Hospital-based patient navigation programmes for patients who experience injury-related trauma and their caregivers: a scoping review protocol

Shelley Doucet,1,2,3 Alison Luke,1,2,3 Grailing Anthonisen,1,2 Richelle Witherspoon,1,3,4 A Luke MacNeill,1,2 Lillian MacNeill,1,2 Katherine J Kelly,1,5 Taylor Fearon1,2

ABSTRACT

Introduction Patients who experience injury-related trauma tend to have complex care needs and often require support from many different care providers. Many patients experience gaps in care while in the hospital and during transitions in care. Providing access to integrated care can improve outcomes for these patients. Patient navigation is one approach to improving the integration of care and proactively supporting patients and their caregivers as they navigate the healthcare system. The objective of this scoping review is to map the literature on the characteristics and impact of hospital-based patient navigation programmes that support patients who experience injury-related trauma and their caregivers.

Methods and analysis This review will be conducted in accordance with Joanna Briggs Institute methodology for scoping reviews. The review will include primary research studies, unpublished studies and evaluation reports related to patient navigation programmes for injury-related trauma in hospital settings. The databases to be searched will include CINAHL (EBSCO), EMBASE (Elsevier), ProQuest Nursing & Allied Health, PsycINFO (EBSCO) and MEDLINE (Ovid). Two independent reviewers will screen articles for relevance against the inclusion criteria. Results will be presented in a Preferred Reporting Items for Systematic Reviews and Meta-analyses for Scoping Reviews (PRISMA-ScR) flow diagram and follow the PRISMA-ScR checklist. The extracted data will be presented both tabularly and narratively.

Ethics and dissemination Ethics approval is not required, as the scoping review will synthesise information from publicly available material. To disseminate the findings of this review, the authors will submit the results for publication in a medical or health sciences journal, present at relevant conferences and use other knowledge translation strategies to reach diverse stakeholders (eg, host webinars, share infographics).

BACKGROUND

Injury-related trauma refers to physical injuries that occur suddenly and with enough severity to require immediate medical attention.1 There are many mechanisms of injury-related trauma, such as blunt force, penetrative force and burning. This can result in wounds, broken bones and internal organ damage, among other injuries. Three of the five most common causes of death among individuals between the ages of 5 and 29 are from injury-related trauma.2

Patients who experience injury-related trauma often have complex care needs and frequently require extensive support from multiple care providers during their hospital stay and recovery.3 Many of these patients experience gaps in care while in the hospital and when they are transferred elsewhere, whether to their home, to a rehabilitation facility or to another hospital.4–6 Other issues involving this population that have been identified in the literature include disrupted communication and information flow between services7; a lack of support for parents during paediatric trauma cases8;
patients not being completely informed about their treatment options; and patients being excluded from the decision making around their own course of treatment, which often include several phases.

Individuals and their caregivers with access to integrated care tend to experience improved outcomes. Integrated care involves a comprehensive delivery of services, which are designed to meet both the specific needs of the individual and the general needs of the population. Evidence shows that the benefits of integrated care include reduced hospital admissions, improved treatment guideline adherence and improved quality of life. Patient navigation is a relatively new approach to integrated care that supports patients and families in overcoming gaps and barriers to care by providing patient-centred care designed to meet the individual needs of patients, their families and communities. It helps patients to access the necessary resources and services to support their needs whether in hospital, during transitions in care or managing their condition at home. Patient navigation supports integrated care at multiple levels through a variety of means. This includes creating and coordinating a patient’s care plan across multiple providers at a micro-level, as well as supporting capacity building with care providers at the meso-level. At the macro-level, patient navigation can help ensure integrated care by identifying the needs and adapting services accordingly for an entire patient population.

While its origins are in cancer care, patient navigation has been utilised to support the care of a variety of conditions, such as diabetes, kidney disease, mental health and HIV. It has also been adapted to a range of settings, including community settings and primary care clinics. Patient navigation programmes improve the integration of care and proactively support patients and their caregivers as they navigate the healthcare system. For instance, research shows that patient navigation can reduce stress and improve overall experience with the healthcare system; increase engagement with mental health services; improve clinical care; and reduce hospital readmissions. Patient navigation can also benefit patients who experience injury-related trauma, their families and the care team by offering an integrative, collaborative approach to care and providing consistent and reliable support. As this population faces increased risk of unplanned readmissions, the support provided through navigation programmes can help reduce these readmissions. Patients who experience injury-related trauma frequently require care from multiple types of healthcare providers, and patient navigation can facilitate coordination between those care providers. It can also reduce barriers for patients both while accessing multiple care providers across the care system, as well as the gaps in care that frequently occur during transitions by coordinating and integrating care and advocating to fill those gaps at a systems level.

Recently, there has been an increased interest in patient navigation programmes across various health-related contexts and settings. As such, it will be useful to explore patient navigation programmes for patients who experience injury-related trauma and their caregivers in the hospital setting. The purpose of this scoping review is to map literature on the characteristics and impact of hospital-based patient navigation programmes in this area. Because patient navigation is a service delivery approach that is just emerging in this area of practice, a scoping review will be beneficial to understanding the range of hospital-based navigation programmes for patients who experience injury-related trauma, their families and care team members. Specifically, this review will inform the development of a pilot programme of patient navigation for trauma patients in New Brunswick, Canada.

METHODS AND ANALYSIS
Scoping reviews are used to summarise the available knowledge on a particular topic, and provide a structured and rigorous methodology for examining broad and exploratory research questions. A preliminary search of PubMed, PROSPERO and JBI Database of Systematic Reviews and Implementation Reports confirmed that there are no current or ongoing reviews on this topic.

The proposed scoping review will be conducted in accordance with the Joanna Briggs Institute (JBI) methodology for scoping reviews. The scoping review will also follow the Preferred Reporting Items for Systematic Reviews and Meta-analyses extension for Scoping Reviews (PRISMA-ScR) checklist, which will ensure the review is transparently reported and useful to its users. Our study began in June 2021 and the planned end date is June 2022.

Eligibility criteria
Participants
This scoping review will focus on hospital-based patient navigation programmes for patients who experience injury-related trauma and/or their caregivers. Patients who experience injury-related trauma include individuals who experience physical injuries that occur suddenly and with enough severity to require immediate medical attention. The review is not specific to any injury-related trauma, condition, sex, age, ethnicity or other demographic variable. While the treatments for and the needs of patients who experience injury-related trauma vary according to the nature of their injuries, in accordance with the objective of a scoping review, this review seeks to identify what literature exists on patient navigation programmes across the spectrum of traumatic physical injury. Because we anticipate there to be a small number of articles, we do not want to limit the scoping review to...
any one specific type of traumatic injury. Articles that address a variety of patient navigation programmes, including injury-related programmes, will be included if the characteristics of the injury-related trauma navigation programmes are reported separately; if the characteristics are not reported separately, the articles will be excluded.

A caregiver refers to an unpaid individual (usually a spouse, family member or friend) who provides most of the informal care or support of patients who experience injury-related trauma. Excluded from this review are articles that address patients who experience non-injury-related trauma (eg, emotional trauma).

Concept

The main concept is characteristics of patient navigation programmes. Included articles must contain a discussion on the characteristics of the patient navigation programme. Patient navigation will be defined as a partnership between a patient, a caregiver or member(s) of the care team and a patient navigator (including professional, lay or peer navigators) who facilitates timely access to health and/or community services and resources and fosters self-management and autonomy through education and emotional support. We will define programmes as interventions or services intended to improve the navigation of services and resources for patients who experience physical trauma and their caregivers. To ensure consistency, programmes will be included if they align with this definition. For example, studies where the navigator’s main role is to deliver clinical care (e.g., triage) will be excluded. Patient navigation programmes that include various titles for the role of the patient navigator, such as nurse navigator, care navigator, peer navigator and lay navigator, will be considered. This review will exclude programmes provided by case managers. There is some overlap between the roles of patient navigators and case managers, such as care coordination. However, navigators typically provide informational and emotional support, while case managers can provide clinical care. Patient navigators help individuals navigate through existing services and can advocate for missing services, whereas case managers fill this need by providing clinical care and acting as a care provider.

Impact, the secondary concept of this review, is the extent to which an intervention was effective in terms of its intended and unintended health and social outcomes. The American Centers for Disease Control and Prevention defines the evaluation of a programme’s impact as the assessment of a programme’s effectiveness to achieve its goals (Centers for Disease Control and Prevention p1). This review will consider articles that employ various evaluation methods, such as case control studies; analysis of chart data or administrative data; and qualitative studies. It will include negative and positive impacts. Note, however, that articles do not need to report on impact to be included. Articles can be included if they describe the main concept, which is the characteristics of injury-related trauma navigation programmes.

Context

This review will consider articles where the patient navigation programme is delivered in a hospital setting. While we will include hospital-based patient navigation programmes that offer services to support patients who experience injury-related trauma and/or their caregivers in the community (eg., with the transition from hospital to home), programmes delivered solely within the community will be excluded. Programmes that support patients during their transitions must begin in hospital prior to discharge to be included. There will be no geographical limit to this study as the intent is to explore the characteristics and impact of patient navigation within hospital settings across all locations.

The five steps for JBI scoping reviews

JBI recommends the five following steps when conducting a scoping review: (1) identifying the research question; (2) identifying relevant studies; (3) study selection; (4) charting the data and (5) collating, summarising and reporting the results.

Step 1: identifying the research questions

The research questions for this scoping review are:

1. What are the characteristics reported in the literature of hospital-based patient navigation programmes to support patients who experience injury-related trauma and their caregivers?
2. What is the existing evidence in the literature on the impact of hospital-based patient navigation programmes for patients who experience injury-related trauma and their caregivers?

Step 2: identifying relevant studies

This scoping review will consider all qualitative, quantitative and mixed-method studies for inclusion, except for systematic, scoping and literature reviews. The reference lists of relevant reviews, as well as articles included in the review, will be hand-searched for additional articles. Other literature, such as unpublished studies and/or evaluation reports, will also be considered for inclusion. Only full texts of articles will be considered for review. The review will be limited to literature published in or after 1990 because that is the year patient navigation was conceptualised. Due to the linguistic capabilities of those conducting this review, only articles in English or French will be considered for inclusion.

A JBI-trained librarian (RW) conducted an initial search of the CINAHL database to identify articles on this topic. The librarian formulated a search strategy drawing from the words contained in the titles, abstracts and subject descriptors of these articles. Additionally, the search strategy drew from a number of knowledge syntheses on related topics, as well as the search strategy reported in Doucet et al (2022). Once the search terms were identified, they were tested in CINAHL in a variety of combinations and using a variety of search fields until it was determined that the search results both completely
reflected the scope of the research available on this topic and avoided unnecessary noise from irrelevant results. The search strategy is designed to capture the varied terminology that describes the role of patient navigator, such as care coordinator and pivot nurse. The terms used in the search are based on a thorough assessment of the terms most common to the research area. Based on this review of the terminology, it is likely that the terms used captured a significant portion of the literature on the topic. No limits were applied to the search.

Next, the search was adapted and implemented across five databases, which are (1) CINAHL with Full-Text (EBSCOhost); (2) Embase (Elsevier); (3) ProQuest Nursing & Allied Health (ProQuest); (4) PsycINFO (EBSCOhost) and (5) MEDLINE(R) and Epub Ahead of Print, In-Process, In-Data-Review & Other Non-Indexed Citations, Daily and Versions(R) 1946 to Present (Ovid). Backwards and forwards citation searches will be performed to identify additional studies. We will do so by searching the reference lists of included studies and using Scopus (Elsevier) to identify and screen studies citing these references. An example of the search strategy applied to MEDLINE is noted in Table 1.

The unpublished literature search will use ProQuest Dissertations and Theses; Google and Google Scholar; and targeted searching of relevant websites, such as websites for known patient navigation or trauma-related organisations and programmes. We will use the following keywords in our search: patient navigation, injury related trauma patients, hospital-based care and inpatient. Sources will be screened in Google and Google Scholar according to titles until the point of saturation (ie, after two pages are passed without opening a link). We will include a full list of the grey literature databases and corresponding keyword searches in the final report.

### Step 3: study selection

Articles identified by the keyword searches and hand searches of reference lists will undergo a careful selection process. All potentially relevant articles will be collated

| Search | Results |
|--------|---------|
| 1 “navigator*”.ab,ti. | 3555 |
| 2 “pivot nurs* *.ab,ti. | 15 |
| 3 “care coordinator* *.ab,ti. | 767 |
| 4 (navigat* adj1 (patient* or communit* or famil* or nurse* or health or system or care or service* or program* or intervention* or support* or assist*)).ab,ti. | 7818 |
| 5 Patient Navigation/ | 837 |
| 6 1 or 2 or 3 or 4 or 5 | 11131 |
| 7 “contusion*”.ab,ti. | 11518 |
| 8 “abrasion*”.ab,ti. | 9387 |
| 9 “dislocat*”.ab,ti. | 54612 |
| 10 “rupture*”.ab,ti. | 131376 |
| 11 “sprain*”.ab,ti. | 5878 |
| 12 “auto amputation* ”.ab,ti. | 84 |
| 13 “autoamputation*”.ab,ti. | 216 |
| 14 “penetrat*”.ab,ti. | 138985 |
| 15 “wound*”.ab,ti. | 213013 |
| 16 “injur*”.ab,ti. | 848155 |
| 17 “accident*”.ab,ti. | 117725 |
| 18 “fracture*”.ab,ti. | 269312 |
| 19 (physical adj1 trauma).ab,ti. | 1094 |
| 20 (damage adj1 (organ* or physical)).ab,ti. | 14406 |
| 21 (bone adj2 (broke or broken or break*)).ab,ti. | 730 |
| 22 “lacerat*”.ab,ti. | 13255 |
| 23 “burn*”.ab,ti. | 105755 |
| 24 exp “Wounds and Injuries”/ | 933086 |
| 25 7 or 8 or 9 or 10 or 11 or 12 or 13 or 14 or 15 or 16 or 17 or 18 or 19 or 20 or 21 or 22 or 23 or 24 | 2072486 |
| 26 6 and 25 | 1081 |
and uploaded to Zotero V.5.0 software (Zotero, Fairfax, USA) and duplicates will be removed. The remaining records will then be uploaded to Covidence (Covidence, Melbourne, Australia) and any missed duplicates will be removed. Next, two independent reviewers will screen the titles and abstracts against the inclusion criteria (see Table 2). Reviewers will meet to discuss any discrepancies and a third independent reviewer will be available to resolve any outstanding conflicts.

Once titles and abstracts have been screened, two independent reviewers will screen the full text of the relevant articles against the inclusion criteria. Any conflicts will be resolved either through discussion or by a third independent reviewer. The reviewers will record the reasons for excluding the full texts of articles that do not meet the inclusion criteria.

**Step 4: charting the data**

Two reviewers will independently extract data from the articles using a data extraction tool, which was developed by the research team using Microsoft Excel (see Table 3). Any disagreements between the reviewers will be resolved through discussion or consultation with a third reviewer. The data extraction tool was piloted by the research team to ensure comprehensiveness. Extracted data will include specific information about the population, concept, context and key findings related to the scoping review’s objective. We will modify the data extraction tool if necessary during the course of the review. Modifications will be detailed in the scoping review. Where required, authors of papers will be contacted to request missing or additional data.

**Step 5: collating, summarising and reporting the results**

The results of the search will be reported in full in the final scoping review and presented in a PRISMA-ScR flow diagram.24 The extracted data will be presented in tabular format in a way that reflects the scoping review’s objective. It will include data such as author(s); publication year; type of source (e.g., published qualitative study, unpublished programme evaluation); programme description, including geographic location, setting, population/type of injury, severity of injury, navigator title and navigator background; and impact (where applicable), barriers (where applicable) and facilitators (where applicable). We will also present the results in narrative format, describing how the results relate to the objective of the scoping review.

**ETHICS AND DISSEMINATION**

Ethics approval is not required to conduct this study because the scoping review will synthesise information from publicly available material. To disseminate the findings of this review, the authors will submit the results for publication in a medical or health sciences journal, present at relevant conferences and use other knowledge translation strategies to reach relevant stakeholders (e.g., host webinars, share infographics).

**Author affiliations**

1Centre for Research in Integrated Care, University of New Brunswick, Saint John, New Brunswick, Canada
2Department of Nursing and Health Sciences, University of New Brunswick Saint John, Saint John, New Brunswick, Canada
3University of New Brunswick (UNB) Saint John Collaboration for Evidence-Informed Healthcare: A JBI Centre of Excellence, Saint John, New Brunswick, Canada
REFERENCES

1. National Institute of general medical sciences. National Institute of general medical sciences. Physical Trauma [Internet] 2020. [Epub ahead of print: Available from] https://wwwnigms.nih.gov/education/fact-sheets/Pages/physical-trauma.aspx

2. World Health Organization. Injuries and violence [Internet] 2021 https://www.who.int/news-room/fact-sheets/detail/injuries-and-violence

3. Perry A, Mallah MD, Cunningham KW, et al. Pathway to success: implementation of a multiprofessional acute trauma health care team decreased length of stay and cost in patients with neurological injury requiring tracheostomy. J Trauma Acute Care Surg 2020;88:176-9.

4. Braaf S, Ameratunga S, Nunn A, et al. Patient-identified information and communication needs in the context of major trauma. BMC Health Serv Res 2018;18:163.

5. Gotlib Conn L, Zwaanam A, DasSupta T, et al. Trauma patient discharge and care transition experiences: identifying opportunities for quality improvement in trauma centres. Injury 2018;49:97-103.

6. Rosario ER, Espinoza L, Kaplan S, et al. Patient navigation for traumatic brain injury promotes community re-integration and reduces re-hospitalizations. Brain Inj 2017;31:1340-7.

7. Catchpole KR, Gangi A, Blocker RC, et al. Flow disruptions in trauma care handoffs. J Surg Res 2013;184:586-91.

8. Wiseman T, Curtis K, Young A, et al. ‘It’s turned our world upside down’: Support needs of parents of critically injured children during Emergency Department admission - A qualitative inquiry. Australas Emerg Care 2018;21:137-42.

9. Miller AR, Condin CJ, McKellin WH, et al. Continuity of care for children with complex chronic health conditions: parents’ perspectives. BMC Health Serv Res 2009;9:242.

10. Martinez-González NA. Berchtold P. Ullman K, et al. Integrated care: programmes for adults with chronic conditions: a meta-review. Int J Qual Health Care 2014;26:561-70.

11. Doucet S, Luke A, Splane J, et al. Patient navigation as an approach to improve the integration of care: the case of NaviCare/SoinsNavi. Int J Integr Care 2019;19:7.

12. Freeman HP, Rodriguez RL. History and principles of patient navigation. Cancer 2011;117:3537-40.

13. Loskutova NY, Tsai AG, Fisher EB, et al. Patient navigators connecting patients to community resources to improve diabetes care outcomes. J Am Board Fam Med 2016;29:78-89.

14. Sullivan C, Leon JB, Sayre SS, et al. Impact of navigators on completion of steps in the kidney transplant process: a randomized, controlled trial. Clin J Am Soc Nephrol 2012;7:1639-45.

15. Bieling PJ, Madsen V, Zipurasky RB. A ‘navigator’ model in emerging mental illness? Early Interv Psychiatry 2013;7:451-7.

16. Koester KA, Morewitz M, Pearson C, et al. Patient navigation facilitates medical and social services engagement among HIV-infected individuals leaving jail and returning to the community. AIDS Patient Care STDs 2014;28:92-90.

17. Kelly KJ, Doucet S, Luke A. Exploring the roles, functions, and background of patient navigators and case managers: a scoping review. Int J Nurs Stud 2019;98:27-47.

18. Luke A, Luck KE, Doucet S. Experiences of caregivers as clients of a patient navigation program for children and youth with complex care needs: a qualitative descriptive study. Int J Integr Care 2020;20:327-41.

19. Diaz-Linhart Y, Silverstein M, Grote N, et al. Patient navigation for mothers with depression who have children in head start: a pilot study. Soc Work Public Health 2016;31:504-10.

20. Hsu LL, Green NS, Donnell Ivy E, et al. Community health workers as support for sickle cell care. Am J Prev Med 2016;51:S87-98.

21. Hall EC, Tyrell RL, Doyle KE, et al. Trauma transitional care coordination: a mature system at work. J Trauma Acute Care Surg 2018;84:711-7.

22. Valraits RK, Carter N, Lam A, et al. Implementation and maintenance of patient navigation programs linking primary care with community-based health and social services: a scoping literature review. BMC Health Serv Res 2017;17:116.

23. Hopkins J, Mumber MP. Patient navigation through the cancer care continuum: an overview. J Oncol Pract 2009;5:150-2.

24. Tricco AC, Lillie E, Zarin W, et al. PRISMA extension for scoping reviews (PRISMA-ScR): checklist and explanation. Ann Intern Med 2018;169:467-73.

25. Colquhoun HL, Levac D, O’Brien KK, et al. Scoping reviews: time for clarity in definition, methods, and reporting. J Clin Epidemiol 2014;67:1291-4.

26. Peters MDJ, Marnie C, Tricco AC, et al. Updated methodological guidance for the conduct of scoping reviews. JBI Evid Synth 2020;18:2119-26.

27. Page MJ, McKenzie JE, Bossuyt PM, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71.

28. Bastawrous M, Caregiver burden--a critical discussion. J Cancer Educ 2016;30:1005-9.

29. Hopkins J, Mumber MP. Patient navigation: a community centered approach to reducing cancer mortality. J Cancer Educ 2016;31:21-37.