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Patient navigators facilitating access to primary care: A scoping review

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Title of the article

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Abstract

Objective

Patient navigators are a promising mechanism to link patients with primary care. While navigators have been used in population health promotion and prevention programs, their impact on access to primary care is not clear. The aim of this scoping review was to examine the use of patient navigators to facilitate access to primary care; how they were defined and described, their components, and the extent to which they were patient-centred.

Setting and Participants

We used the Arksey and O'Malley scoping review method. Searches were conducted in MEDLINE, Embase, ProQuest Medical, other key databases, and grey literature, for studies reported in English from January 2000 – April 2016. We defined a patient navigator as a person or process creating a connection or link between a person needing primary care and a primary care provider. Our target population was people without a regular source of, affiliation or connection with primary care. Studies were included if they reported on participants who were connected to primary care by patient navigation, and attended or made an appointment with a primary care provider. Data analysis involved descriptive numerical summaries and content analysis.

Results

Twenty studies were included in the final scoping review. Most studies referred to "patient navigator" or "navigation" as the mechanism of connection to primary care. As such, we grouped the components according to Freeman's nine-principle framework of patient navigation. Seventeen studies included elements of patient-centred care: informed and involved patient, receptive and responsive health professionals, and a coordinated, supportive health care environment.

Conclusions

Patient navigators may assist to connect people requiring primary care to appropriate providers and extend the concept of patient-centred care across different health care settings. Navigation requires further study to determine impact and cost-effectiveness, and explore the experience of patients and their families.

Article summary

Strengths and limitations of this study

- This is the first scoping review to explore how patient navigators are defined, described and used to facilitate access to primary care for people without an affiliation to a primary care provider.
- Comprehensive overview of sources covering peer-reviewed and grey literature
- Sources were included only if the outcome of the navigation was reported; sources describing patient navigation without reporting of outcomes were excluded
- Exploration of patient-centredness of the sources a unique addition to the descriptions of patient navigators.

INTRODUCTION

Primary care is the first level of access to health care, delivered in the community most often by family physicians or general medical practitioners. However, not all people access primary care that best meets their health care needs, where and when they need it. Some people, such as those living in poverty, with a long-term disability, from a culturally and linguistically diverse background, or located in rural and remote areas, have difficulty accessing primary care services and resources[1-4].

Access to health care is the opportunity to reach and obtain appropriate health care in situations of perceived need[5]. Access to primary care is important to reduce health care disparities, mortality, morbidity, hospitalisation rates, and health care costs[6-9]. Recent reforms to primary care have focused on trialling new processes and models of care to improve access[10]. These include integrated care models, after-hours telephone consultations, walk-in centres and nurse-led initiatives. However, disparities in care remain for many, such as people having low literacy and numeracy, cognitive deficits, being a member of a marginalized group or not understanding the need for primary care[11].

A new approach to improve access to primary care is *patient navigation*, a process where a person (navigator) engages with a patient to determine barriers to care and provides information to improve access to components of the health system, not just primary care[12]. A patient navigator has been described as a type of 'broker', and the role includes a range of instrumental and relational functions and processes[13 14] to not only support patients to access primary care but directly identify providers willing to treat vulnerable people requiring care[15]. Originating in the 1990s, patient navigation developed as a strategy to reduce barriers to breast cancer care[16]. Patient navigators have been used for the screening of various cancers and through the cancer care continuum, with mixed success[17-27].

Patient-centred care is a core element of primary care and facilitates access to appropriate care[11]. In primary care, patient-centred care consists of interactions and relationships between providers and patients to share information, explore values and preferences, facilitate access to appropriate care

and, address health care disparities[28 29]. There are over 25 proposed patient-centred care frameworks or models in healthcare[30]. Epstein et al.[11] described three key factors that patient-centred care relies on: an informed and involved patient, receptive and responsive health professionals, and a coordinated, supportive health care environment.

While navigators have been used in population health promotion and prevention programs[31 32], their impact on access to primary care is not clear[33]. Therefore, we performed a scoping review of the use of patient navigation to facilitate access to primary care, and the extent to which identified interventions were patient-centred.

METHODS

We chose the scoping review method to map the extent, range and nature of published research on the use of patient navigation to further understand how it links people to primary care[34]. When compared to systematic reviews, scoping reviews address broader topics and are less reliant on detailed research questions or quality assessments[34]. The work was structured around the five stages of the Arksey and O'Malley framework: (1) identify the research question, (2) identify relevant studies, (3) study selection, (4) chart the data, and (5) collate, summarize and report the results. The review was also informed by Levac et al's.[35] refinements to Arksey and O'Malley's framework.

Stage 1: Identify the research question

Patient navigation has been defined as a "process, by which an individual, a patient navigator, guides patients in overcoming barriers to health care services access to facilitate timely access to care"[36]. We expanded this definition to include a patient navigator as a person or process creating a connection or link between a person needing primary care and a primary care provider.

Our target population was people without a regular source of or affiliation or connection with primary care. The outcomes of interest were the person needing care attended an appointment or

made contact with the referred primary care provider. These definitions helped us to clarify the focus of the review, confirm the inclusion criteria adopted and establish parameters for the search strategy[35]. We asked three questions to guide the scoping review:

1. How have patient navigators been defined and described in connecting people to primary care?
2. What are the components of the patient navigation programs?
3. To what extent has patient-centredness been incorporated into the design, implementation and analysis of patient navigation programs?

Stage 2: Identify relevant studies

We identified relevant studies through a search of electronic databases, grey literature, and reference lists of key articles sourced (Supplementary File 1).

A three-step search strategy was used. Firstly, we undertook an initial limited search of MEDLINE, Embase and CINAHL using terms and variants of "navigator", "broker", "link worker" and "community health worker". We analysed the text in the titles and abstracts of retrieved studies and index terms used to refine key terms. The terms most common were related to *navigation, linkage,* and *access to care*. We completed a second search of the same databases and extended the search to include related medical and social science databases and grey literature using the key terms and variants (Table 1) identified by the initial search strategy (Supplementary File 2).

Table 1: Key search terms

Concept, program or intervention	Outcomes of intervention
Navigator/navigation	Community health
Patient navigator/navigation	Family practice/practitioner
Peer navigator/navigation	General practice/practitioner
Broker	Primary care
Health broker	Primary health care
Health services broker	
Community health worker	
Community navigator/navigation	
Lay health worker	
Linkage to care	

Finally, we checked the reference lists of all identified studies (and their citations) for additional studies.

Stage 3: Study selection

Inclusion criteria were applied as a basis for which studies were considered relevant to the review questions. Studies were included if they:

- Were published in English from January 2000-May 2016. The start date of 2000 was chosen as reforms of primary care commenced around this time[37] along with the emergence of navigator-type approaches[38];
- Reported on patients who did not have a regular source of primary care (provider or practice);
- Connected patients to primary care by a process (for example, navigation) or a person (for example, navigator); and,

- Reported an outcome of patients attending or making at least one appointment with primary care providers.

We excluded studies if they originated in countries who were not members of the Organisation for Economic Cooperation and Development (OECD), as their primary care systems differ significantly from those of OECD countries. Other exclusion criteria were applied to studies where:

- Patients lived in residential care, or incarcerated with no imminent release date, as their primary care needs were assumed to be met by institutional providers;
- A navigator was attached to a primary care provider or practice as this indicated the patient was already connected to primary care; and,
- A navigator referred patients to health screening or assessment services only, and not to a primary care provider.

The first author reviewed titles and abstracts of studies, and GR independently reviewed abstracts where there was uncertainty for inclusion.

Stage 4: Chart the data

Data extracted was entered into a form developed in Microsoft Excel specifically for this review. Information on authors, year of publication, study location and context, aims or purpose of the research, study type or design, population and sample size, methodology, conceptual model, intervention type and duration, measures used, and key findings were recorded on this form. We also extracted data relevant to the research questions: definitions and descriptions of navigators, components of navigator programs, and elements of patient-centred care. Charting the data was an iterative process[35] that we updated as studies revealed useful data categories. Studies were reviewed a number of times to ensure all relevant data was captured.

Stage 5: Collate, summarize and report the results

We analysed the data using descriptive numerical summaries and content analysis of the text. This helped to highlight the major themes and report the results in relation to the review questions.

RESULTS

Our initial search terms generated 6,355 records from electronic databases and grey literature. We removed 664 duplicates, leaving 5,691 records to be screened. Of these, 5,613 records were excluded based on the title and/or abstract review, as they were not relevant to the question or originated in non-OECD countries. Of the remaining 78 records, full-text review excluded 44 where participants were not linked to primary care and 16 where participants already had a primary care provider or did not indicate a need for primary care. We searched references and citations of the remaining 18 records, adding two additional studies. This resulted in 20 selected for inclusion in the scoping review. The selection process is shown in the flow chart (Figure 1).

Of the 20 included studies, three reported on the same randomized controlled trial at different phases[39-41]. These three studies were counted as unique studies as each reported on different elements of the same trial: preliminary findings, qualitative analysis of interviews, and longitudinal findings.

Eleven studies were descriptions or evaluations of programs, eight were intervention studies, and one was a retrospective study. Thirteen were programs based in emergency departments, six were community-based programs, and one was delivered in an inpatient setting. All studies were conducted in the United States. Table 2 outlines characteristics of the included studies.

Table 2 Characteristics of included studies

Author	Context	Study type	Population and sampling	Description
Bishop[42]	Homeless shelter	Description	Homeless people attending health fair at shelter or soup kitchen	*Volunteer navigator* completed short training course, engaged person by building relationships, assessed needs, guided to providers, translated confusing information, coordinated follow-up, empowered people to understand health system and self-care.
Chan[43]	Emergency department in area served by 3 community-based primary care clinics	Non-randomized, non-blinded trial	Patients assessed by emergency physician to benefit from clinic follow-up within 14 days (n=326)	*Internet-based referral system* between emergency department electronic medical record and clinic appointment systems. System accessed clinic availability and allowed emergency physicians to give patients follow-up appointments at clinics.
Doran[44]	Emergency department	Quasi-experimental trial	Adults with low-acuity problems assigned to intervention or usual care based on where care expected to result in least	*Patient navigator* escorted patients from emergency waiting room to clinic in same building. Patients assigned physician who addressed current problems and established care plan and given card with physician's name and clinic telephone number.

			delay (n=965)	
Elliott[45]	Emergency department	Retrospective	Patients discharged and referred to transitional care clinic; randomly sampled for record abstraction (n=660)	*Transitional care clinic* staff worked with patients to determine preferences and locate convenient, appropriate provider and made new appointment with chosen provider.
Gany[46]	JFK International Airport	Description	Convenience sample of taxi drivers waiting in airport holding lot (n=466)	Health care access and *case management* to link taxi drivers to health insurance enrolment and providers.
Griswold[39-41]	Comprehensive Psychiatric Emergency Program	Randomized controlled trial	Adults with psychiatric disorder (n=101-175)	*Care navigator* trained in interviewing and case management provided information about low-cost care; facilitated access, reinforced patient education, information to providers about patient's history, follow-up, peer connections to access community and social services.
Horwitz[47]	Level 1 urban trauma centre	Randomized study	Uninsured adults (n=230)	*Health Promotion Advocates* in emergency department assisted patients to choose provider, gave brochure,

				faxed information to case worker at selected clinic. Clinic case worker contacted patient to make appointment.
Kahn[48]	Medicaid managed care organisation	Evaluation	New members completing mailed survey (n=368)	*Telephone case managers* made at least three contact attempts to ensure linkage to provider.
Kangovi[49]	2 teaching hospitals	Two-armed, single-blind, randomized clinical trial	Newly-admitted inpatients randomly numbered, approached until 3 per day enrolled (n=446)	*Community health workers* (trained lay people of similar backgrounds to patients, selected based on personality traits patients identified as important) set goals, supported goal achievement, connected to provider.
Kim[50]	5 hospital emergency departments	Evaluation	Merged data set (hospital discharge, clinic, navigator referral data) (n=10,761)	*Patient navigators* of various backgrounds based in clinics or hospitals spoke with or telephoned patients referred by emergency providers.
Marr[51]	Emergency department	Evaluation	Patients approached by navigator (n=7,185)	*Patient navigator* recruited from community, trained in emergency department, visited patients waiting for medical care or before discharge, offered referral within 19-clinic system.

Overholser[52]	Specialist outpatient clinics of tertiary teaching hospital	Description	Patients with sickle cell disease referred by specialists (n=21)	*Patient navigators* of various backgrounds trained in navigation proactively sought local providers and established network through outreach, made appointments with patients, sent reminders, educated on importance of primary care.
Treadwell[53]	Community centre	Evaluation	African American men at risk for or diagnosed with diabetes or in poor health; recruited at community event (n=42)	6-week community-based, culturally-responsive, gender-specific health prevention program delivered by *community health workers*, trusted community members provided links between health system and community.
Wang[36]	Ethnically-diverse community health centre	Evaluation	Patients with diabetes and/or hypertension not seen by provider in 6 months (n=215)	*Patient navigator* trained in chronic illness education, motivational interviewing, appointment scheduling. Telephoned patients, built rapport, educated patients, made appointment with provider, assessed need for specialist referrals, identified barriers to access, assisted to overcome barriers.

Wexler[54]	Emergency department	Randomized controlled trial	Patients whose physician confirmed visit non-urgent, completed baseline survey, randomly assigned (n=148)	*Emergency department electronic medical record* to make appointment at clinic based on patient location and preference. Patient given appointment reminder card and directions to clinic. Electronic message to clinic with information about patient and appointment.
ED navigators connect patients to better venues of care[55]	Emergency departments of 8-hospital system	News article	Health plan members with non-urgent problems	*Navigator* with customer service background assigned members to provider and made appointments.
Navigator reduces readmissions, inappropriate ED visits[56]	Emergency department	News article	Patients with non-urgent problems	*Community health outreach coordinator/navigator* of varying cultures representing patients served. Met patient in emergency department, coordinated appointments, and set patients up in medical homes.
ED navigators help patients find a PCP[57]	Small community hospital emergency department	News article	Patients admitted through emergency department and patients not admitted	*Navigator* worked with patients to discuss discharge and help facilitate follow-up appointments.

Patient navigators: Definition and descriptions

One study defined patient navigation as a "process, by which an individual, a Patient Navigator, guides patients in overcoming barriers to health care services access to facilitate timely access to care"[36].

The studies provided either a description of a navigator (person) or, for three of the studies, navigation process[43 45 54]. Descriptions varied in detail and often consisted of the type of person recruited as a navigator, the tasks they performed, and the training provided (Table 2).

Patient navigation program components

All of the studies outlined components of their programs; four provided detailed descriptions[39-41 49]. We grouped components according to Freeman's consensus-based nine-principle framework of patient navigation, originally developed in response to the expansion of patient navigation as a community-based intervention[16 58 59]. These principles have been widely used in patient navigation programs. Each of these principles is outlined below with examples from the studies selected that included sufficient information to inform each principle in the framework.

Principle 1: Patient-centred health care service delivery model

Seventeen of the studies outlined aspects of patient-centred care. This will be discussed further in the section addressing research question three.

Principle 2: Integration of a fragmented healthcare system

This principle relates to a patient experiencing a seamless, timely flow through the continuum of care[16]. We also included another principle (*Principle 8: Connect disconnected health care systems)* here, as the two are similar concepts and this has been done previously[60]. We focused on connections to primary care, not on a continuum of care through stages of illness or disease. Two examples of integration in our scoping review were assisting patients to understand the entire

health system[42], and linking the emergency department with a primary care provider, as well as to community dental, mental health, substance abuse and other social services[51].

In addition, key stakeholders (including potential participants) were engaged through health fairs[42], teaching emergency department physicians to use a new health information technology system[43], and clinics increasing capacity and expanding hours[50].

Principle 3: Elimination of barriers

This principle is most effectively carried out through relationships with patients[16]. While removing barriers to accessing primary care appears implicit in a navigator program, not all studies provided detail of what the barriers were and how they were addressed. One exception of note is the *Step on It!* intervention at JFK International Airport, which focused on the barriers taxi drivers faced. This intervention went to the airport holding lot, assisted drivers to locate providers with flexible hours, culturally and linguistically appropriate models of care, and at low-cost[46]. Another study described a program that helped adults with sickle cell disease find primary care[52]. The barriers addressed included patients not understanding why they needed a primary care provider when they already had a specialist, low literacy, difficulty filling out forms and forgetting appointments. These navigators used motivational interviewing to identify further barriers and help patients set priorities beyond accessing primary care[52].

Principle 4: Clear scope of practice

Three studies provided detail about the role and responsibilities of the navigator[36 49 52]. The most detailed of these was a randomized clinical trial by Kangovi et al.[49], providing a website link (http://chw.upenn.edu) containing protocols for recruitment, training and standardized work practices for navigators, organisational directors and managers.

Kangovi et al.[49] created a community health worker model and tested its effect on post-hospital outcomes among general medical inpatients. This was based on qualitative participatory action

research and had detailed protocols including standardized work practices in three stages: goal setting, goal support, and connection with primary care. A substantial component was to build relationships with patients to help set goals for recovery, develop an individualized action plan, and liaise between the patient and inpatient care team. The worker provided tailored support based on the patient goals. Patients were connected to primary care and coached to make and attend appointments independently. Provider resources included a discharge summary and the patient's action plan taken to the appointment.

Principle 5: Cost-effective

None of the studies evaluated the cost-effectiveness of their program.

Principle 6: Defined level of skill

Nine studies provided information on the skill level required of the navigators[39 42 49-53 55]. This ranged from volunteers with in-house training, staff with customer service backgrounds, to college-accredited navigators. They were trained on topics such as navigation processes, disease-specific content such as diabetes education, or motivational interviewing. Similarly, seven studies presented ways in which development of resources informed the intervention. These included a needs assessment[42 56], software development[43], community-based participatory action research[46 49 53] and provider collaboration to develop and test navigation mechanisms[51].

Principle 7: Defined beginning and end

Eleven studies outlined definite points at which navigation began and ended[36 43-47 49 51 54 56 57]. Entry usually involved meeting a patient (in the emergency department or on a hospital ward, for example) to schedule an appointment. End points of the interventions included "patient has an appointment made" or "patient sees provider".

Principle 8: Connect disconnected healthcare systems

This principle was combined with a similar principle, (*Principle 2 Integration of a fragmented healthcare system*) for the purposes of this review.

Principle 9: Coordinated system

This principle relates to having an assigned coordinator to oversee all aspects of the intervention[16]. This was evident in two studies: where navigators served as executive officers on a governing board[42] and were supervised by a social worker as well as having weekly team meetings[49].

Patient navigation: patient-centredness

Our third question for this review was, 'To what extent has patient-centredness been incorporated into the design, implementation and analysis of patient navigation programs?' We focused on the three factors upon which patient-centred care depends: informed and involved patient, receptive and responsive health professionals, and a coordinated, supportive health care environment[11]. Seventeen studies included at least one of the three factors. Table 3 indicates the number of studies and some examples of approaches to patient-centred care for each of the three factors. The columns of the table indicate whether patient-centredness was included in the design, implementation, or analysis phase of patient navigation programs.

Table 3 Examples of patient-centredness

Patient-centred care factor	Design phase examples	Implementation phase examples	Analysis phase examples	Total studies*
Patients informed and involved in their care	2 studies: user-friendly and culturally-sensitive health materials; bilingual, bicultural community members	17 studies: information to patient on difference between emergency and primary care; identified barriers to access and help to overcome barriers	0 studies	19
Receptive and responsive health professionals	3 studies: clinics added capacity for walk-in appointments, navigator visited clinics to provide information and establish working relationship	6 studies: after connection, navigator worked with provider to schedule other visits as per care plan; assisted with patient education and follow-up	2 studies: providers wanted to continue in program; information to providers more complete and accessible than previously	11
Coordinated, supportive health care environment	4 studies: Collaborative organisation linked emergency department with 18 clinics; each hospital adopted unique	1 study: emergency physicians encouraged to establish relationships with clinics	1 study: community mobilized around population health issues through increased local media attention	6

	provider arrangement and approach			

*Some studies included more than one instance of the patient-centred factor in more than one phase of the intervention

Of note, the Kangovi et al.[49] study had an explicit patient-centred focus. The intervention prioritised relationship building with patients through goal setting and development of action plans, liaising with inpatient staff to ensure the patient's goals were at the forefront, and giving the action plan to a provider the patient chose based on needs and preferences.

Similarly, in the three studies reporting the same randomized controlled trial, Griswold et al.[39-41] used a care navigator to connect patients with a history of psychiatric crisis to primary care. The navigator built relationships by meeting with patients routinely while admitted and also at primary care appointments, and maintaining regular contact via phone or in person. The navigator would take the patient to the appointment and reinforce any education provided. Patients were informed of low-cost clinics and further assistance was provided through coordinating follow-up and connecting patients to peer and social services. Provider resources included information to clinics on discharge diagnosis, medications and mental health treatment site referral.

Other studies included the three factors yet did not explicitly state patient-centredness as a driver.

DISCUSSION

Our scoping review identified 20 studies that described patient navigation to connect patients to primary care. Most programs had components that could be included in a framework of patient navigation, and 17 of the 20 studies included factors inherent to patient-centred care in their design, implementation or analysis. Patients were almost always connected to primary care by a patient navigator (person), indicating a relational approach to making the connection is key.

The level of detail in descriptions of the studies varied; this variation has been reported elsewhere[61]. This presents challenges in clearly characterizing navigators and understanding what they do. Similarly, while there is no generally accepted definition of patient navigation, there is a call for descriptions of the tasks navigators do and the networks of contacts they use to support their actions[61].

Generally, programs adhered to published criteria for patient-centred care[11]. Although not overtly stated as an aim, almost all studies incorporated at least one of the three patient-centred care factors: an informed and involved patient, receptive and responsive health professionals, and a coordinated, supportive health care environment. We found these mostly in the implementation of the programs, to a lesser degree in the design phase and mentioned in only three studies in the analysis. Our assertion that a navigator is patient-centred focusing on connections and relationships has some merit.

This scoping review has several limitations. Although a scoping review is iterative and involves revisiting the research question and key terms during searches, our search strategy may have missed studies that described programs with specific population groups, for example, refugees or children. This is because information in the title and abstract of relevant studies may not have overtly referred to access to primary care, and improving access may have been a by-product of the reported intervention (for example, access to health prevention programs).

Studies describing programs, but not reporting on our explicit outcomes, were not included. While this strategy contributed to a more focused search, studies that reported the implementation of programs but not outcomes are missing.

Implications for practice

The impact of navigators or navigation on access to primary care is not clear. The studies included in the review used navigators in a range of settings, from emergency departments, inpatient wards,

outpatient services, and in the community. While we did not report on the studies' effectiveness, using patient navigation to improve access to primary care may have merit, particularly using a navigator (person) rather than a process, such as an electronic system. For providers and organisations wanting to link vulnerable people to primary care in a patient-centred way, navigators may assist in this process.

Future research

Despite the interest in using patient navigators to connect people to primary care, many of the studies included were program descriptions with little evidence to indicate a sustainable impact or effectiveness. Analysis of cost effectiveness, while not a focus of this review, was nevertheless absent in the cited studies. As the concept of navigator continues to show promise, models and frameworks are required to measure impact and give direction to settings interested in using this intervention.

CONCLUSION

Patient navigators may be used across health care settings to improve access to care. Navigators are inherently patient-centred due to their relational approach and ability to connect people to primary care. Interventions to improve access to primary care require further study to determine their impact and cost-effectiveness.

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Competing interests

None declared.

Contributors

AP involved in writing protocol, searches, screening, extraction, drafting of results and writing of manuscripts. VL and TB involved in content expert input (methodology) and editing manuscripts. GR oversaw the project, assisted with screening, content expert input, drafting of results and editing of manuscripts.

Data sharing statement

Further details on studies included in this scoping review can be retrieved by contacting the corresponding author at annette.peart@monash.edu.

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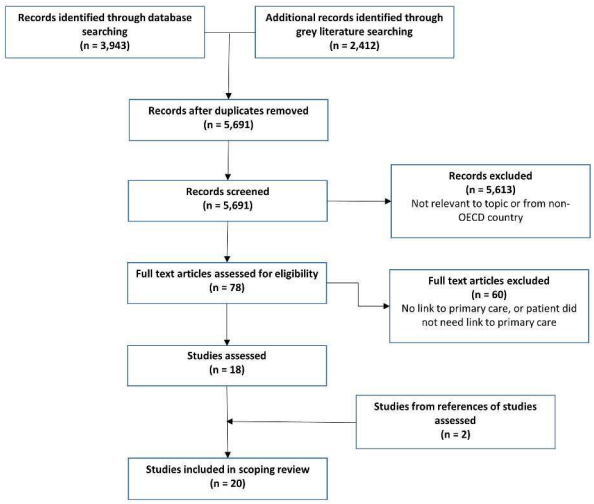

Figure 1. Flow Chart

1058x595mm (96 x 96 DPI)

Supplementary File 1

Databases searched

MEDLINE/PubMed

Embase

CINAHL

AMED

PsycINFO

Cochrane Library

Scopus

Web of Science Core Collection

ProQuest Dissertations & Theses

CIRRIE

PLoS

ProQuest Central

Grey literature sources

Agency for Healthcare Research and Quality National Guideline Clearinghouse

http://www.guideline.gov

Australian Commission on Safety and Quality in Health Care http://www.safetyandquality.gov.au

Australian Government Department of Health http://www.health.gov.au

Australian Institute of Health and Welfare http://www.aihw.gov.au

British Library E-theses Online Service http://ethos.bl.uk/Home.do

Canadian Institute for Health Information https://www.cihi.ca/en

Canadian Institutes of Health Research http://www.cihr-irsc.gc.ca/e/193.html

Centers for Disease Control and Prevention Wonder database http://wonder.cdc.gov/welcome.html

Commonwealth Fund http://www.commonwealthfund.org/

European Observatory on Health Systems and Policies http://www.euro.who.int/en/about-us/partners/observatory

Health Improvement and Innovation Resource Center http://www.hiirc.org.nz

Health Issues Center http://www.healthissuescenter.org.au

Health Systems Evidence http://www.healthsystemsevidence.org/

Institute for Clinical Evaluative Sciences http://www.ices.on.ca/

Institute for Healthcare Improvement http://www.ihi.org/Pages/default.aspx

Kings Fund http://www.kingsfund.org.uk/

MacColl Center for Health Care Innovation http://maccollcenter.org/

National Collaborating Centers for Public Health http://www.nccph.ca/2/home.ccnsp

National Institute for Health and Care Excellence https://www.nice.org.uk/

National Institute for Health and Care Excellence Evidence Search http://www.evidence.nhs.uk

National Library of Australia Trove http://trove.nla.gov.au

National Quality Forum http://www.qualityforum.org/Home.aspx

Networked Digital Library of Theses and Dissertations http://ndltd.org

New Zealand Ministry of Health http://www.health.govt.nz

New Zealand Social Policy Evaluation and Research Unit http://www.superu.govt.nz

NHS Sustainable Improvement Team (formerly Improving Quality) http://www.nhsiq.nhs.uk/

Nuffield Trust http://www.nuffieldtrust.org.uk/

Open Grey http://opengrey.eu

Primary Health Care Research and Information Service http://www.phcris.org.au/researchevidence/

Public Health Agency of Canada http://www.phac-aspc.gc.ca/index-eng.php

Robert Wood Johnson Foundation http://www.rwjf.org/

The Change Foundation http://www.changefoundation.com/

The Health Foundation http://www.health.org.uk

The Henry J. Kaiser Family Foundation http://kff.org/

The National Academies of Sciences Engineering Medicine, Health and Medicine Division

http://www.nationalacademies.org/hmd/

The New York Academy of Medicine Grey Literature Report http://www.greylit.org/

Theses Canada http://www.bac-lac.gc.ca/eng/services/theses/Pages/theses-canada.aspx

US National Library of Medicine Health Services Research Projects in Progress

http://wwwcf.nlm.nih.gov/hsr_project/home_proj.cfm

World Health Organization Primary Health Care

http://www.who.int/topics/primary_health_care/en/

Supplementary File 2: Boolean search strategy

Database name and provider: OVID Medline

Search conducted by the first author on 27 April 2016

Search #	Search term (titles and abstracts, years searched 2000 – April 2016)	Hits
1	Broker*	1010
2	Health broker*	7
3	Health service* broker	0
4	Community health worker*	2204
5	Community navigat*	18
6	Peer navigat*	27
7	Patient navigat*	463
8	Lay health work*	184
9	Link* to care	800
10	Navigat*	21928
11	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10	26012
12	Family practi*	8493
13	General practi*	33546
14	Primary care	79085
15	Primary health care	15589
16	Community health*	16307

17	12 or 13 or 14 or 15 or 16	139643
18	11 and 17	2742
19	Limit 18 to (abstracts and English language and humans and yr="2000 – Current"	2194

BMJ Open

Patient navigators facilitating access to primary care: A scoping review

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Title of the article

Patient navigators facilitating access to primary care: A scoping review

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Access to health care, Patient navigation, Patient-centred care, Primary care

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Abstract

Objective

Patient navigators are a promising mechanism to link patients with primary care. While navigators have been used in population health promotion and prevention programs, their impact on access to primary care is not clear. The aim of this scoping review was to examine the use of patient navigators to facilitate access to primary care; how they were defined and described, their components, and the extent to which they were patient-centred.

Setting and Participants

We used the Arksey and O'Malley scoping review method. Searches were conducted in MEDLINE, Embase, ProQuest Medical, other key databases, and grey literature, for studies reported in English from January 2000 – April 2016. We defined a patient navigator as a person or process creating a connection or link between a person needing primary care and a primary care provider. Our target population was people without a regular source of, affiliation or connection with primary care. Studies were included if they reported on participants who were connected to primary care by patient navigation, and attended or made an appointment with a primary care provider. Data analysis involved descriptive numerical summaries and content analysis.

Results

Twenty studies were included in the final scoping review. Most studies referred to "patient navigator" or "navigation" as the mechanism of connection to primary care. As such, we grouped the components according to Freeman's nine-principle framework of patient navigation. Seventeen studies included elements of patient-centred care: informed and involved patient, receptive and responsive health professionals, and a coordinated, supportive health care environment.

Conclusions

Patient navigators may assist to connect people requiring primary care to appropriate providers and extend the concept of patient-centred care across different health care settings. Navigation requires further study to determine impact and cost-effectiveness, and explore the experience of patients and their families.

Article summary

Strengths and limitations of this study

- This is the first scoping review to explore how patient navigators are defined, described and used to facilitate access to primary care for people without an affiliation to a primary care provider.
- It is a comprehensive overview of sources covering peer-reviewed and grey literature.
- Sources were included only if the outcome of the navigation was reported; sources describing patient navigation without reporting of outcomes were excluded.
- Including a description of patient-centredness of the sources is a unique addition to this review of patient navigators.

INTRODUCTION

Primary care is the first level of access to health care, delivered in the community most often by family physicians or general medical practitioners. However, not all people access primary care that best meets their health care needs, where and when they need it. Some people, such as those living in poverty, with a long-term disability, from a culturally and linguistically diverse background, or located in rural and remote areas, have difficulty accessing primary care services and resources[1-4].

Access to health care is the opportunity to reach and obtain appropriate health care in situations of perceived need[5]. Access to primary care is important to reduce health care disparities, mortality, morbidity, hospitalisation rates, and health care costs[6-9]. Recent reforms to primary care have focused on trialling new processes and models of care to improve access[10]. These include integrated care models, after-hours telephone consultations, walk-in centres and nurse-led initiatives. However, disparities in care remain for many, such as people having low literacy and numeracy, cognitive deficits, being a member of a marginalized group or not understanding the need for primary care[11].

A new approach to improve access to primary care is *patient navigation*, a process where a person (navigator) engages with a patient to determine barriers to care and provides information to improve access to components of the health system, not just primary care[12]. A patient navigator has been described as a type of 'broker', who uses a biopsychosocial approach to provide a range of instrumental and relational functions and processes[13 14] to not only support patients to access primary care but directly identify providers willing to treat vulnerable people requiring care[15]. Patient navigator tasks can include educating patients about early symptoms of cancer (in preventive care) or facilitating and coordinating appointments with providers to improve access to a regular primary care provider. Originating in the 1990s, patient navigation developed as a strategy to reduce barriers to breast cancer care[16]. Since then, patient navigators have been used for the screening of various cancers and through the cancer care continuum, with mixed success[17-27]. In primary care, navigators may have a role in improving access and coordination of care, especially for

vulnerable populations whose access to care may be compromised by a range of geographic, demographic, socioeconomic or cultural characteristics[28].

Patient-centred care is a core element of high-quality primary care, facilitates access to appropriate care[11], and has been identified as one of six areas of focus for improving health care systems[29]. In primary care, patient-centred care consists of interactions and relationships between providers and patients to share information, explore values and preferences, facilitate access to appropriate care, and address health care disparities[30 31]. While numerous frameworks of patient-centred care have been described[32], Epstein's[11] succinct model of patient-centred care comprising: an informed and involved patient, receptive and responsive health professionals, and a coordinated, supportive health care environment, sits well within the context of patient navigation and its extension beyond the patient-clinician relationship to the setting in which care is delivered.

While navigators have been used in population health promotion and prevention programs[33 34], there has been recent interest in their use in facilitating access to primary care for vulnerable people without a regular primary care provider[28]. Understanding the components of these programs can assist those interested in designing or implementing similar programs. Therefore, we performed a scoping review of the use of patient navigation to facilitate access to primary care. Given its importance and relevance to navigation, we included an additional focus on the extent to which identified patient navigation interventions were patient-centred.

METHODS

We chose the scoping review method to map the extent, range and nature of published research on the use of patient navigation to further understand how it links people to primary care[35]. When compared to systematic reviews, scoping reviews address broader topics and are less reliant on detailed research questions or quality assessments[35]. The work was structured around the five stages of the Arksey and O'Malley framework: (1) identify the research question, (2) identify relevant studies, (3) study selection, (4) chart the data, and (5) collate, summarize and report the

results. The review was also informed by Levac et al's.[36] refinements to Arksey and O'Malley's framework.

Stage 1: Identify the research question

Patient navigation has been defined as a "process, by which an individual, a patient navigator, guides patients in overcoming barriers to health care services access to facilitate timely access to care"[37]. We expanded this definition to include a patient navigator as a person or process creating a connection or link between a person needing primary care and a primary care provider.

Our target population was people without a regular source of or affiliation or connection with primary care. The outcome of interest was the person needing care attended an appointment or made contact with the referred primary care provider. These definitions helped us to clarify the focus of the review, confirm the inclusion criteria adopted and establish parameters for the search strategy[36]. This review did not focus on the impact or effectiveness of patient navigation programs in this context. We asked three questions to guide the scoping review:

1. How have patient navigators been defined and described in connecting people who are unattached to primary care to a primary care provider for regular care?
2. What are the components of these patient navigation programs?
3. To what extent has patient-centredness been incorporated into the design, implementation and analysis of patient navigation programs?

Stage 2: Identify relevant studies

We identified relevant studies through a search of electronic databases, grey literature, and reference lists of key articles sourced (Supplementary File 1).

A three-step search strategy was used. Firstly, we undertook an initial limited search of MEDLINE, Embase and CINAHL using terms and variants of "navigator", "broker", "link worker" and "community health worker". We analysed the text in the titles and abstracts of retrieved studies and

index terms used to refine key terms. The terms most common were related to *navigation, linkage,* and *access to care*. We completed a second search of the same databases and extended the search to include related medical and social science databases and grey literature using the key terms and variants (Table 1) identified by the initial search strategy (Supplementary File 2).

Table 1: Key search terms

Concept, program or intervention	Setting
Navigator/navigation	Community health
Patient navigator/navigation	Family practice/practitioner
Peer navigator/navigation	General practice/practitioner
Broker	Primary care
Health broker	Primary health care
Health services broker	
Community health worker	
Community navigator/navigation	
Lay health worker	
Linkage to care	

Finally, we checked the reference lists of all identified studies (and their citations) for additional studies.

Stage 3: Study selection

Inclusion criteria were applied as a basis for which studies were considered relevant to the review questions. Studies were included if they:

- Were published in English from January 2000-May 2016. The start date of 2000 reflects the increasing interest in patient-centred care in the last two decades. Reforms of primary care commenced around this time[29] along with the emergence of navigator-type approaches[38];
- Reported on patients who did not have a regular source of primary care (provider or practice);
- Connected patients to primary care by a process (for example, navigation) or a person (for example, navigator); and,

- Reported an outcome of patients attending or making at least one appointment with primary care providers.

We excluded studies if they originated in countries who were not members of the Organisation for Economic Cooperation and Development (OECD), as their primary care systems differ significantly from those of OECD countries. Other exclusion criteria were applied to studies where:

- Patients lived in residential care, or incarcerated with no imminent release date, as their primary care needs were assumed to be met by institutional providers;
- A navigator was attached to a primary care provider or practice as this indicated the patient was already connected to primary care; and,
- A navigator referred patients to health screening or assessment services only, and not to a primary care provider.

Author 1 reviewed titles and abstracts of studies, and Author 2 independently reviewed abstracts where there was uncertainty for inclusion.

Stage 4: Chart the data

Data extracted was entered into a template developed in Microsoft Excel specifically for this review. Information on authors, year of publication, study location and context, aims or purpose of the research, study type or design, population and sample size, methodology, conceptual model, intervention type and duration, measures used, and key findings were recorded on this form. We also extracted data relevant to the research questions: definitions and descriptions of navigators, components of navigator programs, and elements of patient-centred care. Charting the data was an iterative process[36] that we updated as studies revealed useful data categories. Studies were reviewed a number of times to ensure all relevant data was captured.

Stage 5: Collate, summarize and report the results

We collated the data using a Microsoft Excel spreadsheet. Excerpts of text were coded deductively by Author 1 to identify concepts and themes related to the research questions. Author 4 checked the coding scheme and the themes raised.

RESULTS

Our initial search terms generated 6,355 records from electronic databases and grey literature (Figure 1). We removed 664 duplicates, leaving 5,691 records to be screened. Of these, 5,613 records were excluded based on the title and/or abstract review, as they were not relevant to the question, did not meet inclusion criteria, or originated in non-OECD countries. Of the remaining 78 records, full-text review excluded 44 where participants were not linked to primary care and 16 where participants already had a primary care provider or did not indicate a need for primary care. We searched references and citations of the remaining 18 records, adding two additional studies. This resulted in 20 selected for inclusion in the scoping review. The selection process is shown in the flow chart (Figure 1).

Of the 20 included studies, three reported on the same randomized controlled trial at different phases[39-41]. These three studies were counted as unique studies as each reported on different elements of the same trial: preliminary findings, qualitative analysis of interviews, and longitudinal findings.

Eleven studies were descriptions or evaluations of programs, eight were intervention studies, and one was a retrospective study. Thirteen were programs based in emergency departments, six were community-based programs, and one was delivered in an inpatient setting. All studies were conducted in the United States. Table 2 outlines characteristics of the included studies.

Table 2 Characteristics of included studies

Author	Context	Study type	Population and sampling	Primary outcome	Description
Bishop[42]	Private, non-profit, community homeless shelter	Description of Charlottesville Health Access initiative to enhance access to care	Homeless and near-homeless people, without a health care provider, attending health fair at shelter or soup kitchen	Not stated	*Volunteer navigator* (student or community member) completed a training course, engaged person by building relationships, assessed needs, guided to providers, translated confusing information, coordinated follow-up, empowered people to understand health system and self-care.
Chan[43]	Emergency department in low-income, urban area served by 3 community clinics	Non-randomized, non-blinded interventional trial to improve primary care access for underserved patients	Patients with no primary care provider assessed by emergency physician to benefit from clinic	Clinic visit within 14 days	*Internet-based secure referral system* between emergency department medical record and clinic appointment systems. System accessed clinic availability and

			follow-up (n=326)		allowed emergency physicians to give patients follow-up appointments at clinics.
Doran[44]	Urban, public, safety-net hospital emergency department with primary care clinic in same building complex	Quasi-experimental trial to navigate willing patients from emergency department to clinic	Adults with no primary care provider, presenting with low-acuity problems, assigned to intervention or usual care based on where care expected to result in least delay (n=965)	Clinic visit within 1 year	*Trained patient navigator* escorted patients from emergency waiting room to clinic. Patients assigned physician who addressed current problems, established care plan and gave card with name and clinic telephone number.
Elliott[45]	Urban emergency department, serving high proportion of vulnerable	Retrospective study using full electronic medical record	Patients with no primary care provider, discharged and	Transitional care clinic visit as scheduled	*Transitional care clinic* staff worked with patients to determine preferences and locate convenient,

	patients	abstraction, randomly sampled	referred to transitional care clinic (n=660)		appropriate provider and made new appointment with chosen provider.
Gany[46]	Unused parking lot adjacent to JFK International Airport's taxi holding lot	Description of Step On It! workplace intervention to increase health care access	Convenience sample of taxi drivers waiting in airport holding lot (n=466)	Provider visit within 6 months	Health care access and *case management* to link drivers to providers, including referrals to low-cost (or free) culturally-appropriate clinics or hospitals.
Griswold[39-41]	Urban Comprehensive Psychiatric Emergency Program (psychiatric assessment and management, targeted therapeutic approaches, links to community mental health services) as usual care	Randomized controlled trial comparing linkage with primary care with standard practice after psychiatric emergency visit	Adults presenting with psychiatric disorder (n=101-175), with no primary care provider or, have not seen one within 6 months	Primary care visit within 3 and 12 months	*Care navigator* trained in interviewing and case management provided information about low-cost care; facilitated access, reinforced patient education, information to providers about patient's history, follow-up, peer connections to access community and social services.

Horwitz[47]	Level 1 urban trauma centre	Randomized study of intensive case management intervention to improve primary care use	Uninsured adults presenting to emergency department (n=230), excluding substance abuse or mental health issues only	Primary care clinic visit within 2 months	*Health Promotion Advocates* in emergency department assisted patients to choose provider, gave brochure, faxed information to case worker at selected clinic. Clinic case worker contacted patient to make appointment.
Kahn[48]	Medicaid managed care organisation for people with mental health and/or substance abuse diagnoses	Evaluation to assess effectiveness of case management in linking new members with primary care providers	New members with behavioural health diagnosis and no primary care provider completing mailed survey (n=368), referred to case management	Primary care visit within 12 months	*Telephone case managers* made at least 3 contact attempts to ensure linkage to provider.
Kangovi[49]	2 urban, academically-	2-armed, single-blind,	Newly-admitted low-	Primary care	*Community health workers* (trained

	affiliated hospitals	randomized clinical trial to improve primary care follow-up post-discharge	income, uninsured, or Medicaid adult inpatients randomly numbered, approached until 3 per day enrolled (n=446)	visit within 14 days	lay people of similar backgrounds to patients, selected for personality traits patients identified as important) set goals, supported goal achievement, connected to provider.
Kim[50]	5 hospital emergency departments in an affluent area with large and poor immigrant population	Analysis of Emergency Department-Primary Care Connect initiative to link patients to 4 local primary care clinics	Merged data set (hospital discharge, clinic, navigator referral data) of low-income or uninsured patients with no primary care provider (n=10,761)	2 or more visits to same clinic across 33 month period	*Patient navigators* of various backgrounds (most unlicensed, selected for communication skills) based in clinics (3 sites) or hospitals (2 sites) spoke face-to-face or telephoned patients referred by emergency providers.
Marr[51]	Urban emergency department with high	Evaluation of program to connect patients with	Patients with no primary care provider	3 or more visits to same clinic	*Patient navigator* (advocate) recruited from community, trained in

	rates of potentially avoidable hospitalizations and lack of community-based care	community-based, primary care providers	approached by navigator (n=7,185)	across 18 month period	emergency department, visited patients waiting for medical care or before discharge, offered referral within 18-clinic system.
Overholser[52]	Specialist outpatient clinics of urban tertiary teaching hospital	Description of patient navigation program to overcome barriers to finding primary care	Adults with sickle cell disease with no primary care provider or not seen regularly by provider, referred by specialist physicians (n=21)	Primary care provider visit	*Patient navigators* of various backgrounds trained in navigation proactively sought local providers and established network through outreach, made appointments with patients, sent reminders, educated on importance of primary care.
Treadwell[53]	African-American community centre.	Evaluation of Save Our Sons group health education and intervention model to reduce incidence of	African American men at risk for or diagnosed with diabetes and/or in poor health related to	Physician attainment (connection to primary care home)	6-week community-based, culturally-responsive, gender-specific health prevention program delivered by *community health workers*, trusted community members provided links

		diabetes and obesity, improve regular access to care, and build community networks	obesity and/or other health concerns; recruited at community event (n=42)		between health system and community.
Wang[37]	Community health centre providing comprehensive services to ethnically diverse population with low incomes or uninsured	Evaluation of patient navigation program to optimize health care utilization	Patients with diabetes and/or hypertension not seen by provider in last 6 months (n=215)	Visit with primary care provider and/or chronic disease nurse within 6 months	*Patient navigator* trained in chronic illness education, motivational interviewing, appointment scheduling. Telephoned patients, built rapport, educated patients, made appointment with provider, assessed need for specialist referrals, identified barriers to access, assisted to overcome barriers.
Wexler[54]	Emergency department within urban academic	Randomized controlled trial comparing health	Medicaid enrollees who did not have	Visit to primary care provider	*Emergency department electronic medical record* to make appointment

	medical centre and affiliated primary care practices	information technology intervention to improve access to primary care, with usual care	usual source of care, emergency physician confirmed visit non-urgent, completed baseline survey, randomly assigned (n=148)	office at 3, 6 and 12 months	at clinic based on patient location and preference. Patient given appointment reminder card and directions to clinic. Electronic message to clinic with information about patient and appointment.
ED navigators connect patients to better venues of care[55]	Emergency departments of 8-hospital system	News article on use of emergency department navigators to re-direct patients with non-emergency issues to most appropriate care setting	Health plan members with non-urgent problems	Return visit to emergency department	*Navigator* with customer service background assigned members to provider and made appointments.
Navigator reduces	Urban emergency department	News article on community health	Patients with non-urgent problems who	Not stated	*Community health outreach coordinator/navigator* of varying

readmissions, inappropriate ED visits[56]		outreach worker helping patients find a primary care provider	are uninsured and don't have a primary care provider, insured but don't have a provider, or have a provider but can't access him or her		cultures representing patients served. Met patient in emergency department, coordinated appointments, and set patients up in medical homes.
ED navigators help patients find a PCP[57]	Urban emergency department	News article on a pilot project to reduce 30-day readmissions and number of self-pay patients who visit emergency department for non-emergent care	Patients without insurance and primary care provider admitted to hospital through emergency department and or not admitted	30-day readmission and/or emergency department re-visit within 1 month	*Navigator* worked with patients to discuss discharge and help facilitate follow-up appointments.

Patient navigators: Definition and descriptions

One study defined patient navigation as a "process, by which an individual, a Patient Navigator, guides patients in overcoming barriers to health care services access to facilitate timely access to care"[37]. The studies provided either a description of a navigator (person) or, for three of the studies, navigation process[43 45 54]. Descriptions varied in detail and often consisted of the type of person recruited as a navigator, the tasks they performed, and the training provided (Table 2).

Patient navigation program components

All of the studies outlined components of their programs; four provided detailed descriptions[39-41 49]. We grouped components according to Freeman's consensus-based nine-principle framework of patient navigation, originally developed in response to the expansion of patient navigation as a community-based intervention[16 58 59]. Freeman started the first patient navigation program in 1990 to reduce barriers to cancer care in Harlem, New York. These principles have been widely used in patient navigation programs. Each of these principles is outlined below with examples from the studies selected that included sufficient information to inform each principle in the framework.

Principle 1: Patient-centred health care service delivery model

Seventeen of the studies outlined aspects of patient-centred care. This will be discussed further in the section addressing research question three.

Principle 2: Integration of a fragmented healthcare system

This principle relates to a patient experiencing a seamless, timely flow through the continuum of care[16]. We also included another principle (*Principle 8: Connect disconnected health care systems)* here, as the two are similar concepts and this has been done previously[60]. We focused on connections to primary care, not on a continuum of care through stages of illness or disease. Two examples of integration in our scoping review were assisting patients to understand the entire health system[42], and linking the emergency department with a primary care provider, as well as to community dental, mental health, substance abuse and other social services[51].

Principle 3: Elimination of barriers

This principle is most effectively carried out through relationships with patients[16]. While removing barriers to accessing primary care appears implicit in a navigator program, not all studies provided detail of what the barriers were and how they were addressed. One exception of note is the *Step on It!* intervention at JFK International Airport, which focused on the barriers taxi drivers faced. This intervention went to the airport holding lot, assisted drivers to locate providers with flexible hours, culturally and linguistically appropriate models of care, and at low-cost[46]. Another study described a program that helped adults with sickle cell disease find primary care[52]. The barriers addressed included patients not understanding why they needed a primary care provider when they already had a specialist, low literacy, difficulty filling out forms and forgetting appointments. These navigators used motivational interviewing to identify further barriers and help patients set priorities beyond accessing primary care[52].

Principle 4: Clear scope of practice

Three studies provided detail about the role and responsibilities of the navigator[37 49 52]. The most detailed of these was a randomized clinical trial by Kangovi et al.[49], providing a website link (http://chw.upenn.edu) containing protocols for recruitment, training and standardized work practices for navigators, organisational directors and managers.

Kangovi et al.[49] created a community health worker model and tested its effect on post-hospital outcomes among general medical inpatients. This was based on qualitative participatory action research and had detailed protocols including standardized work practices in three stages: goal setting, goal support, and connection with primary care. A substantial component was to build relationships with patients to help set goals for recovery, develop an individualized action plan, and liaise between the patient and inpatient care team. The worker provided tailored support based on the patient goals. Patients were connected to primary care and coached to make and attend

appointments independently. Provider resources included a discharge summary and the patient's action plan taken to the appointment.

Principle 5: Cost-effective

None of the studies evaluated the cost-effectiveness of their program.

Principle 6: Defined level of skill

Nine studies provided information on the skill level required of the navigators[39 42 49-53 55]. This ranged from volunteers with in-house training, staff with customer service backgrounds, to college-accredited navigators. They were trained on topics such as navigation processes, disease-specific content such as diabetes education, or motivational interviewing. Similarly, seven studies presented strategies intentionally used to inform the development of resources to support the navigation intervention, including a needs assessment[42 56], software development[43], community-based participatory action research[46 49 53] and provider collaboration to develop and test navigation mechanisms[51].

Principle 7: Defined beginning and end

Eleven studies outlined definite points at which navigation began and ended[37 43-47 49 51 54 56 57]. Entry usually involved meeting a patient (in the emergency department or on a hospital ward, for example) to schedule an appointment. End points of the interventions included "patient has an appointment made" or "patient sees provider".

Principle 8: Connect disconnected healthcare systems

This principle was combined with a similar principle, (*Principle 2 Integration of a fragmented healthcare system*) for the purposes of this review.

Principle 9: Coordinated system

This principle relates to having an assigned coordinator to oversee all aspects of the intervention[16]. This was evident in two studies: where navigators served as executive officers on a governing board[42] and were supervised by a social worker as well as having weekly team meetings[49].

Patient navigation: patient-centredness

Our third question for this review was, 'To what extent has patient-centredness been incorporated into the design, implementation and analysis of patient navigation programs?' We focused on the three factors upon which patient-centred care depends: informed and involved patient, receptive and responsive health professionals, and a coordinated, supportive health care environment[11]. Seventeen studies included at least one of the three factors. Table 3 indicates the number of studies and some examples of approaches to patient-centred care for each of the three factors. The columns of the table indicate whether patient-centredness was included in the design, implementation, or analysis phase of patient navigation programs.

Table 3 Examples of patient-centredness

Patient-centred care factor	Design phase examples	Implementation phase examples	Analysis phase examples	Total studies*
Patients informed and involved in their care	2 studies: user-friendly and culturally-sensitive health materials; bilingual, bicultural community members	17 studies: provided information to patient on difference between emergency and primary care; identified barriers to access and help to overcome barriers	0 studies	19
Receptive and responsive health professionals	3 studies: clinics added capacity for walk-in appointments, navigator visited clinics to provide information and establish working relationship	6 studies: after connection, navigator worked with provider to schedule other visits as per care plan; assisted with patient education and follow-up	2 studies: providers wanted to continue in program; information to providers more complete and accessible than previously	11
Coordinated, supportive health care environment	4 studies: Collaborative organisation linked emergency department with 18 clinics; each hospital adopted unique	1 study: emergency physicians encouraged to establish relationships with clinics	1 study: community mobilized around population health issues through increased local media attention	6

	provider arrangement and approach			

*Some studies included more than one instance of the patient-centred factor in more than one phase of the intervention

Of note, the Kangovi et al.[49] study had an explicit patient-centred focus. The intervention prioritised relationship building with patients through goal setting and development of action plans, liaising with inpatient staff to ensure the patient's goals were at the forefront, and giving the action plan to a provider the patient chose based on needs and preferences.

Similarly, in the three studies reporting the same randomized controlled trial, Griswold et al.[39-41] used a care navigator to connect patients with a history of psychiatric crisis to primary care. The navigator built relationships by meeting with patients routinely while admitted and also at primary care appointments, and maintaining regular contact via phone or in person. The navigator would take the patient to the appointment and reinforce any education provided. Patients were informed of low-cost clinics and further assistance was provided through coordinating follow-up and connecting patients to peer and social services. Provider resources included information to clinics on discharge diagnosis, medications and mental health treatment site referral.

Other studies included the three factors yet did not explicitly state patient-centredness as a driver.

DISCUSSION

Our scoping review identified 20 studies that used patient navigation to facilitate access, and connect vulnerable patients without regular primary care, to a primary care provider. All except three studies used a *person* to connect the patient to a provider; the remaining three used a navigation *process*. Most programs described components that could be included in a framework of patient navigation, and 17 of the 20 studies included factors inherent to patient-centred care in their design, implementation or analysis.

The level of detail in descriptions of the studies varied; this variation has been reported elsewhere[61]. In the studies included in this review, different terms were used for the same role: patient or care navigator, advocate, case manager, or community health worker, for example. This presents challenges in clearly characterizing navigators and understanding what they do. Similarly, while there is no generally accepted definition of patient navigation, there is a call for descriptions of the tasks navigators do and the networks of contacts they use to support their actions[61].Valaitis et al.[28] described the specific activities undertaken by patient navigators: facilitating access to health-related programs, promoting and facilitating continuity of care, identifying and removing barriers to care, and effective and efficient use of the health system. Our findings add to these activities: a key feature of patient navigation to facilitate access to primary care is a relationship-based approach, informing and involving patients in connecting them to care.

The studies in this scoping review included elements that seemed to match the components of Freeman's patient navigation framework. This indicates the framework may be generalizable to the tasks of connecting vulnerable people without a primary care provider to regular care. An evaluation of these principles used in 10 self-identified breast cancer navigation programs using observation of patient navigator activities found the programs were consistent with individual-level principles (for example eliminating barriers, patient-centred care, integration of care), however program-level principles (for example skill level, scope of practice, coordinated system) were not consistent across the programs. We did not examine this level of detail for our scoping review, however, can see a role for this type of observation-based study to further contribute to this field.[62] Generally, programs adhered to published criteria for patient-centred care[11]. Although not overtly stated as an aim, almost all studies incorporated at least one of the three patient-centred care factors: an informed and involved patient, receptive and responsive health professionals, and a coordinated, supportive health care environment. We found these mostly in the implementation of the programs, to a lesser degree in the design phase and mentioned in only three studies in the analysis.

While these results are encouraging, patient-centred care also requires a service model designed to fit the patient, their needs and preferences, not vice versa[63 64]. A patient-centred, strengths-based intervention to link adults who are newly-diagnosed as testing positive for HIV to a HIV primary care medical provider found that 111 out of 118 participants attended an appointment within three months of linkage[65]. This intervention was targeted at participants' level of individual need, emphasising personal and social connectedness, and promoting positive regard for the primary care encounter as well as the health care system as a whole. These findings reflect the three patient-centred care factors discussed in our scoping review, and support our assertion that a navigator, working with patients unattached to primary care, is patient-centred, with a focus on connections and relationships, has some merit.

This scoping review has several limitations. Although a scoping review is iterative and involves revisiting the research question and key terms during searches, our search strategy may have missed studies that reported on interventions not designed to connect people to primary care, but this connection may have been a secondary outcome of the intervention (for example, access to information on cancer screening may have prompted participants to link in with a primary care provider). Information in the title and abstracts of such studies may not have referred to primary care. This approach, however, allowed us to undertake a more targeted review. Similarly, while our search strategy sought to include all terms we determined could be synonymous with patient navigation, we may have missed studies where different names were used for the same function.

Studies where there was no indication patients attended a primary care appointment were not included in our review. While this strategy contributed to a more focused search, studies that reported the implementation of programs but not outcomes are missing. In addition, all of our included studies originated in the United States which we acknowledge would impact on generalizability. These limitations highlight the need for consistent documentation of processes to improve access to care and the outcomes measured.

We did not look for or report on the effectiveness of the interventions or programs in our included studies. While we are unable to report on the impact, we consider our approach to looking at descriptions and uses of patient navigation in this specific context of connection to primary care, with a focus on patient-centred care, is consistent with the current focus on patient-reported outcome measures and acknowledging the patient experience of care.

This paper contributes to the discussion of access to primary care by considering patient navigation to connect vulnerable populations to providers in three ways. Firstly, we aligned components of the patient navigation studies reviewed to an existing generic navigation framework. This framework appears to be appropriate for considering navigators facilitating access for people without a primary care provider to regular care. Secondly, a relational approach acts as the backdrop to connecting vulnerable people to care, based on principles of patient-centred care. Finally, in the absence of a consistent definition of patient navigation in facilitating access to primary care, we have added to an existing description of patient navigation activities, which will assist clinicians and researchers to design and implement similar programs.

Implications for practice

The studies included in the review used navigators in a range of settings, from emergency departments, inpatient wards, outpatient services, and in the community. While we did not report on the studies' effectiveness, we found that using patient navigation to improve access to primary care may have merit, particularly using a navigator (person) rather than a process, such as an electronic system. For providers and organisations wanting to link vulnerable people to primary care in a patient-centred way, navigators may assist in this process.

Future research

Analysis of cost effectiveness, while not a focus of this review, was nevertheless absent in the cited studies. As the concept of navigator continues to show promise, further research is required to

measure impact and give direction to settings interested in using this intervention. For example, the link between patient navigation principles and outcomes of interest require further exploration.

CONCLUSION

Patient navigators may be used across health care settings to improve access to care. Navigators are inherently patient-centred due to their relational approach and ability to connect people to primary care. Interventions to improve access to primary care require further study to determine their impact and cost-effectiveness.

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Competing interests

None declared.

Contributors

AP involved in writing protocol, searches, screening, extraction, drafting of results and writing of manuscripts. VL and TB involved in content expert input (methodology) and editing manuscripts. GR oversaw the project, assisted with screening, content expert input, drafting of results and editing of manuscripts.

Data sharing statement

Further details on studies included in this scoping review can be retrieved by contacting the corresponding author at annette.peart@monash.edu.

Figures

Figure 1: Flow of study selection.

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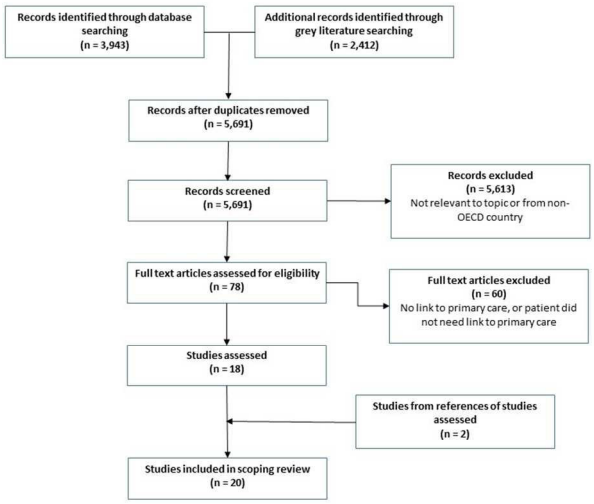

Figure 1. Flow of study selection.

108x60mm (300 x 300 DPI)

Supplementary File 1

Databases searched

MEDLINE/PubMed

Embase

CINAHL

AMED

PsycINFO

Cochrane Library

Scopus

Web of Science Core Collection

ProQuest Dissertations & Theses

CIRRIE

PLoS

ProQuest Central

Grey literature sources

Agency for Healthcare Research and Quality National Guideline Clearinghouse

http://www.guideline.gov

Australian Commission on Safety and Quality in Health Care http://www.safetyandquality.gov.au

Australian Government Department of Health http://www.health.gov.au

Australian Institute of Health and Welfare http://www.aihw.gov.au

British Library E-theses Online Service http://ethos.bl.uk/Home.do

Canadian Institute for Health Information https://www.cihi.ca/en

Canadian Institutes of Health Research http://www.cihr-irsc.gc.ca/e/193.html

Centers for Disease Control and Prevention Wonder database http://wonder.cdc.gov/welcome.html

Commonwealth Fund http://www.commonwealthfund.org/

European Observatory on Health Systems and Policies http://www.euro.who.int/en/about-us/partners/observatory

Health Improvement and Innovation Resource Center http://www.hiirc.org.nz

Health Issues Center http://www.healthissuescenter.org.au

Health Systems Evidence http://www.healthsystemsevidence.org/

Institute for Clinical Evaluative Sciences http://www.ices.on.ca/

Institute for Healthcare Improvement http://www.ihi.org/Pages/default.aspx

Kings Fund http://www.kingsfund.org.uk/

MacColl Center for Health Care Innovation http://maccollcenter.org/

National Collaborating Centers for Public Health http://www.nccph.ca/2/home.ccnsp

National Institute for Health and Care Excellence https://www.nice.org.uk/

National Institute for Health and Care Excellence Evidence Search http://www.evidence.nhs.uk

National Library of Australia Trove http://trove.nla.gov.au

National Quality Forum http://www.qualityforum.org/Home.aspx

Networked Digital Library of Theses and Dissertations http://ndltd.org

New Zealand Ministry of Health http://www.health.govt.nz

New Zealand Social Policy Evaluation and Research Unit http://www.superu.govt.nz

NHS Sustainable Improvement Team (formerly Improving Quality) http://www.nhsiq.nhs.uk/

Nuffield Trust http://www.nuffieldtrust.org.uk/

Open Grey http://opengrey.eu

Primary Health Care Research and Information Service http://www.phcris.org.au/researchevidence/

Public Health Agency of Canada http://www.phac-aspc.gc.ca/index-eng.php

Robert Wood Johnson Foundation http://www.rwjf.org/

The Change Foundation http://www.changefoundation.com/

The Health Foundation http://www.health.org.uk

The Henry J. Kaiser Family Foundation http://kff.org/

The National Academies of Sciences Engineering Medicine, Health and Medicine Division http://www.nationalacademies.org/hmd/

The New York Academy of Medicine Grey Literature Report http://www.greylit.org/

Theses Canada http://www.bac-lac.gc.ca/eng/services/theses/Pages/theses-canada.aspx

US National Library of Medicine Health Services Research Projects in Progress http://wwwcf.nlm.nih.gov/hsr_project/home_proj.cfm

World Health Organization Primary Health Care http://www.who.int/topics/primary_health_care/en/

Supplementary File 2: Boolean search strategy

Database name and provider: OVID Medline

Search conducted by the first author on 27 April 2016

Search #	Search term (titles and abstracts, years searched 2000 – April 2016)	Hits
1	Broker*	1010
2	Health broker*	7
3	Health service* broker	0
4	Community health worker*	2204
5	Community navigat*	18
6	Peer navigat*	27
7	Patient navigat*	463
8	Lay health work*	184
9	Link* to care	800
10	Navigat*	21928
11	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10	26012
12	Family practi*	8493
13	General practi*	33546
14	Primary care	79085
15	Primary health care	15589
16	Community health*	16307

17	12 or 13 or 14 or 15 or 16	139643
18	11 and 17	2742
19	Limit 18 to (abstracts and English language and humans and yr="2000 – Current"	2194

BMJ Open

Patient navigators facilitating access to primary care: A scoping review

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Title of the article

Patient navigators facilitating access to primary care: A scoping review

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Key words

Access to health care, Patient navigation, Patient-centred care, Primary care

Word count

3,224

Abstract

Objective

Patient navigators are a promising mechanism to link patients with primary care. While navigators have been used in population health promotion and prevention programs, their impact on access to primary care is not clear. The aim of this scoping review was to examine the use of patient navigators to facilitate access to primary care; how they were defined and described, their components, and the extent to which they were patient-centred.

Setting and Participants

We used the Arksey and O'Malley scoping review method. Searches were conducted in MEDLINE, Embase, ProQuest Medical, other key databases, and grey literature, for studies reported in English from January 2000 – April 2016. We defined a patient navigator as a person or process creating a connection or link between a person needing primary care and a primary care provider. Our target population was people without a regular source of, affiliation or connection with primary care. Studies were included if they reported on participants who were connected to primary care by patient navigation, and attended or made an appointment with a primary care provider. Data analysis involved descriptive numerical summaries and content analysis.

Results

Twenty studies were included in the final scoping review. Most studies referred to "patient navigator" or "navigation" as the mechanism of connection to primary care. As such, we grouped the components according to Freeman's nine-principle framework of patient navigation. Seventeen studies included elements of patient-centred care: informed and involved patient, receptive and responsive health professionals, and a coordinated, supportive health care environment.

Conclusions

Patient navigators may assist to connect people requiring primary care to appropriate providers and extend the concept of patient-centred care across different health care settings. Navigation requires further study to determine impact and cost-effectiveness, and explore the experience of patients and their families.

Article summary

Strengths and limitations of this study

- This is the first scoping review to explore how patient navigators are defined, described and used to facilitate access to primary care for people without an affiliation to a primary care provider.
- It is a comprehensive overview of sources covering peer-reviewed and grey literature.
- Sources were included only if the outcome of the navigation was reported; sources describing patient navigation without reporting of outcomes were excluded.
- The inclusion of a description of the patient-centredness of the sources is a unique addition to this review of patient navigators.

INTRODUCTION

Primary care is the first level of access to health care, delivered in the community most often by family physicians or general medical practitioners. However, not all people access primary care that best meets their health care needs, where and when they need it. Some people, such as those living in poverty, with a long-term disability, from a culturally and linguistically diverse background, or located in rural and remote areas, have difficulty accessing primary care services and resources[1-4].

Access to health care is the opportunity to reach and obtain appropriate health care in situations of perceived need[5]. Access to primary care is important to reduce health care disparities, mortality, morbidity, hospitalisation rates, and health care costs[6-9]. Recent reforms to primary care have focused on trialling new processes and models of care to improve access[10]. These include integrated care models, after-hours telephone consultations, walk-in centres and nurse-led initiatives. However, disparities in care remain for many, such as people having low literacy and numeracy, cognitive deficits, being a member of a marginalized group or not understanding the need for primary care[11].

A new approach to improve access to primary care is *patient navigation*, a process where a person (navigator) engages with a patient to determine barriers to care and provides information to improve access to components of the health system, not just primary care[12]. A patient navigator has been described as a type of 'broker', who uses a biopsychosocial approach to provide a range of instrumental and relational functions and processes[13 14] to not only support patients to access primary care but directly identify providers willing to treat vulnerable people requiring care[15]. Patient navigator tasks can include educating patients about early symptoms of cancer (in preventive care) or facilitating and coordinating appointments with providers to improve access to a regular primary care provider. Originating in the 1990s, Freeman developed patient navigation as a strategy to reduce barriers to breast cancer care in Harlem, New York[16]. Since then, patient navigators have been used for the screening of various cancers and through the cancer care continuum, with mixed success[17-27]. In primary care, navigators may have a role in improving access

and coordination of care, especially for vulnerable populations whose access to care may be compromised by a range of geographic, demographic, socioeconomic or cultural characteristics[28].

Patient-centred care is a core element of high-quality primary care, facilitates access to appropriate care[11], and has been identified as one of six areas of focus for improving health care systems[29]. In primary care, patient-centred care consists of interactions and relationships between providers and patients to share information, explore values and preferences, facilitate access to appropriate care, and address health care disparities[30 31]. While numerous frameworks of patient-centred care have been described[32], Epstein's[11] succinct model of patient-centred care comprising: an informed and involved patient, receptive and responsive health professionals, and a coordinated, supportive health care environment, sits well within the context of patient navigation and its extension beyond the patient-clinician relationship to the setting in which care is delivered.

While navigators have been used in population health promotion and prevention programs[33 34], there has been recent interest in their use in facilitating access to primary care for vulnerable people without a regular primary care provider[28]. Understanding the components of these programs can assist those interested in designing or implementing similar programs. Therefore, we performed a scoping review of the use of patient navigation to facilitate access to primary care. Given its importance and relevance to navigation, we included an additional focus on the extent to which identified patient navigation interventions were patient-centred.

METHODS

We chose the scoping review method to map the extent, range and nature of published research on the use of patient navigation to further understand how it links people to primary care[35]. When compared to systematic reviews, scoping reviews address broader topics and are less reliant on detailed research questions or quality assessments[35]. The work was structured around the five stages of the Arksey and O'Malley framework: (1) identify the research question, (2) identify relevant studies, (3) study selection, (4) chart the data, and (5) collate, summarize and report the

results. The review was also informed by Levac et al's.[36] refinements to Arksey and O'Malley's framework.

Stage 1: Identify the research question

Patient navigation has been defined as a "process, by which an individual, a patient navigator, guides patients in overcoming barriers to health care services access to facilitate timely access to care"[37]. We expanded this definition to include a patient navigator as a person or process creating a connection or link between a person needing primary care and a primary care provider.

Our target population was people without a regular source of or affiliation or connection with primary care. The outcome of interest was the person needing care attended an appointment or made contact with the referred primary care provider. These definitions helped us to clarify the focus of the review, confirm the inclusion criteria adopted and establish parameters for the search strategy[36]. This review did not focus on the impact or effectiveness of patient navigation programs in this context. We asked three questions to guide the scoping review:

1. How have patient navigators been defined and described in connecting people who are unattached to primary care to a primary care provider for regular care?
2. What are the components of these patient navigation programs?
3. To what extent has patient-centredness been incorporated into the design, implementation and analysis of patient navigation programs?

Stage 2: Identify relevant studies

We identified relevant studies through a search of electronic databases, grey literature, and reference lists of key articles sourced (Supplementary File 1).

A three-step search strategy was used. Firstly, we undertook an initial limited search of MEDLINE, Embase and CINAHL using terms and variants of "navigator", "broker", "link worker" and "community health worker". We analysed the text in the titles and abstracts of retrieved studies and

index terms used to refine key terms. The terms most common were related to *navigation, linkage,* and *access to care*. We completed a second search of the same databases and extended the search to include related medical and social science databases and grey literature using the key terms and variants (Table 1) identified by the initial search strategy (Supplementary File 2).

Table 1: Key search terms

Concept, program or intervention	Setting
Navigator/navigation	Community health
Patient navigator/navigation	Family practice/practitioner
Peer navigator/navigation	General practice/practitioner
Broker	Primary care
Health broker	Primary health care
Health services broker	
Community health worker	
Community navigator/navigation	
Lay health worker	
Linkage to care	

Finally, we checked the reference lists of all identified studies (and their citations) for additional studies.

Stage 3: Study selection

Inclusion criteria were applied as a basis for which studies were considered relevant to the review questions. Studies were included if they:

- Were published in English from January 2000-May 2016. The start date of 2000 reflects the increasing interest in patient-centred care in the last two decades. Reforms of primary care commenced around this time[29] along with the emergence of navigator-type approaches[38];
- Reported on patients who did not have a regular source of primary care (provider or practice);
- Connected patients to primary care by a process (for example, navigation) or a person (for example, navigator); and,

- Reported an outcome of patients attending or making at least one appointment with primary care providers.

We excluded studies if they originated in countries who were not members of the Organisation for Economic Cooperation and Development (OECD), as their primary care systems differ significantly from those of OECD countries. Other exclusion criteria were applied to studies where:

- Patients lived in residential care, or incarcerated with no imminent release date, as their primary care needs were assumed to be met by institutional providers;
- A navigator was attached to a primary care provider or practice as this indicated the patient was already connected to primary care; and,
- A navigator referred patients to health screening or assessment services only, and not to a primary care provider.

Author 1 reviewed titles and abstracts of studies, and Author 4 independently reviewed abstracts where there was uncertainty for inclusion.

Stage 4: Chart the data

Data extracted was entered into a template developed in Microsoft Excel specifically for this review. Information on authors, year of publication, study location and context, aims or purpose of the research, study type or design, population and sample size, methodology, conceptual model, intervention type and duration, measures used, and key findings were recorded on this form. We also extracted data relevant to the research questions: definitions and descriptions of navigators, components of navigator programs, and elements of patient-centred care. Charting the data was an iterative process[36] that we updated as studies revealed useful data categories. Studies were reviewed a number of times to ensure all relevant data was captured.

Stage 5: Collate, summarize and report the results

We collated the data using a Microsoft Excel spreadsheet. Excerpts of text were coded deductively by Author 1 to identify concepts and themes related to the research questions. Author 4 checked the coding scheme and the themes raised.

RESULTS

Our initial search terms generated 6,355 records from electronic databases and grey literature (Figure 1). We removed 664 duplicates, leaving 5,691 records to be screened. Of these, 5,613 records were excluded based on the title and/or abstract review, as they were not relevant to the question, did not meet inclusion criteria, or originated in non-OECD countries. Of the remaining 78 records, full-text review excluded 44 where participants were not linked to primary care and 16 where participants already had a primary care provider or did not indicate a need for primary care. We searched references and citations of the remaining 18 records, adding two additional studies. This resulted in 20 selected for inclusion in the scoping review. The selection process is shown in the flow chart (Figure 1).

Of the 20 included studies, three reported on the same randomized controlled trial at different phases[39-41]. These three studies were counted as unique studies as each reported on different elements of the same trial: preliminary findings, qualitative analysis of interviews, and longitudinal findings.

Eleven studies were descriptions or evaluations of programs, eight were intervention studies, and one was a retrospective study. Thirteen were programs based in emergency departments, six were community-based programs, and one was delivered in an inpatient setting. All studies were conducted in the United States. Table 2 outlines characteristics of the included studies.

Table 2 Characteristics of included studies

Author	Context	Study type	Population and sampling	Primary outcome	Description
Bishop[42]	Private, non-profit, community homeless shelter	Description of Charlottesville Health Access initiative to enhance access to care	Homeless and near-homeless people, without a health care provider, attending health fair at shelter or soup kitchen (no sample reported)	People connected to permanent health care provider	*Volunteer navigator* (student or community member) completed a training course, engaged person by building relationships, assessed needs, guided to providers, translated confusing information, coordinated follow-up, empowered people to understand health system and self-care.
Chan[43]	Emergency department in low-income, urban area served by 3 community clinics	Non-randomized, non-blinded interventional trial to improve primary care access for underserved patients	Patients with no primary care provider assessed by emergency physician to benefit from clinic	Patients follow-up at community clinic within 14 days	*Internet-based secure referral system* between emergency department medical record and clinic appointment systems. System accessed clinic availability and

			follow-up (n=326)		allowed emergency physicians to give patients follow-up appointments at clinics.
Doran[44]	Urban, public, safety-net hospital emergency department with primary care clinic in same building complex	Quasi-experimental trial to navigate willing patients from emergency department to clinic	Adults with no primary care provider, presenting with low-acuity problems, assigned to intervention or usual care based on where care expected to result in least delay (n=965)	Patients follow-up at primary care clinic within 1 year	*Trained patient navigator* escorted patients from emergency waiting room to clinic. Patients assigned physician who addressed current problems, established care plan and gave card with name and clinic telephone number.
Elliott[45]	Urban emergency department, serving high proportion of vulnerable	Retrospective study using full electronic medical record	Patients with no primary care provider, discharged and	Patient completed follow-up visit in transitional care	*Transitional care clinic* staff worked with patients to determine preferences and locate convenient,

	patients	abstraction, randomly sampled	referred to transitional care clinic (n=660)	clinic as scheduled	appropriate provider and made new appointment with chosen provider.
Gany[46]	Unused parking lot adjacent to JFK International Airport's taxi holding lot	Description of Step On It! workplace intervention to increase health care access	Convenience sample of taxi drivers waiting in airport holding lot (n=466)	Driver completed follow-up visit with linked provider within 6 months	Health care access and *case management* to link drivers to providers, including referrals to low-cost (or free) culturally-appropriate clinics or hospitals.
Griswold[39-41]	Urban Comprehensive Psychiatric Emergency Program (psychiatric assessment and management, targeted therapeutic approaches, links to community mental health services)	Randomized controlled trial comparing linkage with primary care with usual care after psychiatric emergency visit	Adults presenting with psychiatric disorder, with no primary care provider or, have not seen one within 6 months (n=101-175)	Patients connected to and visited primary care within 3 and 12 months	*Care navigator* trained in interviewing and case management provided information about low-cost care; facilitated access, reinforced patient education, information to providers about patient's history, follow-up, peer connections to access community and social

	as usual care				services.
Horwitz[47]	Level 1 urban trauma centre	Randomized study of intensive case management intervention to improve primary care use	Uninsured adults presenting to emergency department, excluding substance abuse or mental health issues only (n=230)	Patients visited one of four participating primary care clinics within 2 months	*Health Promotion Advocates* in emergency department assisted patients to choose provider, gave brochure, faxed information to case worker at selected clinic. Clinic case worker contacted patient to make appointment.
Kahn[48]	Medicaid managed care organisation for people with mental health and/or substance abuse diagnoses	Evaluation to assess effectiveness of case management in linking new members with primary care providers	New members with behavioural health diagnosis and no primary care provider completing mailed survey, referred to case management (n=368)	Member visited primary care provider within 12 months	*Telephone case managers* made at least 3 contact attempts to ensure linkage to provider.

Kangovi[49]	2 urban, academically-affiliated hospitals	2-armed, single-blind, randomized clinical trial to improve primary care follow-up post-discharge	Newly-admitted low-income, uninsured, or Medicaid adult inpatients randomly numbered, approached until 3 per day enrolled (n=446)	Patient completed follow-up visit with primary care provider within 14 days	*Community health workers* (trained lay people of similar backgrounds to patients, selected for personality traits patients identified as important) set goals, supported goal achievement, connected to provider.
Kim[50]	5 hospital emergency departments in an affluent area with large and poor immigrant population	Analysis of Emergency Department-Primary Care Connect initiative to link patients to 4 local primary care clinics	Merged data set (hospital discharge, clinic, navigator referral data) of low-income or uninsured patients with no primary care provider (n=10,761)	Patients completed 2 or more visits to same clinic across 33 month period	*Patient navigators* of various backgrounds (most unlicensed, selected for communication skills) based in clinics (3 sites) or hospitals (2 sites) spoke face-to-face or telephoned patients referred by emergency providers.
Marr[51]	Urban emergency	Evaluation of program	Patients with no	Patients	*Patient navigator* (advocate)

	department with high rates of potentially avoidable hospitalizations and lack of community-based care	to connect patients with community-based, primary care providers	primary care provider approached by navigator (n=7,185)	completed 3 or more visits to same clinic across 18 month period	recruited from community, trained in emergency department, visited patients waiting for medical care or before discharge, offered referral within 18-clinic system.
Overholser[52]	Specialist outpatient clinics of urban tertiary teaching hospital	Description of patient navigation program to overcome barriers to finding primary care	Adults with sickle cell disease with no primary care provider or not seen regularly by provider, referred by specialist physicians (n=21)	Patients attended initial visit with new primary care provider	*Patient navigators* of various backgrounds trained in navigation proactively sought local providers and established network through outreach, made appointments with patients, sent reminders, educated on importance of primary care.
Treadwell[53]	African-American community centre.	Evaluation of Save Our Sons group health education and	African American men at risk for or diagnosed with	Participants connected to medical home	6-week community-based, culturally-responsive, gender-specific health prevention program delivered by

		intervention model to reduce incidence of diabetes and obesity, improve regular access to care, and build community networks	diabetes and/or in poor health related to obesity and/or other health concerns; recruited at community event (n=42)		*community health workers*, trusted community members provided links between health system and community.
Wang[37]	Community health centre providing comprehensive services to ethnically diverse population with low incomes or uninsured	Evaluation of patient navigation program to optimize health care utilization	Patients with diabetes and/or hypertension not seen by provider in last 6 months (n=215)	Patient visited primary care provider and/or chronic disease nurse within 6 months	*Patient navigator* trained in chronic illness education, motivational interviewing, appointment scheduling. Telephoned patients, built rapport, educated patients, made appointment with provider, assessed need for specialist referrals, identified barriers to access, assisted to overcome barriers.

Wexler[54]	Emergency department within urban academic medical centre and affiliated primary care practices	Randomized controlled trial comparing health information technology intervention to improve access to primary care, with usual care	Medicaid enrollees who did not have usual source of care, emergency physician confirmed visit non-urgent, completed baseline survey, randomly assigned (n=148)	Patients attend primary care provider office after discharge at 3, 6 and 12 months	*Emergency department electronic medical record* to make appointment at clinic based on patient location and preference. Patient given appointment reminder card and directions to clinic. Electronic message to clinic with information about patient and appointment.
ED navigators connect patients to better venues of care[55]	Emergency departments of 8-hospital system	News article on use of emergency department navigators to re-direct patients with non-emergency issues to most appropriate care setting	Health plan members with non-urgent problems (no sample reported)	Patient scheduled to be seen by another provider	*Navigator* with customer service background assigned members to provider and made appointments.

Navigator reduces readmissions, inappropriate ED visits[56]	Urban emergency department	News article on community health outreach worker helping patients find a primary care provider	Patients with non-urgent problems who are uninsured and don't have a primary care provider, insured but don't have a provider, or have a provider but can't access him or her (n=1,500)	Self-pay patients find medical home; other patients identify primary care provider and set up follow-up appointment	*Community health outreach coordinator/navigator* of varying cultures representing patients served. Met patient in emergency department, coordinated appointments, and set patients up in medical homes.
ED navigators help patients find a PCP[57]	Urban emergency department	News article on a pilot project to reduce 30-day readmissions and number of self-pay patients who visit emergency department	Patients without insurance and primary care provider admitted to hospital through emergency department and or	Patients directed to primary care provider and set up in medical home	*Navigator* worked with patients to discuss discharge and help facilitate follow-up appointments.

	for non-emergent care	not admitted (no sample reported)

Patient navigators: Definition and descriptions

One study defined patient navigation as a "process, by which an individual, a Patient Navigator, guides patients in overcoming barriers to health care services access to facilitate timely access to care"[37]. The studies provided either a description of a navigator (person) or, for three of the studies, navigation process[43 45 54]. Descriptions varied in detail and often consisted of the type of person recruited as a navigator, the tasks they performed, and the training provided (Table 2).

Patient navigation program components

All of the studies outlined components of their programs; four provided detailed descriptions[39-41 49]. We grouped program components according to Freeman's consensus-based nine-principle framework of patient navigation, originally developed in response to the expansion of patient navigation as a community-based intervention[16 58 59]. These principles have been widely used in patient navigation programs. Each of these principles is outlined below with examples from the studies selected that included sufficient information to inform each principle in the framework.

Principle 1: Patient-centred health care service delivery model

Seventeen of the studies outlined aspects of patient-centred care. This will be discussed further in the section addressing research question three.

Principle 2: Integration of a fragmented healthcare system

This principle relates to a patient experiencing a seamless, timely flow through the continuum of care[16]. We grouped another principle (*Principle 8: Connect disconnected health care systems)* here with Principle 2, as the two are similar concepts and this has been done previously[60]. All studies in our scoping review reported on these principles grouped together. Two examples of integration in our scoping review were assisting patients to understand the entire health system[42], and linking the emergency department with a primary care provider, as well as to community dental, mental health, substance abuse and other social services[51].

Principle 3: Elimination of barriers

This principle is most effectively carried out through relationships with patients[16]. While removing barriers to accessing primary care appears implicit in a navigator program, not all studies provided detail of what the barriers were and how they were addressed. One exception of note is the *Step on It!* intervention at JFK International Airport, which focused on the barriers taxi drivers faced. This intervention went to the airport holding lot, assisted drivers to locate providers with flexible hours, culturally and linguistically appropriate models of care, and at low-cost[46]. Another study described a program that helped adults with sickle cell disease find primary care[52]. The barriers addressed included patients not understanding why they needed a primary care provider when they already had a specialist, low literacy, difficulty filling out forms and forgetting appointments. These navigators used motivational interviewing to identify further barriers and help patients set priorities beyond accessing primary care[52].

Principle 4: Clear scope of practice

Three studies provided detail about the role and responsibilities of the navigator[37 49 52]. The most detailed of these was a randomized clinical trial by Kangovi et al.[49], providing a website link (http://chw.upenn.edu) containing protocols for recruitment, training and standardized work practices for navigators, organisational directors and managers.

Kangovi et al.[49] created a community health worker model and tested its effect on post-hospital outcomes among general medical inpatients. This was based on qualitative participatory action research and had detailed protocols including standardized work practices in three stages: goal setting, goal support, and connection with primary care. A substantial component was to build relationships with patients to help set goals for recovery, develop an individualized action plan, and liaise between the patient and inpatient care team. The worker provided tailored support based on the patient goals. Patients were connected to primary care and coached to make and attend

appointments independently. Provider resources included a discharge summary and the patient's action plan taken to the appointment.

Principle 5: Cost-effective

None of the studies evaluated the cost-effectiveness of their program.

Principle 6: Defined level of skill

Nine studies provided information on the skill level required of the navigators[39 42 49-53 55]. This ranged from volunteers with in-house training, staff with customer service backgrounds, to college-accredited navigators. They were trained on topics such as navigation processes, disease-specific content such as diabetes education, or motivational interviewing. Similarly, seven studies presented strategies intentionally used to inform the development of resources to support the navigation intervention, including a needs assessment[42 56], software development[43], community-based participatory action research[46 49 53] and provider collaboration to develop and test navigation mechanisms[51].

Principle 7: Defined beginning and end

Eleven studies outlined definite points at which navigation began and ended[37 43-47 49 51 54 56 57]. Entry usually involved meeting a patient (in the emergency department or on a hospital ward, for example) to schedule an appointment. End points of the interventions included "patient has an appointment made" or "patient sees provider".

Principle 8: Connect disconnected healthcare systems

This principle was combined with a similar principle, (*Principle 2 Integration of a fragmented healthcare system*) for the purposes of this review.

Principle 9: Coordinated system

This principle relates to having an assigned coordinator to oversee all aspects of the intervention[16]. This was evident in two studies: where navigators served as executive officers on a governing board[42] and were supervised by a social worker as well as having weekly team meetings[49].

Patient navigation: patient-centredness

Our third question for this review was, 'To what extent has patient-centredness been incorporated into the design, implementation and analysis of patient navigation programs?' We focused on the three factors upon which patient-centred care depends: informed and involved patient, receptive and responsive health professionals, and a coordinated, supportive health care environment[11]. Seventeen studies included at least one of the three factors. Table 3 indicates the number of studies and some examples of approaches to patient-centred care for each of the three factors. The columns of the table indicate whether patient-centredness was included in the design, implementation, or analysis phase of patient navigation programs.

Table 3 Examples of patient-centredness

Patient-centred care factor	Design phase examples	Implementation phase examples	Analysis phase examples	Total studies*
Patients informed and involved in their care	2 studies: user-friendly and culturally-sensitive health materials; bilingual, bicultural community members	17 studies: provided information to patient on difference between emergency and primary care; identified barriers to access and help to overcome barriers	0 studies	19
Receptive and responsive health professionals	3 studies: clinics added capacity for walk-in appointments, navigator visited clinics to provide information and establish working relationship	6 studies: after connection, navigator worked with provider to schedule other visits as per care plan; assisted with patient education and follow-up	2 studies: providers wanted to continue in program; information to providers more complete and accessible than previously	11
Coordinated, supportive health care environment	4 studies: Collaborative organisation linked emergency department with 18 clinics; each hospital adopted unique	1 study: emergency physicians encouraged to establish relationships with clinics	1 study: community mobilized around population health issues through increased local media attention	6

	provider arrangement and approach			

*Some studies included more than one instance of the patient-centred factor in more than one phase of the intervention

The Kangovi et al.[49] study had an explicit patient-centred focus. The intervention prioritised relationship building with patients through goal setting and development of action plans, liaising with inpatient staff to ensure the patient's goals were at the forefront, and giving the action plan to a provider the patient chose based on needs and preferences.

Similarly, in the three studies reporting the same randomized controlled trial, Griswold et al.[39-41] used a care navigator to connect patients with a history of psychiatric crisis to primary care. The navigator built relationships by meeting with patients routinely while admitted and also at primary care appointments, and maintaining regular contact via phone or in person. The navigator would take the patient to the appointment and reinforce any education provided. Patients were informed of low-cost clinics and further assistance was provided through coordinating follow-up and connecting patients to peer and social services. Provider resources included information to clinics on discharge diagnosis, medications and mental health treatment site referral.

Other studies included the three factors yet did not explicitly state patient-centredness as a driver.

DISCUSSION

Our scoping review identified 20 studies that used patient navigation to facilitate access, and connect vulnerable patients without regular primary care, to a primary care provider. All except three studies used a *person* to connect the patient to a provider; the remaining three used a navigation *process*. Most programs described components that could be included in a framework of patient navigation, and 17 of the 20 studies included factors inherent to patient-centred care in their design, implementation or analysis.

The level of detail in descriptions of the studies varied; this variation has been reported elsewhere[61]. In the studies included in this review, different terms were used for the same role: patient or care navigator, advocate, case manager, or community health worker, for example. This presents challenges in clearly characterizing navigators and understanding what they do. Similarly, while there is no generally accepted definition of patient navigation, there is a call for descriptions of the tasks navigators do and the networks of contacts they use to support their actions[61].Valaitis et al.[28] described the specific activities undertaken by patient navigators: facilitating access to health-related programs, promoting and facilitating continuity of care, identifying and removing barriers to care, and effective and efficient use of the health system. Our findings add to these activities: a key feature of patient navigation to facilitate access to primary care is a relationship-based approach, informing and involving patients in connecting them to care.

The studies in this scoping review included elements that seemed to match the components of Freeman's patient navigation framework. This indicates the framework may be generalizable to the tasks of connecting vulnerable people without a primary care provider to regular care. An evaluation of these principles used in 10 self-identified breast cancer navigation programs using observation of patient navigator activities found the programs were consistent with individual-level principles (for example eliminating barriers, patient-centred care, integration of care), however program-level principles (for example skill level, scope of practice, coordinated system) were not consistent across the programs. We did not examine this level of detail for our scoping review, however, can see a role for this type of observation-based study to further contribute to this field.[62] Generally, programs adhered to published criteria for patient-centred care[11]. Although not overtly stated as an aim, almost all studies incorporated at least one of the three patient-centred care factors: an informed and involved patient, receptive and responsive health professionals, and a coordinated, supportive health care environment. We found these mostly in the implementation of the programs, to a lesser degree in the design phase and mentioned in only three studies in the analysis. Our assertion that a

navigator working with patients unattached to primary care is patient-centred, with a focus on connections and relationships, has some merit.

This scoping review has several limitations. Although a scoping review is iterative and involves revisiting the research question and key terms during searches, our search strategy may have missed studies that reported on interventions not designed to connect people to primary care, but where this connection may have been a secondary outcome of the intervention (for example, access to information on cancer screening may have prompted participants to link in with a primary care provider). Additionally, information in the title and abstracts of such studies may not have referred to primary care. This approach, however, allowed us to undertake a more targeted review. Similarly, while our search strategy sought to include all terms we determined could be synonymous with patient navigation, we may have missed studies where different names were used for the same function.

Studies where there was no indication patients attended a primary care appointment were not included in our review. While this strategy contributed to a more focused search, studies that reported the implementation of programs but not outcomes are missing. All of our included studies originated in the United States, which we acknowledge would impact on generalizability. These limitations highlight the need for consistent documentation of processes to improve access to care and the outcomes measured.

We did not look for or report on the effectiveness of the interventions or programs in our included studies. While we are unable to report on the impact, we consider our approach to looking at descriptions and uses of patient navigation in this specific context of connection to primary care, with a focus on patient-centred care, is consistent with the current focus on patient-reported outcome measures and acknowledging the patient experience of care.

This paper contributes to the discussion of access to primary care by considering patient navigation to connect vulnerable populations to providers in three ways. Firstly, we aligned components of the patient navigation studies reviewed to an existing generic navigation framework. This framework appears to be appropriate for considering navigators facilitating access for people without a primary care provider to regular care. Secondly, a relational approach acts as the backdrop to connecting vulnerable people to care, based on principles of patient-centred care. Finally, in the absence of a consistent definition of patient navigation in facilitating access to primary care, we have added to an existing description of patient navigation activities, which will assist clinicians and researchers to design and implement similar programs.

Implications for practice

The studies included in the review used navigators in a range of settings, from emergency departments, inpatient wards, outpatient services, and in the community. Most of these studies demonstrate established principles of patient navigation, and use a patient-centred approach, particularly when using a navigator (person) rather than a process, such as an electronic system. For providers and organisations wanting to link vulnerable people to primary care in a patient-centred way, navigators may assist in this process.

Future research

Analysis of cost effectiveness, while not a focus of this review, was nevertheless absent in the cited studies. As the concept of navigator continues to show promise, further research is required to measure impact and give direction to settings interested in using this intervention. For example, the link between patient navigation principles and outcomes of interest require further exploration.

CONCLUSION

Patient navigators may be used across health care settings to improve access to primary care. Navigators are inherently patient-centred due to their relational approach and ability to connect

people to primary care. Interventions to improve access to primary care require further study to determine their impact and cost-effectiveness.

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Competing interests

None declared.

Contributors

AP involved in writing protocol, searches, screening, extraction, drafting of results and writing of manuscripts. VL and TB involved in content expert input (methodology) and editing manuscripts. GR oversaw the project, assisted with screening, content expert input, drafting of results and editing of manuscripts.

Data sharing statement

Further details on studies included in this scoping review can be retrieved by contacting the corresponding author at annette.peart@monash.edu.

Figures

Figure 1: Flow of study selection.

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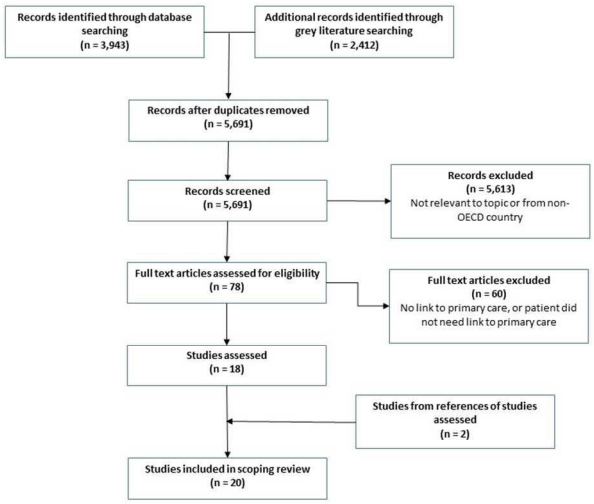

Figure 1. Flow of study selection.

108x60mm (300 x 300 DPI)

Supplementary File 1

Databases searched

MEDLINE/PubMed

Embase

CINAHL

AMED

PsycINFO

Cochrane Library

Scopus

Web of Science Core Collection

ProQuest Dissertations & Theses

CIRRIE

PLoS

ProQuest Central

Grey literature sources

Agency for Healthcare Research and Quality National Guideline Clearinghouse

http://www.guideline.gov

Australian Commission on Safety and Quality in Health Care http://www.safetyandquality.gov.au

Australian Government Department of Health http://www.health.gov.au

Australian Institute of Health and Welfare http://www.aihw.gov.au

British Library E-theses Online Service http://ethos.bl.uk/Home.do

Canadian Institute for Health Information https://www.cihi.ca/en

Canadian Institutes of Health Research http://www.cihr-irsc.gc.ca/e/193.html

Centers for Disease Control and Prevention Wonder database http://wonder.cdc.gov/welcome.html

Commonwealth Fund http://www.commonwealthfund.org/

European Observatory on Health Systems and Policies http://www.euro.who.int/en/about-us/partners/observatory

Health Improvement and Innovation Resource Center http://www.hiirc.org.nz

Health Issues Center http://www.healthissuescenter.org.au

Health Systems Evidence http://www.healthsystemsevidence.org/

Institute for Clinical Evaluative Sciences http://www.ices.on.ca/

Institute for Healthcare Improvement http://www.ihi.org/Pages/default.aspx

Kings Fund http://www.kingsfund.org.uk/

MacColl Center for Health Care Innovation http://maccollcenter.org/

National Collaborating Centers for Public Health http://www.nccph.ca/2/home.ccnsp

National Institute for Health and Care Excellence https://www.nice.org.uk/

National Institute for Health and Care Excellence Evidence Search http://www.evidence.nhs.uk

National Library of Australia Trove http://trove.nla.gov.au

National Quality Forum http://www.qualityforum.org/Home.aspx

Networked Digital Library of Theses and Dissertations http://ndltd.org

New Zealand Ministry of Health http://www.health.govt.nz

New Zealand Social Policy Evaluation and Research Unit http://www.superu.govt.nz

NHS Sustainable Improvement Team (formerly Improving Quality) http://www.nhsiq.nhs.uk/

Nuffield Trust http://www.nuffieldtrust.org.uk/

Open Grey http://opengrey.eu

Primary Health Care Research and Information Service http://www.phcris.org.au/researchevidence/

Public Health Agency of Canada http://www.phac-aspc.gc.ca/index-eng.php

Robert Wood Johnson Foundation http://www.rwjf.org/

The Change Foundation http://www.changefoundation.com/

The Health Foundation http://www.health.org.uk

The Henry J. Kaiser Family Foundation http://kff.org/

The National Academies of Sciences Engineering Medicine, Health and Medicine Division http://www.nationalacademies.org/hmd/

The New York Academy of Medicine Grey Literature Report http://www.greylit.org/

Theses Canada http://www.bac-lac.gc.ca/eng/services/theses/Pages/theses-canada.aspx

US National Library of Medicine Health Services Research Projects in Progress http://wwwcf.nlm.nih.gov/hsr_project/home_proj.cfm

World Health Organization Primary Health Care http://www.who.int/topics/primary_health_care/en/

Supplementary File 2: Boolean search strategy

Database name and provider: OVID Medline

Search conducted by the first author on 27 April 2016

Search #	Search term (titles and abstracts, years searched 2000 – April 2016)	Hits
1	Broker*	1010
2	Health broker*	7
3	Health service* broker	0
4	Community health worker*	2204
5	Community navigat*	18
6	Peer navigat*	27
7	Patient navigat*	463
8	Lay health work*	184
9	Link* to care	800
10	Navigat*	21928
11	1 or 2 or 3 or 4 or 5 or 6 or 7 or 8 or 9 or 10	26012
12	Family practi*	8493
13	General practi*	33546
14	Primary care	79085
15	Primary health care	15589
16	Community health*	16307

17	12 or 13 or 14 or 15 or 16	139643
18	11 and 17	2742
19	Limit 18 to (abstracts and English language and humans and yr="2000 – Current"	2194