



Emergency Nurses' Perceptions of Leadership Strategies and Intention to Leave: A scoping review of the literature

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Abstract

Background: Retention of registered nurses in emergency departments (EDs) is as a critical issue, further exacerbated by the COVID pandemic. Leaders influence work life and working environment, but it is unclear what strategies leaders use to address nurse staffing issues in the ED. The purpose of this scoping review is to understand if leadership strategies used in EDs have links to nursing retention and turnover.

Methodology: This scoping review was completed with a comprehensive search within Cumulative Index to Nursing and Allied Health Literature, EMCARE, and EMBASE. Two authors developed inclusion and exclusion criteria, did title and abstract screening, and full text screening using review software. The included studies had data extracted and analyzed to determine leadership strategies and relationships to intent to stay, retention, intent to leave, or turnover.

Results: Of the 553 records identified, nine met inclusion criteria. Leadership strategies identified in the studies included support from supervisor, engagement by the leader, organizational culture assessment, and a

cultural change toolkit. No leadership strategy directly influenced nurse intention to stay, retention, intention to leave or turnover.

Conclusion: Emergency nurse retention and the prevention of turnover is a multidimensional issue stemming from various factors that may not be controllable due to the nature of the setting. However, leaders can implement strategies and provide support to staff to enhance quality of work life and the work environment. More information is needed to understand how leaders can influence the current and future supply of emergency nurses to produce quality patient care, and nurse outcomes.

Introduction

The retention of registered nurses (RNs) in the workplace is a global health human resource issue, only further exacerbated by the COVID pandemic (Virkstis et al., 2022). In addition to a multitude of issues facing leaders in healthcare during this time, maintaining a stable nursing workforce is paramount. The pandemic has had an immense impact on front-line nurses' psychological well-being, quality of work life (An et al., 2020) and intention to leave critical care areas, including emergency departments (EDs) (Cornish et al., 2021).

EDs are a specialty area with consistently low registered nurse retention, and increasingly high turnover (Sawatzky & Enns, 2012). From 2011 to 2020 in Canada, nurses registered with the Canadian Emergency Nursing Certification (ENC_C) has decreased from 1,331 to 884 (Canadian Institute for Health Information [CIHI], 2021). Reasons for decrease in specialization are multifaceted and could include increased stress due to increased patient volume and nursing shortages. Additionally, the stressors that ED nurses are vulnerable to include exposure to traumatizing incidents, higher rates of violence, involvement in life-and-death decisions, as well as hectic and changing work conditions (patient-to-nurse ratios, unpredictability of patient status; Adriaenssens et al., 2011; Sawatzky & Enns, 2012).

Background

The World Health Organization (WHO; 2022) defines emergency care around the world, as the first point of contact with the healthcare delivery system for many patients. The American College of Emergency Physicians (ACEP; 2021) states the definition of emergency services as the provision of evaluation and treatment of any medical condition that may require immediate unscheduled medical care. Emergency nurses include the professional nursing services that work within the department or unit to assist in facilitation of this care for the patient. The scope of an emergency nurse includes a specialized body of knowledge and skills; however, is not limited to triaging and prioritization of patient care, stabilization and resuscitation, crisis interventions, disaster preparedness, patient education, and disease and injury prevention (National Emergency Nurses' Association [NENA], 2018).

Leadership within EDs provides additional structure for nursing services. There are varying definitions of leadership and in the context of nursing may be described as: "providing a vision or direction for the team, alongside the process of influencing the group's actions to a common goal or achievement" (Collins et al., 2019). *Leadership strategies* is a concept describing clear propositions for the accomplishments of leaders to ensure the key goals for organizations are met (Centre for Creative Leadership [CCL], 2022). Leadership strategies typically encompass different skills, characteristics and behaviours expected from the leaders, alongside certain capabilities that can draw out engagement of employees, and create a desired leadership culture (CCL, 2022). Examples of leadership behaviours that have been indicated to positively influence staff nurse retention are high visibility in the department, support of staff, and sharing leadership responsibilities; undertaking graduate education and leadership training (Kleinman, 2004). Different leadership styles which can assist in bringing these strategies and behaviours into fruition, are participatory management (Volk & Lucas, 1991), transformational leadership (Dunham-Taylor, 2000) and authentic leadership styles (Gardner et al., 2005).

Turnover is defined as the rate that an organization loses its employees, and job satisfaction is the most significant factor influencing this (Lavoie-Tremblay et al., 2019). Intention to leave is a nurse's own perception of their intention to leave the nursing profession and has direct relation to job satisfaction

(Lavoie-Tremblay et al., 2019). Retention is the cumulative effect of strategies that go into reducing turnover and intent to leave in the nursing profession, which keep nurses in their positions. In Canada, turnover is expensive and the potential cost of replacing a specialty nurse varies within each organization. Direct costs within the Canadian healthcare system (the hiring process) were estimated to be \$64 000 CAD over a decade ago (O'Brien-Pallas et al., 2010), while indirect costs (decreased group morale and loss of productivity) may raise the total much higher.

Interventions to increase emergency nurse retention have been examined and factors that impact this retention vary from the new graduate nurse to the seasoned clinical expert (Valdez, 2008). Many interventions are not within the individual nurse's control. Improvements to work environment and support from leaders can influence emergency nurse turnover costs, but there is no consensus on a specific strategy to move forward (Gorman, 2018). Some research links leadership style to nursing work conditions. For instance, multiple studies show positive effects of an authentic leadership strategy within the nursing profession (Lee et al., 2018; Maziero et al., 2020; Ribeiro do Valle et al., 2020; Yasinki, 2014). A review of studies in critical care suggests leaders who exhibit considerate, transformational, and exemplary leadership influence intent to stay and job satisfaction (Kiwanuka et al. 2021). Research supporting leadership as a key indicator for retention among nurses has raised awareness (Registered Nurses' Association of Ontario [RNAO], 2013), but there are current gaps in the literature as to what strategies may work best to prevent high turnover specifically in emergency departments.

Purpose and Objectives

The purpose of this scoping review is to examine the literature and synthesize the current state of international (English language) knowledge, specific to leadership strategies used in EDs for nurse retention. Our objective is to determine if there are any leadership strategies used by ED managers, and secondly if these management strategies impact: 1) nursing retention, 2) intent to stay, 3) intention to leave, or 4) turnover. The research questions include: 1) What are the specific leadership strategies used by ED managers for nurse retention? 2) Do any of these leadership strategies impact nurse retention, intent to stay, intention to leave or turnover? We chose to conduct a scoping review because it allows for summaries of various study designs useful for programs and policy (Colquhoun et al., 2014). As per scoping review methods there was no methodological evaluation of the quality of included studies, as our focus was not only on nurse retention/turnover outcomes, but to learn more about leadership strategies. On initial review of the literature, very few articles examining leadership strategies in ED were found. Further to this, no current or in-progress scoping or systematic reviews on this topic were identified.

Methods

Search strategy

Arksey and O'Malley's (2005) revised scoping review methodology by Levac et al., (2010) was used to guide this study in five stages: (1) identifying the research question; (2) identifying

studies of relevance; (3) study selection; (4) charting the data; and (5) collating, summarizing, and reporting the results. The search strategy for this review focused on three key concepts: emergency nursing, leadership, and retention/turnover. To be included in the review, papers needed to be published in English, primary research (any research study design type), be published at or after 2010 to focus on recent research and include all key concepts: emergency nurse retention in relation to leadership. With the assistance of an academic health sciences librarian, a comprehensive search was completed within Cumulative Index to Nursing and Allied Health Literature (CINAHL), EMCARE, EMBASE and MEDLINE in four different searches on November 26, 2021. The grey literature was also searched including ProQuest Dissertations & Theses, Theses Canada, Australasian Digital Thesis Program, Electronic Theses Online Service (EthOS), OpenGrey and a modified search of Google Scholar. Subject headings and keywords were used to find articles describing the retention of emergency nurses in relation to leadership. The initial search had no date, age or geographical limits set to increase the quantity of results (See Appendices A, B, & C for search strategy).

Identification of relevant studies

Criteria for inclusion in the review included: articles published in English, articles published between 2010 and November 2021, full text available, published, unpublished or descriptive paper using any research study design type (for example, experimental, quasi-experimental, randomized control trials, meta-analysis, literature reviews, case-study etc.) and must have included the following: nurses working in emergency departments, leadership or leadership strategies, and retention, intent to stay, intent to leave, or turnover. Exclusion criteria included any article published in a language other than English, published before 2010, articles including editorials, commentary, reviews, or book reviews, if the article did not describe a leadership strategy, did not provide information about retention, intent to stay, intent to leave or turnover, or if the results were ambiguous (with specific data on emergency nurses not available). No quality assessments were performed on selected articles as per scoping review methods. Following the search, all identified citations were uploaded into Covidence (Veritas Health Innovation, Melbourne, Australia), and all duplicates were removed.

Study selection

Title and abstract screening were completed by both authors utilizing Rayyan, the web and mobile app for systematic reviews (Ouzzani, 2016). Conflicts were resolved with discussion and consensus between both authors. Full text screening and data extraction were done using Covidence systematic review software (Veritas Health Innovation, 2021). The data extraction template was created by both authors and piloted on three studies to ensure validity. Test screening was completed, and discrepancies were resolved via virtual and email communications between the two authors. The remainder of the articles were assigned to each author respectively to screen and extract data with the template.

Charting the data

The data extracted included specific details about the population, concept, context, study methods, and key findings relevant to the review objective. The data extracted from the included articles was downloaded into an excel file, reviewed by each author, and then discussed together to identify leadership strategies.

Results

Search strategy results

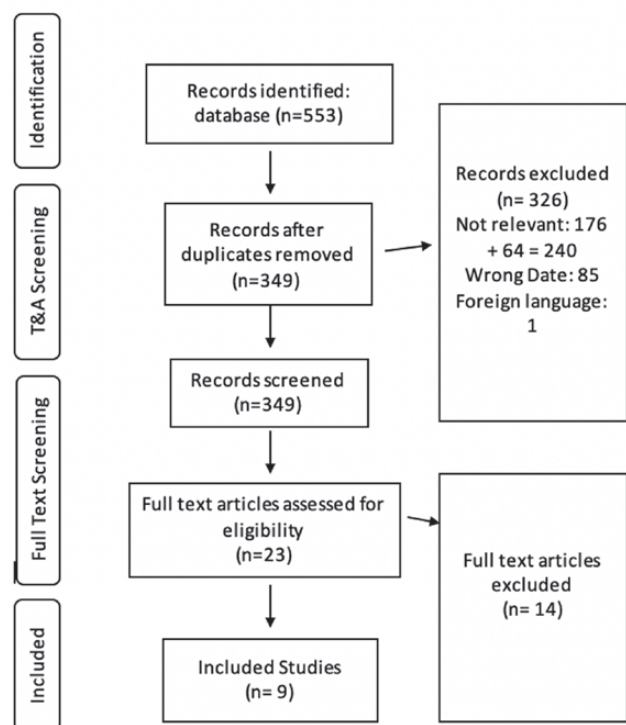
Results of screening and overall yield of papers are presented in the PRISMA flow chart in Figure 1. After duplicates were removed, 349 articles were screened by examining the titles and abstracts; 326 were irrelevant, out of date range, or not in English. Twenty-three full-text articles were assessed, and 14 articles were excluded because they did not address retention, intent to stay, intent to leave, or turnover outcomes in relation to leadership. Also, if we were unable to extract results specific to emergency nurses, or the ED setting, the article was excluded.

Numbers, sources, and types of papers

Of the nine papers included in the review, eight were quantitative. Four of the quantitative studies originated in Europe (Adriaenssens et al., 2011; Adriaenssens et al., 2015; Bruyneel et al., 2017; deWijn et al., 2021), three in North America (Adams et al., 2019; Baker, 2016; Sawatzky & Enns, 2012) and one in Asia (Yen-JuLin et al., 2012). There was one qualitative study from Western Canada (Van Osch et al., 2018).

Figure 1

PRISMA flow diagram



Overview of articles

In what follows, we describe studies in more detail. Our results are organized according to our study objectives. First, we describe reported leadership strategies, and then we describe their impact on intention to leave and turnover.

Leadership strategies in the ED

Most of the literature we found report on nurse's perceptions of leadership in cross-sectional studies. The strategies include social support, engagement, and organizational culture.

Social Support from Supervisor

The leadership strategy most reported was social support from supervisors. A group of four papers, three from Belgium (Adriaenssens et al., 2011; Adriaenssens et al., 2015; Bruyneel et al., 2017), and one from the Netherlands (deWijn et al., 2021), utilized the Leiden Quality of Work Questionnaire for Nurses [LQWQ-N] (Gelsema et al., 2007). The LQWQ-N instrument consists of subscales measuring job and organizational characteristics alongside outcome variables (job satisfaction and turnover intention). The dimension of social support is the only job characteristic item directly related to leadership. In the instrument this appears as "I feel appreciated by my supervisor".

Adriaenssens and colleagues (2011) aimed to compare emergency nurses to other nurses to determine if there was a difference in terms of job characteristics and organizational factors and to understand to what extent those predict job satisfaction, turnover intention, and work engagement in emergency nurses. The participants were 254 emergency nurses from 15 EDs. The authors report that turnover intention was not considered to have a statistically significant affect from social support from supervisor, a subset listed under job characteristics.

In another longitudinal study, Adriaenssens and colleagues (2015) attempted to understand to what extent changes in job characteristics and organizational factors predict distress outcomes (including job satisfaction, turnover intention, and work engagement). They used the LQWQ-N in a two-wave panel design with 18 months in-between the first and second assessment. 204 of 254 nurses were working in the same ED 18 months later, indicating a turnover rate of 19.7% over 18 months. No direct relationship found between the Job Demand Control Support variables used in the LQWQ-N tool and intention to leave. In this study, the sum score for 'support from supervisor' and 'support from colleagues' was used together as a global measure of support, unlike in the other studies where it was reported as a separate factor.

Bruyneel et al., (2017) then used the LQWQ-N tool to examine associations between structural factors, demographic characteristics, and the pathway of nurse wellbeing (including job satisfaction, burnout, and turnover intention). Quality of the work environment was measured with the Practice Environment Scale of the Nursing Work Index [PES-NWI] (Lake, 2002). The cross-sectional multi-centre survey included 294 nurses working in eleven emergency departments. Findings showed nurse management and leadership, along with social support from supervisor, had a statistically significant effect on job satisfaction, but not turnover intention. However, with moderated mediation

(conditional indirect effects model), the indirect effect of social support from supervisor and job satisfaction to turnover intention was then only present and significant for the female emergency nurses included in the study.

DeWijn et al., (2021) used the LQWQ-N tool to assess job satisfaction and turnover intention as part of a larger cross-sectional design, with survey responses from 701 emergency nurses. The aim was to determine stress-related outcomes and occupational well-being of emergency nurses in the Netherlands, and to identify demands and resources that best predict employee well-being. Overall, the emergency nurses scored higher on stress-related outcomes than the normative sample of a working population in general. Also, variables in the questionnaire such as staffing and social support from supervisor significantly added to small changes in work engagement, but to a much lesser extent than developmental opportunities did. The study found one third of the nurses plan to leave their job at the hospital within the next three years.

In summary, these four published studies utilized the same LQWQ-N tool and examined the turnover intention of over 1,400 emergency nurses in relation to social support from supervisor. No direct relationship and no statistical significance were found.

Engagement by Leader

In two papers, researchers explored the relationship between leadership engagement and intention to leave using survey designs (Baker, 2016; Sawatzky & Enns, 2012).

Baker (2016) explored factors that influence ED nurse retention and intention to leave. The study was grounded in the Bass Model of Transformational Leadership (Bass et al., 2003) and work engagement described by Schaufeli & Bakker (2004). A survey was developed consisting of transformational style questions from the Multifactor Leadership Questionnaire [MLQ] (Bass & Avolio, 1990), components of the Perceived Nursing Work Environment [PNWE] instrument (Choi et al., 2004) and the Turnover Intention Scale (Mobley et al., 1978). It was administered to a total of 100 Certified Emergency Nurses in the US. The MLQ consists of 20 questions related to inspiration, rational motivation, and personalized attention behaviour to determine leadership style. The components of the PNWE instrument were nursing management, professional practice, nurse/physician collaboration, staffing resources, and shift work. Results suggested no statistical significance between transformational leadership and turnover intention scores, and no statistical difference in nurse manager engagement strategies and turnover intention scores.

Sawatzky & Enns (2012) used a cross sectional study design to describe factors that predict emergency nurses' intention to leave. Using a questionnaire to explore working environment and professional quality of life, 261 nurses working in twelve adult emergency departments in Manitoba, Canada also reported on intention to leave. Over one quarter (26%) of respondents reported they would 'probably' or 'definitely' leave their ED job in the following year. Significant intermediary predictors to leave

current positions included lower engagement (with nursing management as an influencer for engagement).

Organizational Culture

Organizational Cultural Assessment

One paper written by Yen-Ju Lin et al., (2012) used a cross-sectional survey design to explore various cultural effects on work satisfaction and intent to leave for emergency physicians and nurses in Taiwan. 234 nurses and 208 physicians responded from 119 hospitals. An employee satisfaction questionnaire and the Organizational Culture Assessment Instrument [OCAI] were implemented. The OCAI is a tool used to measure four types of cultures in hospital based EDs (clan, adhocracy, hierarchy, and market) and they were examined to determine if there were relationships to nurses' intent to leave. The OCAI was modified by the authors and covered six dimensions including dominant characteristics, leadership, management of employees, organizational glue, strategic emphases, and criteria of success (Yen-Ju Lin et al., 2012). Nurses reported lower work satisfaction with leadership, ED management and hospital policies, than with the physicians, but no statistically significant difference in intent to leave was found between the two groups. Culture was not found to influence effects on intent to leave.

Use of a Cultural Change Toolkit

One paper reported on a program evaluation of leadership strategies to reduce burnout and nurse turnover by improving the perception of the practice environment (Adams et al., 2019). The authors developed and implemented a 'Cultural Change Toolkit' in a 41-bed community emergency department in Southeast Texas. The leadership interventions included shared decision making, meaningful recognition strategies, daily leadership rounding, department specific gratitude boards, thank you cards for staff and leaders, and staff feedback added to established daily emergency department huddles. The Anticipated Turnover Scale (Hinshaw & Atwood, 1982 as cited in Adams, 2019) and Oldenburg Burnout Inventory (Demerouti et al., 2002) were used to measure burnout and anticipated turnover

for the 30 ED nurse participants. Results included a reduction in mean rate of anticipated turnover; however, this reduction was not statistically significant. Table 1 provides information about the eight quantitative studies and their reported impact on intention to leave or turnover.

Nurses Description of Leadership

A qualitative study in Western Canada. (Van Osch et al., 2018), used an interpretive descriptive design to explore influential factors and strategies that may promote an experienced nurse's intent to stay in their emergency or critical care area. Ten emergency nurses were included in the study, as well as one nurse who worked both emergency and intensive care. Focus groups were used to collect information about factors that promote continuation of employment in the same department and any unit/ employer strategies that may have influenced retention in the department. Valued leadership traits discussed by participants included being accessible, being actively engaged in the unit, and demonstration of clear communication skills with clear expectations set. Many of the reasons participants stayed in their current positions were directly related to these traits of the leaders in the unit. Leaders in the study that influenced these findings included managers, educators, and charge nurses.

In summary, the included articles in this scoping review examined a variety of leadership strategies and the connection to emergency nurse intent to leave, and turnover. We found no consistent leadership strategy or activity influenced emergency nurses' intention to leave or turnover. All but one of the included articles' designs were quantitative in nature and were mainly observational. One article that focused on program implementation and evaluation (Adams et al., 2019) did see results including a reduction in anticipated turnover; however, this was a small study and results were not statistically significant.

Discussion

Emergency nurse retention and the prevention of turnover is a multidimensional issue stemming from various factors that may

Table 1

Impact of Leadership Strategies on Intention to Leave or Turnover

Leadership Strategy	Article	Reported Effect on Intention to Leave or Turnover Intention
Social Support from Supervisor	Adriaenssens et al., 2011	No significant effect
	Adriaenssens et al., 2015	No direct relationship
	Bruyneel et al., 2017	Indirect effect for female nurses
	deWijn et al., 2021	No significant effect
Engagement	Baker, 2016	No significant effect
	Sawatzky & Enns, 2012	Significant intermediary predictors of intention to leave current position included lower engagement (nursing management is an influencer for engagement)
Organizational Culture	Adams et al., 2019	No significant effect
	Yen-JuLin et al., 2012	No culture effects were found to be related to ED nurse intent to leave

be difficult to control due to the nature of the setting. However, leaders can attempt different approaches and provide support to staff to enhance quality of work life and the work environment. This scoping review examined the literature and summarized findings to understand if specific leadership strategies used in EDs have links to nursing retention, intent to stay, intention to leave, or turnover. Our findings provide results describing nurses' perception of leadership strategies and their intention to leave, but little is known about the impact of specific strategies.

Limitations

The literature specific to emergency nurses and leadership strategies was limited and consisted mainly of observational designs. The use of cross-sectional surveys, including established tools such as the LQWQ-N, provided more of a theoretical understanding of variables, but the description of the leadership component in these studies was inadequate. Poorly described interventions, such as appreciation or support by supervisor, provide little information about interventions and do not allow for replication of the study or meta-analysis of findings (Monsen, 2018). The item "I feel appreciated by my supervisor" is part of a subscale of organization characteristics in the LQWQ-N. Potential expansion on this variable or exploration of what the construct of supervisor appreciation means is important for future research and actual uptake in practice.

Implications for Future Research

There appears to be an opportunity for increased experimental, qualitative, and program implementation studies that examine leadership strategies for retention of emergency nurses. The articles providing the most practical and detailed information for use by leaders were a program evaluation of leadership strategies (Adams et al., 2019) and a qualitative study exploring emergency nurse retention (Van Osch et al., 2018). The strategies used in the program evaluation study were modest activities such as nurse recognition, thank you cards and provision of daily feedback to nurses. None of these strategies would prove difficult or expensive, but they do require the presence of the leader on the unit and engagement with staff daily. Being accessible and actively engaged on the unit were leader traits valued by Canadian emergency nurses when asked about intent to stay in the ED (Van Osch et al., 2018). Because of strained hospital budgets and flattening of organizational structures, engagement of, and accessibility to managers or directors is not a straightforward fix, however. Envisioning who the accessible and engaged ED nurse leaders are might be an important next step.

Canadian research was examined regarding emergency nurse retention or turnover and leadership strategies. Despite several Canadian nurse-led research programs focussing on leadership and outcomes (Boamah et al., 2018; Laschinger et al., 2009; Wong et al., 2013), we identified only two relevant studies since 2010 from Canada specific to emergency nurses and the emergency department setting. However, resources have been developed by Canadian nursing organizations for leaders to promote nurse retention. The RNAO endorses transformational leadership (RNAO, 2017) to ensure a supportive workplace and to make significant contributions to a strong workplace culture. The RNAO best practice guideline *Developing and Sustaining Nursing*

Leadership (2013), suggests that organizational and system level factors are important determinants of a nurse's healthy work environment. Key evidence-based strategies include building relationships and trust, creating an empowering work environment, being the organizational support, which values the nurses' critical role, creating a culture developed from their own personal resources (resilience, education, and expertise) and professional identity (RNAO, 2013). The Canadian Nurses Association (CNA) and the Canadian Federation of Nurses Unions (CFNU) have implemented an evidence-based tool kit recommending organizational factors and staff outcome indicators which rely on leadership support and engagement (CNA & CFNU, 2015). A pilot project Research to Action, initiated between the CNA and CFNU, was previously implemented across Canada including innovative responsive strategies to facilitate a healthy, positive work environment with leadership empowerment (Silas, 2012).

Implications for Practice

The role of unit charge nurses, specialized nurses, and Advanced Practice Nurses in supporting healthy work environments for nurses in emergency departments is worth exploring. In an Australian study exploring the role of the nurse practitioner (NP) in the ED, nurses reported the NP was empowering and served as a role model (Li et al., 2013). Clinical Nurse Specialist roles typically include leadership, education, and research components in addition to clinical practice (Kilpatrick et al., 2014) and their use in EDs for various patient populations has been reported (Leary & Baxter, 2014; Mullennix et al., 2020; Baldwin et al., 2014). The reported decrease in Canadian nurses maintaining emergency speciality certification through the CNA is concerning (CIHI, 2021). Nurse specialty certification has both organizational and patient care impacts and is shown to be associated with a reduction in turnover (Straka et al., 2014).

Support of nurse retention from a leadership perspective includes active promotion of healthy and safe work environments. Although suboptimal staffing levels lead to lower retention in the profession, a healthy work environment can assist in mitigating this. Lavoie-Tremblay et al. (2019) describe a healthy work environment as a complex idea, where leaders enable nurses to engage in work processes with provided structures, practices, and policies essential in promoting wellbeing of the profession. The American Association of Critical-Care Nurses (AACN; 2019) has presented six evidence-based standards to ensure a healthy work environment: skilled communication, true collaboration, effective decision making, appropriate staffing, meaningful recognition, and authentic leadership.

With no direct leadership strategies identified to improve emergency nurse retention and their intention to stay, leaders may need new tactics for workforce management. Canadian EDs are forecasted to see patient volume and acuity rise exponentially throughout the post pandemic era. Together with the increased work environment stressors that emergency nurses experience, continual turnover and heightened intention to leave will prove a glaring issue. It will be critical to begin exploring specific leadership strategies within the ED to mitigate nurse turnover.

Implications for emergency clinical practice

- The active promotion of health and safe work environments are one strategy that leaders in Emergency Departments can take to support nurse retention.
- All nurses including charge nurses, specialized nurses and Advanced Practice Nurses play a role in creating healthy, supportive work environments for the nursing team.
- Best practice guidelines developed by Canadian nursing organizations exist, and are one strategy for emergency departments seeking evidence to create and maintain leadership in emergency departments

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were here before us and recognize our responsibility, as guests, to respect and honour the intimate relationship Indigenous peoples have to this land. We seek a new relationship with the original peoples of this land, one based in honour and deep respect.

Conflicts of Interest

We, the authorship team declare that there are no conflicts of interest to declare related to this manuscript and this work is unfunded.

Contributions of the authorship team & CRedIT author statement

Samantha Horvath: Conceptualization, Methodology, Investigation, Validation, Formal analysis, Writing – Original Draft, Writing – Review & Editing, Visualization, Project administration.

Nancy Carter: Conceptualization, Methodology, Investigation, Validation, Formal analysis, Writing – Original Draft, Writing – Review & Editing, Visualization, Supervision, Project administration.

Samantha Horvath conceived the study and performed the search and data collection. Samantha Horvath & Nancy Carter performed the data screening, extraction, and analysis. Samantha Horvath & Nancy Carter drafted the manuscript and revised critically, reaching consensus on resubmission for publication.

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Appendix A

Search Strategy

Librarian: Laura Banfield

Library: Health Sciences Library, McMaster University

Database: Medline

Data range: 1981 to November 26, 2021

Results: 92

1. emergency nursing/
2. exp nurse/
3. nurs*.mp.
4. or/2-3
5. emergency ward/
6. ((emergency or trauma) adj2 (ward* or department* or room* or unit* or hospital services*)).mp.
7. emergency health service/
8. or/5-7
9. and/4,8
10. or/1,9
11. retention.mp.
12. attrition.mp.
13. turnover.mp.
14. or/11-13
15. leadership/
16. management style/ or hospital management/ or management/ or health care personnel management/ or hospital personnel management/ or personnel management/ or health care management/ or nursing management/
17. leader*.mp
18. administrative personnel/
19. nurse administrator/ or administrator*.mp.
20. management.mp.
21. or/15-20
22. and/10,14,21

Librarian: Laura Banfield

Library: Health Sciences Library, McMaster University

Database: Emcare

Data range: 1995 to November 26, 2021

Results: 94

1. emergency nursing/
2. exp nurse/
3. nurs*.mp.
4. or/2-3
5. emergency ward/
6. ((emergency or trauma) adj2 (ward* or department* or room* or unit* or hospital services*)).mp.
7. emergency health service/
8. or/5-7
9. and/4,8
10. or/1,9
11. retention.mp.
12. attrition.mp.
13. turnover.mp.
14. or/11-13
15. leadership/
16. management style/ or hospital management/ or management/ or health care personnel management/ or hospital personnel management/ or personnel management/ or health care management/ or nursing management/
17. leader*.mp
18. administrative personnel/
19. nurse administrator/ or administrator*.mp.
20. management.mp.
21. or/15-20
22. and/10,14,21

Librarian: Laura Banfield
Library: Health Sciences Library, McMaster University
Database: Embase
Data range: 1996 to November 26, 2021
Results: 203

1. emergency nursing/
2. exp nurse/
3. nurs*.mp.
4. or/2-3
5. emergency ward/
6. ((emergency or trauma) adj2 (ward* or department* or room* or unit* or hospital services*)).mp.
7. emergency health service/
8. or/5-7
9. and/4,8
10. or/1,9
11. retention.mp.
12. attrition.mp.
13. turnover.mp.
14. or/11-13
15. leadership/
16. management style/ or hospital management/ or management/ or health care personnel management/ or hospital personnel management/ or personnel management/ or health care management/ or nursing management/
17. leader*.mp
18. administrative personnel/
19. nurse administrator/ or administrator*.mp.
20. management.mp.
21. or/15-20
22. and/10,14,21

Librarian: Laura Banfield
Library: Health Sciences Library, McMaster University
Database: CINAHL
Data range: 1981 to November 26, 2021
Results: 168

1. (MH "Emergency Nurse Practitioners") OR (MH "Emergency Nursing")
2. (MH "Nurses+")
3. "nurs*"
4. S2 OR S3
5. (MH "Emergency Service")
6. ((emergency or trauma) N2 (ward* or department* or room* or unit* or hospital services*))
7. S5 OR S6
8. S4 AND S7
9. S1 OR S8
10. (MH "Personnel Retention") OR "retention"
11. "attrition"
12. (MH "Personnel Turnover") OR "turnover"
13. S10 OR S11 OR S12
14. (MH "Leadership") OR (MH "Management Styles") OR (MH "Nursing Management") OR (MH "Nurse Managers")
15. Leader or management or administrator*
16. S14 OR S15
17. S9 AND S13 AND S16

Appendix B

MeSH headings

Ex: CINAHL

"Emergency Nursing" "Nurses+" "Emergency Service" "Personnel Turnover" or turnover
"Personnel Retention" or retention "Leadership" or management styles or nursing management
or nurse managers

Appendix C
PRISMA Checklist

Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) Checklist

SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
TITLE			
Title	1	Identify the report as a scoping review.	1
ABSTRACT			
Structured summary	2	Provide a structured summary that includes (as applicable): background, objectives, eligibility criteria, sources of evidence, charting methods, results, and conclusions that relate to the review questions and objectives.	attached as abstract
INTRODUCTION			
Rationale	3	Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectives lend themselves to a scoping review approach.	4
Objectives	4	Provide an explicit statement of the questions and objectives being addressed with reference to their key elements (e.g., population or participants, concepts, and context) or other relevant key elements used to conceptualize the review questions and/or objectives.	2-5
METHODS			
Protocol and registration	5	Indicate whether a review protocol exists; state if and where it can be accessed (e.g., a Web address); and if available, provide registration information, including the registration number.	N/A
Eligibility criteria	6	Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.	5-6
Information sources*	7	Describe all information sources in the search (e.g., databases with dates of coverage and contact with authors to identify additional sources), as well as the date the most recent search was executed.	6
Search	8	Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.	appendix
Selection of sources of evidence†	9	State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.	6,7
Data charting process‡	10	Describe the methods of charting data from the included sources of evidence (e.g., calibrated forms or forms that have been tested by the team before their use, and whether data charting was done independently or in duplicate) and any processes for obtaining and confirming data from investigators.	7
Data items	11	List and define all variables for which data were sought and any assumptions and simplifications made.	6,7
Critical appraisal of individual sources of evidence§	12	If done, provide a rationale for conducting a critical appraisal of included sources of evidence; describe the methods used and how this information was used in any data synthesis (if appropriate).	7 reported as not assessed
Synthesis of results	13	Describe the methods of handling and summarizing the data that were charted.	7,8



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SECTION	ITEM	PRISMA-ScR CHECKLIST ITEM	REPORTED ON PAGE #
RESULTS			
Selection of sources of evidence	14	Give numbers of sources of evidence screened, assessed for eligibility, and included in the review, with reasons for exclusions at each stage, ideally using a flow diagram.	8
Characteristics of sources of evidence	15	For each source of evidence, present characteristics for which data were charted and provide the citations.	8-10
Critical appraisal within sources of evidence	16	If done, present data on critical appraisal of included sources of evidence (see item 12).	N/A
Results of individual sources of evidence	17	For each included source of evidence, present the relevant data that were charted that relate to the review questions and objectives.	10-15
Synthesis of results	18	Summarize and/or present the charting results as they relate to the review questions and objectives.	15
DISCUSSION			
Summary of evidence	19	Summarize the main results (including an overview of concepts, themes, and types of evidence available), link to the review questions and objectives, and consider the relevance to key groups.	15
Limitations	20	Discuss the limitations of the scoping review process.	16
Conclusions	21	Provide a general interpretation of the results with respect to the review questions and objectives, as well as potential implications and/or next steps.	
FUNDING			
Funding	22	Describe sources of funding for the included sources of evidence, as well as sources of funding for the scoping review. Describe the role of the funders of the scoping review.	19

JBI = Joanna Briggs Institute; PRISMA-ScR = Preferred Reporting Items for Systematic reviews and Meta-Analyses extension for Scoping Reviews.

* Where *sources of evidence* (see second footnote) are compiled from, such as bibliographic databases, social media platforms, and Web sites.

† A more inclusive/heterogeneous term used to account for the different types of evidence or data sources (e.g., quantitative and/or qualitative research, expert opinion, and policy documents) that may be eligible in a scoping review as opposed to only studies. This is not to be confused with *information sources* (see first footnote).

‡ The frameworks by Arksey and O'Malley (6) and Levac and colleagues (7) and the JBI guidance (4, 5) refer to the process of data extraction in a scoping review as data charting.

§ The process of systematically examining research evidence to assess its validity, results, and relevance before using it to inform a decision. This term is used for items 12 and 19 instead of "risk of bias" (which is more applicable to systematic reviews of interventions) to include and acknowledge the various sources of evidence that may be used in a scoping review (e.g., quantitative and/or qualitative research, expert opinion, and policy document).

From: Tricco AC, Lillie E, Zarin W, O'Brien KK, Colquhoun H, Levac D, et al. PRISMA Extension for Scoping Reviews (PRISMA-ScR): Checklist and Explanation. *Ann Intern Med.* 2018;169:467–473. doi: [10.7326/M18-0850](https://doi.org/10.7326/M18-0850).



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