Emergency nurses’ perceptions of leadership strategies and intention to leave: A scoping review of the literature

Samantha Horvath¹, RN, MSC, PhD Student & Nancy Carter¹, RN, PhD

¹ McMaster University, Hamilton, ON, horvas@mcmaster.ca
² McMaster University, Hamilton, ON, carternm@mcmaster.ca
Corresponding author: Samantha J. Horvath, 447 Rock Chapel Road, Dundas, ON, L9H 5E2; horvas@mcmaster.ca, 905-630-3990, Twitter @SamanthaH_RN
Accepted January 28, 2022
Revised as of April 14, 2022

Abstract

Background: The critical clinical issue arising from the emergency department is the increase in nursing vacancy rate. The issue is multifaceted, why nurses may lack the capability for an extensive career in emergency. A topic requiring urgent attention, as the specialty is at a crossroads with an evolution of increased volume of presentations, and amplified burden of disease. The problem selection has a specific goal in mind to shift current practice and to learn more about the role of the leader in relation to the issue.

Methods: This narrative review involved an electronic search of databases including PubMed, Cumulated Index to Nursing and Allied Health Literature and Google Scholar. Peer reviewed journals were accessed with the inclusion criteria: English language, full text, and published dates between 2008 and current. Search terms included “emergency nurse”, “leadership”, “emergency nurse retention”, “emergency new graduate nurses”, “systematic review for emergency nurse retention”.

Results: Current literature on the topic addresses the issue why emergency departments are continually having their nursing human resources depleted at a steady rate. One of the key factors that influence this is work environment (high levels of occupational stress, frustrations and horizontal violence causing toxic, high-pressure environments). Coupled with understaffing, poor nurse to patient ratios, low nurse morale can cause a vicious cycle of decreased staff satisfaction.

Discussion: Strategies to mitigate emergency nurse attrition rates require strong management and leadership. While investigating the relationship between authentic leadership and the nursing profession, the focus is on honesty, integrity, high ethical standards and positive role modelling. Visible leadership and educational initiatives upon recruitment are among these strategies which support retention and development of emergency room nurses. Further implications to the nursing profession if this issue continues unresolved, are emergency departments worldwide continuing to endure operations at an unsafe deficit of competent nursing staff.
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) has decreased from 1,331 to 884 (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 and 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 groups 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). An example 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; graduate education and leadership training; these have been shown to assimilate effective leadership behaviours (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; Yasinski, 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 appendix 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 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.

**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.

**Figure 1**

**PRISMA flow diagram**
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).

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., 2005) 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 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 1400 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 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 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 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 position 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

Table 1
Impact of leadership strategies on intention to leave or turnover

<table>
<thead>
<tr>
<th>Leadership Strategy</th>
<th>Article</th>
<th>Reported Effect on Intention to Leave or Turnover Intention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social Support from</td>
<td>Adriaenssens et al., 2011</td>
<td>No significant effect</td>
</tr>
<tr>
<td>Supervisor</td>
<td>Adriaenssens et al., 2015</td>
<td>No direct relationship</td>
</tr>
<tr>
<td></td>
<td>Bruyneel et al., 2017</td>
<td>Indirect effect for female nurses</td>
</tr>
<tr>
<td></td>
<td>deWijn et al., 2021</td>
<td>No significant effect</td>
</tr>
<tr>
<td>Engagement</td>
<td>Baker, 2016</td>
<td>No significant effect</td>
</tr>
<tr>
<td></td>
<td>Sawatzky &amp; Enns, 2012</td>
<td>Significant intermediary predictors of intention to leave current position included lower engagement (nursing management is an influencer for engagement)</td>
</tr>
<tr>
<td>Organizational Culture</td>
<td>Adams et al., 2019</td>
<td>No significant effect</td>
</tr>
<tr>
<td></td>
<td>Yen-JuLin et al., 2012</td>
<td>No culture effects were found to be related to ED nurse intent to leave</td>
</tr>
</tbody>
</table>
Emergency nurse retention and the prevention of turnover is a multidimensional issue stemming from various factors that may 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 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).
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 ED’s are forecasted to see patient volume and acuity rise exponentially throughout the post pandemic era. Together with the increased work environment stressors which 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

About the authors
Samantha Horvath is a PhD Student and Registered Nurse at McMaster University, Hamilton, ON. Her research interests focus on advanced practice nursing within emergency departments.

Nancy Carter is an Assistant Dean, Graduate Nursing Programs and Associate Professor in the School of Nursing at McMaster University. Her research focuses on the use of specialized and advanced practice nurse roles to increase access to care.

REFERENCES


Acknowledgements
We begin by giving honour and thanks to the Haudenosaunee and Anishinaabe peoples of this land, one based in honour and deep respect.

Conflicts of Interest
“I, corresponding author, hereby declare that we, the authorship team, have 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.

About the authors
Samantha Horvath is a PhD Student and Registered Nurse at McMaster University, Hamilton, ON. Her research interests focus on advanced practice nursing within emergency departments.

Nancy Carter is an Assistant Dean, Graduate Nursing Programs and Associate Professor in the School of Nursing at McMaster University. Her research focuses on the use of specialized and advanced practice nurse roles to increase access to care.


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
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**

<table>
<thead>
<tr>
<th>SECTION</th>
<th>ITEM</th>
<th>PRISMA-ScR CHECKLIST ITEM</th>
<th>REPORTED ON PAGE #</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TITLE</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Title</td>
<td>1</td>
<td>Identify the report as a scoping review.</td>
<td>1</td>
</tr>
<tr>
<td><strong>ABSTRACT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structured summary</td>
<td>2</td>
<td>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.</td>
<td>attached as abstract</td>
</tr>
<tr>
<td><strong>INTRODUCTION</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rationale</td>
<td>3</td>
<td>Describe the rationale for the review in the context of what is already known. Explain why the review questions/objectsives lend themselves to a scoping review approach.</td>
<td>4</td>
</tr>
<tr>
<td>Objectives</td>
<td>4</td>
<td>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.</td>
<td>2-5</td>
</tr>
<tr>
<td><strong>METHODS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protocol and registration</td>
<td>5</td>
<td>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.</td>
<td>N/A</td>
</tr>
<tr>
<td>Eligibility criteria</td>
<td>6</td>
<td>Specify characteristics of the sources of evidence used as eligibility criteria (e.g., years considered, language, and publication status), and provide a rationale.</td>
<td>5-6</td>
</tr>
<tr>
<td>Information sources*</td>
<td>7</td>
<td>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.</td>
<td>6</td>
</tr>
<tr>
<td>Search</td>
<td>8</td>
<td>Present the full electronic search strategy for at least 1 database, including any limits used, such that it could be repeated.</td>
<td>appendix</td>
</tr>
<tr>
<td>Selection of sources of evidence†</td>
<td>9</td>
<td>State the process for selecting sources of evidence (i.e., screening and eligibility) included in the scoping review.</td>
<td>6,7</td>
</tr>
<tr>
<td>Data charting process‡</td>
<td>10</td>
<td>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.</td>
<td>7</td>
</tr>
<tr>
<td>Data items</td>
<td>11</td>
<td>List and define all variables for which data were sought and any assumptions and simplifications made.</td>
<td>6,7</td>
</tr>
<tr>
<td>Critical appraisal of individual sources of evidence§</td>
<td>12</td>
<td>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).</td>
<td>7 reported as not assessed</td>
</tr>
<tr>
<td>Synthesis of results</td>
<td>13</td>
<td>Describe the methods of handling and summarizing the data that were charted.</td>
<td>7,8</td>
</tr>
</tbody>
</table>