMaster Health Forum)</p>	<p>Not reported</p>

**Table 2: Summary of findings from primary studies about system navigation**

Focus of study	Study characteristics	Sample description	Key features of the intervention(s) (incl. definition of system navigation)	Key findings
<p>Adopting system navigation to improve healthcare access and use by Native Americans (16)</p>	<p><i>Publication date:</i> June 2018</p> <p><i>Jurisdiction studied:</i> United States of America</p> <p><i>Methods used:</i> Mixed method of qualitative and quantitative interviews and focus groups</p>	<p>American Indians elders (AIEs) aged 55 years or older</p>	<p>The study stratified the work necessary at the different levels of healthcare that can help AIE</p>	<p>Given the health inequities faced by AIEs, the study aimed to support them in navigating a complex and unstable healthcare system, regardless of where they sought care.</p> <p>At the individual level, AIE navigators can help develop accessible content regarding rights, coverage options and implications for group presentations and one-on-one consultations with AIEs/families. At the organizational or community level, AIE navigators can advocate and help educate staff/providers about common barriers, their implications for insurance/healthcare access, and processes to enroll AIEs in public insurance programs. At the policy level, AIE navigators, AIE families and partners can target policymakers, healthcare executives and tribal leaders for education on insurance/healthcare issues.</p>
<p>Anti-racism pediatric practice and system navigation in the medical home (17)</p>	<p><i>Publication date:</i> December 2022</p> <p><i>Jurisdiction studied:</i> United States of America</p> <p><i>Methods used:</i> N/A</p>	<p>N/A</p>	<p>N/A</p>	<p>The study aimed to examine system navigation models within the ‘medical home’ to combat disparities in access to healthcare perpetuated by racism.</p> <p>The medical home model aims to provide care that is easily accessible, family-centred, continuous, longitudinal, comprehensive, coordinated, compassionate and culturally effective. However, the authors found that the medical home model is unable to adequately address the effects of racism and poverty.</p> <p>The study found that deliberate focus on supporting marginalized families with system navigation can help in providing equitable care outcomes. System/patient navigators supported marginalized families in healthcare navigation and promoted family engagement. System navigation models are usually implemented in one setting, and these models typically aim to help families overcome barriers in accessing care.</p> <p>The authors claimed that navigation models may emphasize the need of hiring personnel who are native to the communities they serve. Furthermore, navigation models typically utilize a combination of strategies to overcome barriers, including combinations of emotional support, informational support, motivational enhancement or the use of community resources.</p> <p>Overall, system navigation may be an important method to combat racism and its effects in the medical home. The authors highlight that future work is still required to better understand the integral components of</p>



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Focus of study	Study characteristics	Sample description	Key features of the intervention(s) (incl. definition of system navigation)	Key findings
<p>The role of community volunteers and primary care providers in providing system navigation support to older adults (7)</p>	<p><i>Publication date:</i> March 2022</p> <p><i>Jurisdiction studied:</i> Ontario, Canada</p> <p><i>Methods used:</i> Convergent mixed-methods study</p>	<p>A total of 233 participants, including 67 primary-care team members (healthcare providers, clinical managers, etc.), 38 community volunteers, and 128 programme clients from across six communities in Ontario</p>	<p>Data collection involved the use of focus groups, semi-structured interviews (lasting 18-74 minutes), and surveys (completed by volunteers after 12 months of programme participation)</p> <p>Volunteers completed an 18-item scale survey regarding system navigation function to assess their perspective on whether they had fulfilled their role</p> <p>Defines ‘system navigation’ as “an individual or team engaging in specific activities that include the following concepts: facilitating access to health-related programmes and services . . . ; promoting and facilitating continuity of care; identifying and removing barriers to care; [and] effective and efficient use of the health care system”</p>	<p>system navigation so that these models can be used to best address racism in pediatric health.</p> <p>The study aimed to explore the role of primary-care providers and community volunteers in supporting patient system navigation, as well as the utilization of community-based health and social services (CBHSS).</p> <p>Prior literature suggests that system navigation models can increase utilization of patient care and improve patient psychological and social well-being. Additionally, system navigation programmes can also increase awareness of available services to healthcare providers themselves.</p> <p>The authors conducted a convergent mixed-methods study by collecting data from 6 communities in Ontario through focus groups, interviews and surveys.</p> <p>Most often, interprofessional team members requested system navigation volunteers to connect patients to specific programs or learn more about patient interests. Providing resources to patients was the most common follow-up action conducted by volunteers. In the case of older adults in this intervention, the most common primary-care suggestion was exercise.</p> <p>Some clients reported a positive effect on their ability to navigate the system, while others reported no change. However, interprofessional teams felt their ability to connect patients to resources and their practice of system navigation was impacted positively by the intervention. Additionally, volunteers were asked to rank their confidence in fulfilling their roles, and the lowest average of any group was a 4.5 out of 6.</p> <p>Overall, the authors deemed that the system navigation intervention was able to develop more connections between the healthcare setting and CBHSS, and allowed for the identification of specific health wants and needs. The authors highlighted these findings are limited by factors that may lower generalizability and response bias.</p>
<p>System navigation to improve access to HIV care (18)</p>	<p><i>Publication date:</i> June 2007</p> <p><i>Jurisdiction studied:</i> United States of America</p> <p><i>Methods used:</i> Longitudinal study</p>	<p>All study participants were HIV-infected and included only if they were not at risk of falling out of care (437 individuals enrolled in the study)</p>	<p>Data was collected between October 2003 to June 2006 via face-to-face interviews and medical records</p> <p>Client interviews were conducted at baseline, after six months and after 12 months of the intervention</p>	<p>The study examined the effectiveness of implementing a system navigation model in an HIV-infected disadvantaged population.</p> <p>Prior literature found that navigators can assist HIV patients to use resources more efficiently, improve communication with providers, sustain long-term care and help traverse the complexities of multidisciplinary treatment more efficiently.</p> <p>The study was conducted at different outreach sites in the U.S., with similar navigation-like interventions. Navigators were expected to have</p>



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Focus of study	Study characteristics	Sample description	Key features of the intervention(s) (incl. definition of system navigation)	Key findings
			<p>Service-use data was derived from navigator-client program contact forms</p> <p>Defines two categories of 'patient navigation': "navigation as provision of services or navigator as someone who addresses barriers to care, with the latter more common"</p>	<p>prior knowledge on HIV and received training in commonly used frameworks, such as the strengths-based perspective, motivational interviewing and the stages of change. Navigators received three-day joint multi-site training, and individual site-specific training that lasted from 2 to 5 days. When recruiting for navigators, preference was given to those with a bachelor's degree in social sciences or healthcare.</p> <p>Interventions aimed to target populations that encountered barriers to accessing HIV primary medical care, including psychosocial, structural and support barriers. Navigators were able to conduct assessments with clients and use results to help clients select actions to meet their needs.</p> <p>The authors found that after six and 12 months of the intervention the proportion of uninsured participants, belief and structural barriers, worries and concerns, and unmet needs all decreased significantly.</p> <p>Overall, the authors found the study displayed the promising results of implementing an HIV system navigation model to improve patient care. The authors also highlighted that unknown confounding factors may limit their findings.</p>
<p>The role of health literacy in caregivers as a predictor for healthcare communication and system navigation difficulty (25)</p>	<p><i>Publication date:</i> December 2018</p> <p><i>Jurisdiction studied:</i> Pittsburgh, United States of America</p> <p><i>Methods used:</i> Cross-sectional study</p>	<p>Data was obtained from 761 caregivers who reported communicating with healthcare providers and accessing services and supports</p>	<p>Caregivers were included in the study if they provided care to patients 50 years of age or older</p> <p>60-minute telephone interviews were conducted to collect survey responses</p>	<p>The study aimed to explore the role of health literacy among caregivers in predicting system navigation difficulties and healthcare communication issues.</p> <p>Prior literature identified that healthcare providers may face a combination of system and individual level factors, including health literacy, that can affect healthcare provider communication and navigation of services and support (HCNS).</p> <p>The study used cross-sectional data obtained from the Pittsburgh Regional Caregivers Survey in 2017. HCNS was evaluated through self-reported questions.</p> <p>The study found that caregivers with lower health literacy have 2.52 times greater odds in finding difficulties in HCNS. Interestingly, the study also found more educated caregivers to have higher levels of HCNS difficulties. A possible explanation for this may be that more educated healthcare providers are more aware of a wider variety of available services, making it difficult for them to select care.</p> <p>Overall, the study found that low health literacy can impact HCNS, and that improving HCNS is important for alleviating caregiver burden and meeting patient needs. The authors highlighted the following limitations</p>

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Focus of study	Study characteristics	Sample description	Key features of the intervention(s) (incl. definition of system navigation)	Key findings
<p>Examining the disconnect between the primary care sector and community-based health and social services for older adults (19; 25)</p>	<p><i>Publication date:</i> April 2020</p> <p><i>Jurisdiction studied:</i> Hamilton, Ontario, Canada</p> <p><i>Methods used:</i> Focus groups</p>	<p>Four focus group were formed with 12 healthcare providers from urban clinics and nine managers and coordinators of health and social service organizations offering support to older adults</p>	<p>Focus groups of 45 minutes to 80 minutes in length were conducted; guiding questions were not provided to participants prior to the interview</p> <p>System navigation is defined as improving access and minimizing barriers to services to better improve the continuity of care</p>	<p>that might affect their findings: inability to establish a causal relationship, recall bias and low generalizability.</p> <p>The primary aim of this study was to analyze the disconnect that exists between primary care and health and social services, in the context of system navigation for older adults. A particular focus was placed on patient needs, barriers to care, and ways to optimize care for older adults.</p> <p>The findings from this study revealed increased health and social service needs for older adults living with chronic conditions. Social support from caregivers or networks were minimal, with additional financial, transportation, and wait time constraints rendering service use for older adults that much more challenging. In addition, having multiple care providers, with uncoordinated care pathways and poor communication, caused confusion among older adults. The authors further noted that primary care had closer coordination with other services as opposed to community-based health and social services.</p> <p>Interventions to improve the relationship and care coordination between primary care and community-based system navigation include developing: 1) a person-focused approach; 2) better communication strategies; 3) an effective system navigation; 4) trust between providers; 5) adaptive programs that cater to the needs of the population; and 6) improved service access.</p>
<p>Examining the use of digital technology in health system navigation (20)</p>	<p><i>Publication date:</i> August 2017</p> <p><i>Jurisdiction studied:</i> New South Wales, Australia</p> <p><i>Methods used:</i> Mixed methods</p>	<p>The cross-sectional survey featured individuals aged 12-24 (n=2,100); the qualitative study of marginalized communities included those who are experiencing homelessness, are refugees, reside in rural areas in New South Wales, or identify as Aboriginal and/or Torres Strait Islander (n=25-40); and semi-structured interviews were with health service managers and clinicians (n=25)</p>	<p>A cross-sectional survey, a longitudinal, qualitative study of marginalized people, interviews with health professionals, and a knowledge translation forum</p>	<p>The main focus of this mixed methods study protocol was to further understand the potential use of digital technology in navigating the health system.</p> <p>The primary aims of this study include: 1) recounting the experiences of individuals aged 12 to 24, 2) identifying barriers and facilitators to healthcare among this population group, 3) determining gaps in the health system, and 4) gathering pertinent information from participants to help formulate potential recommendations.</p> <p>The authors used questionnaires, online surveys, semi-structured interviews, face-to-face/telephone interviews and small focus groups to obtain data on the aims stated above.</p> <p>Exploring the health service access and navigation experiences of younger individuals will provide policymakers and other stakeholders with relevant, new information to improve health for younger people. The study will help to elucidate the relative inequalities in access to healthcare and variation in technology use specific to the navigation of health services.</p>

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Co-designing the Navigator Program (26)	<p><i>Publication date:</i> July 2021</p> <p><i>Jurisdiction studied:</i> Ottawa, Canada</p> <p><i>Methods used:</i> Mixed methods</p>	Parents of children with medical complexity and leaders from Children’s Hospital of Eastern Ontario (CHEO), Coordinated Access Ottawa, Champlain Local Health Integration Network, Roger Neilson House and Service Coordination Support	Engagement sessions with parents to identify needs, challenges, and barriers; consultations and in-home interviews with ‘hard-to-reach’ families; half-day sessions with mothers	<p>The main focus of this paper was to examine the co-design process of the Navigator Program, a program centred on system navigation, parental support (e.g., emotional, financial, and social) and knowledge navigation to help guide parents of children with medical complexity.</p> <p>The authors revealed many of the challenges that parents of children with medical complexity report, including: emotional and physical distress (e.g., grief, relationship health and mental health concerns), isolation, financial constraints and difficulty with finding adequate care supports/daycare, schools and recreational activities.</p> <p>The Navigator Program features system navigators and parent navigators. The former are registered social workers employed by CHEO and they provide many forms of support, including financial (e.g., access to funding), psychological (e.g., therapeutic support groups), knowledge (e.g., education and capacity-building activities) and emotional. The latter are employed by Pinecrest-Queensway Community Health Centre and are parents of other children with medical complexity, and they provide informal support services, such as individual or group supports (e.g., social events, family activities or educational workshops).</p>
Exploring the adoption of an artificial intelligence-guided navigation ‘chatbot’ in healthcare (12)	<p><i>Publication date:</i> July 2022</p> <p><i>Jurisdiction studied:</i> Alberta and Nova Scotia, Canada</p> <p><i>Methods used:</i> Cross-sectional study</p>	Health-related personnel and families facing mental health challenges	Voluntary follow-up surveys alongside an analysis by the ‘chatbot’	<p>The main aim of this pilot study was to examine the implementation of an artificial intelligence-guided ‘chatbot’ within the healthcare system – coined a ‘Mental Health Intelligent Information Resource Assistant.’ The purpose of this implementation is to determine whether this chatbot is able to provide information to individualized patient needs and connect them with the appropriate services.</p> <p>Although the project is currently in the data collection stage, the authors hope to integrate the findings into the planning process for mental health system navigations in a range of settings.</p>
Examining the supports needed by adults with intellectual and developmental disabilities to access annual health examinations (27)	<p><i>Publication date:</i> April 2019</p> <p><i>Jurisdiction studied:</i> Ontario, Canada</p> <p><i>Methods used:</i> Thematic analysis resulting from interviews</p>	Eight men and five women with intellectual and developmental disabilities (IDD)	Two central themes arose for the types of assistance needed: healthcare system and person-centred care	<p>The purpose of the study was to gain an understanding of the support needs of adults with IDD when scheduling, travelling to and attending annual health examinations.</p> <p>The researchers identified two themes regarding support needed by people with IDD when scheduling annual health examinations (AHE): 1) IDD patients required assistance navigating the healthcare system, which includes assistance scheduling AHEs, reminders to book AHEs and transportation; and 2) person-centred care (privacy, communication, kindness).</p>
Examining factors that affect mental health and health	<p><i>Publication date:</i> August 2019</p>	11 immigrant women who had delivered a baby within the previous	Delivery levels for navigation identified include at the	The study aimed to investigate the factors that contribute to post-partum depression, health service accessibility and the role of health services in supporting immigrant women with PPD.

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service accessibility for immigrant women with post-partum depression (28)	<p><i>Jurisdiction studied:</i> Canada</p> <p><i>Methods used:</i> Qualitative individual interviews</p>	year and had experienced post-partum depression (PPD)	organizational level and system level	Many key findings were noted within this study, including: 1) compared to native-born women immigrant women in Canada are at greater risk for PPD; 2) at the organizational level, participants suggested that family practices should be key sources of information about PPD, support health system navigation and initiate referrals as needed; and 3) at the system level, one of the most important features of service delivery that women identified was the need for mental health services to understand and accommodate diverse cultural needs.
Exploring the role and scope of practice of community health workers (8)	<p><i>Publication date:</i> October 2012</p> <p><i>Jurisdiction studied:</i> New York, United States of America</p> <p><i>Methods used:</i> Multiple-choice surveys</p>	226 community health workers (CHWs) and 44 employers surveyed between 2008 and 2010	Study defines system navigation as an agreed-upon role for CHWs, which includes assisting/supporting patient in navigating services	<p>The study evaluated efforts in New York to build a consensus between community health workers and employers on scope of practice, training standards and certification procedures.</p> <p>System navigation was identified as one of the five scopes agreed upon for CHWs, along with outreach and community organizing, case management and care coordination, home visits and health education and coaching.</p> <p>It was found that 50% or more of both CHWs and employers felt provision of patient navigation services was a critical role of CHWs.</p>
The effectiveness of nursing students as system navigation in a community-based mental health promotion project (9)	<p><i>Publication date:</i> October 2016</p> <p><i>Jurisdiction studied:</i> Ontario, Canada</p> <p><i>Methods used:</i> Randomized controlled trial</p>	Senior nursing students in Ontario, Canada	A 10-week mental health promotion project, coined the Health Advocacy Project (HAP)	<p>The study aimed to examine the potential effectiveness of nursing students as system navigators for delivering health advocacy intervention at the level and with the intensity originally intended for peoples with mental illness.</p> <p>The authors used evidence from their qualitative and quantitative review to develop a trauma-informed community-based health advocacy intervention that followed the principles and assumptions of the Intersectionality Model of Trauma and PTSD.</p> <p>Nursing students (who served as advocates) found the program to be helpful and allowed them to learn more about the challenges faced by people with mental illness. The 10-week service delivery model was found to be optimal within the typical 12- to 13-week semester. Further, it was found that flexibility with the program would help the students adapt better and continue to engage more effectively.</p> <p>The study also found that advocates understood their role as agents in helping study participants navigate the system, gaining access to resources, and breaking down barriers to participants achieving self-reliance. However, to fulfill their roles, advocates required time, flexibility, an adequate training manual, a slush fund for more timely access to services and a databank of community resources. Furthermore, patients found a</p>

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				<p>sense of connectedness and formed helping-trusting relationships, as well as relationships that went above and beyond with the advocates during the intervention.</p> <p>Overall, the study found that health advocacy intervention that address social determinants of health are more likely to impact a population positively. Furthermore, the findings suggest that nursing students are effective service providers who are able to provide support to vulnerable groups.</p>
<p>Supporting equitable access to assistive technology using web-based system navigation (11)</p>	<p><i>Publication date:</i> November 2022</p> <p><i>Jurisdiction studied:</i> Canada</p> <p><i>Methods used:</i> Mixed-methods study</p>	<p>10 participants – 6 consumers (who self-identified with at least one disability), 1 assistive technology (AT) caregiver and 3 healthcare providers (who have assisted AT individuals).</p>	<p>Data was collected through the use of usability testing sessions, individual semi-structured interviews and a questionnaire, including the System Usability Scale (SUS)</p>	<p>Navigating Canada’s AT system has been reported to be fragmented, uncoordinated and complex, emphasizing the barriers faced by individuals requiring AT. The study aimed to examine the usability of a centralized web-based resource, AccessATCanada, as a resource to support access to assistive technology.</p> <p>The study recruited participants who fell under the following three categories: 1) consumers, 2) caregivers and 3) healthcare providers, community social services providers and industry vendors. Two cycles of 60- to 90-minute task-based usability evaluations were conducted through the AccessATCanada website. Specifically, participants were asked to explore AT programs, navigate between government and charitable programs and find service eligibility criteria. The authors also used a questionnaire and interviews to obtain user feedback.</p> <p>The authors found that participants successfully completed 120/164 tasks successfully on the website, with efficiency scores ranging from 2/7 to 7/7. The post-task questionnaire resulted in an “OK/fair” performance measure of perceived satisfaction.</p> <p>Key findings regarding the implementation of the resource from user feedback was structured into three themes: functionality and added value, the discovery of new programs and resources, and design aesthetics. The filters used on the website were found to be one of the most useful features for navigation. Some users described the resource as a “one-stop-shop” that provided them with access to accurate information. However, some user reported minor issues in the website layout and appearance, which could be improved to make the resource easier to navigate.</p> <p>The study highlighted that the following factors may serve as limitations: small sample pool, the methods of recruitment and the lack of the use of AT devices.</p>



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