

# BMJ Open What is known about nurse retention in peri-COVID-19 and post-COVID-19 work environments: protocol for a scoping review of factors, strategies and interventions

Laura Buckley <sup>1</sup>, Linda McGillis Hall <sup>1</sup>, Sheri Price <sup>2</sup>, Sanja Visekruna <sup>3</sup>, Candice McTavish<sup>1</sup>

**To cite:** Buckley L, McGillis Hall L, Price S, *et al.* What is known about nurse retention in peri-COVID-19 and post-COVID-19 work environments: protocol for a scoping review of factors, strategies and interventions. *BMJ Open* 2024;**14**:e087948. doi:10.1136/bmjopen-2024-087948

► Prepublication history and additional supplemental material for this paper are available online. To view these files, please visit the journal online (<https://doi.org/10.1136/bmjopen-2024-087948>).

Received 23 April 2024

Accepted 05 September 2024



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<sup>1</sup>Lawrence Bloomberg Faculty of Nursing, University of Toronto, Toronto, Ontario, Canada

<sup>2</sup>Faculty of Health Sciences, School of Nursing, Dalhousie University, Halifax, Nova Scotia, Canada

<sup>3</sup>Faculty of Health Sciences, School of Nursing, McMaster University, Hamilton, Ontario, Canada

## Correspondence to

Dr Laura Buckley;  
laura.buckley@mail.utoronto.ca

## ABSTRACT

**Introduction** The pandemic has highlighted a worsening of nurses' working conditions and a global nursing shortage. Little is known about the factors, strategies and interventions that improve nurse retention in the peri-COVID and post-COVID time period. An improved understanding of approaches implemented to support and retain nurses will provide a blueprint for sustaining the nursing workforce. The objectives of this scoping review are to investigate and describe the following: (a) factors associated with nurse retention; (b) strategies suggested to support nurse retention and (c) interventions trialled to support nurse retention, during and after the COVID-19 pandemic.

**Methods and analysis** Medline, Embase, CINAHL and Scopus will be searched. The included studies will be qualitative, quantitative, mixed methods and grey literature studies of nurses including factors, strategies and/or interventions to support nurse retention in the peri-COVID and post-COVID time period (2019 to present) that are in English or can be translated into English. The excluded studies will be those that focus on nurse managers, educators, students or those in advanced practice roles and studies where the population cannot be segmented to identify which data came from nurses. Systematic, scoping reviews and meta-syntheses will be excluded, but their reference lists will be hand-screened for suitable studies. Data will be evaluated for quality and synthesised qualitatively to map the current evidence available. The relevant studies will be reported using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews.

**Ethics and dissemination** Approval for the broader research study, including this scoping review, has been obtained from the university health sciences research board (protocol #00042510). All data for this scoping review will be collected from published literature, and findings will be published in a peer-reviewed journal and presented at relevant conferences.

**Trial registration number** The protocol was registered on Open Science Framework (4 April 2024) <https://doi.org/10.17605/OSF.IO/XWH45>.

## STRENGTHS AND LIMITATIONS OF THIS STUDY

- ⇒ This scoping review addresses multiple facets of nurse retention including factors associated with retention, suggested strategies employed to improve retention, and interventions trialled, offering a full-some understanding of the subject.
- ⇒ Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews guidelines will be employed to provide a structured and transparent approach to the review process, enhancing its reliability and reproducibility.
- ⇒ By searching multiple databases, the scoping review aims to capture a wide range of relevant literature, minimising the risk of missing key studies.
- ⇒ Studies with statistically significant results or positive outcomes related to nurse retention may be more likely to be published, potentially skewing the overall findings.
- ⇒ Given the short timeframe between the start of the pandemic and now, there may be limited studies for inclusion, particularly interventional studies.

## INTRODUCTION

Prepandemic, research identified high levels of burnout, exhaustion and workplace well-being concerns in nurses globally.<sup>1-4</sup> Nurse turnover has been a persistent issue over the previous decades.<sup>5-6</sup> Nurse turnover is not only costly but has detrimental impacts on both patients and the nurses themselves.<sup>5-9</sup>

The pandemic only worsened the global nursing shortage causing policy-makers and healthcare organisations to implement workplace changes and new models of care due to inadequate nurse staffing and further emphasising the importance of retaining nurses in the field.<sup>10</sup> With these changes, the pandemic also brought new and enhanced factors that influenced turnover intention among nurses

including fear of infection, even higher patient ratios, and stressful work environments.<sup>11–14</sup>

Previously identified strategies and interventions to address nurse turnover included enhanced salary and benefits, flexible scheduling, positive work environments and professional education opportunities.<sup>15</sup> However, little is known about the factors, strategies and interventions that improve nurse retention in this peri-COVID and post-COVID timeframe. It has yet to be shown if previous practices are relevant and sufficient to combat ongoing nurse turnover in this new context. Due to the changed landscape of the healthcare system emerging from the pandemic, gaining an improved understanding of strategies implemented to support and retain nurses will provide a blueprint for strengthening and sustaining the nursing workforce. A preliminary search of Medline and the Scopus Database of Systematic Reviews, Open Science Framework and PROSPERO was conducted, and no current or ongoing systematic reviews or scoping reviews on the topic were identified. The objective of this scoping review is to assess and organise the extent of the literature on nurse retention in the peri-COVID and post-COVID time. This scoping review will serve as an organised collation of relevant factors, strategies and interventions to support nurse retention that could be used and referenced by healthcare leaders, organisations and policy-makers.

### Review question

What is known about nurse retention in peri-COVID-19 and post-COVID-19 work environments?

### Study objectives

The objectives of this scoping review are to investigate and describe the following: (a) factors associated with nurse retention; (b) strategies suggested to support nurse retention and (c) interventions trialled to support nurse retention, during and after the COVID-19 pandemic. These objectives will be achieved by systematically mapping the included literature into the three categories of nurse retention factors, strategies and interventions (see online supplemental appendix A for extraction tools). Following this, the included studies will be thematically organised within those categories and presented narratively.

## METHODS AND ANALYSIS

The scoping review methodology outlined by Arksey and O'Malley<sup>16</sup> and advanced by Levac *et al.*<sup>17</sup> will be employed for this study. Arksey and O'Malley<sup>16</sup> propose a six-step framework for conducting scoping review studies, including the following: (1) identifying the research question; (2) identifying relevant literature; (3) study selection; (4) charting the data; (5) collating, summarising and reporting the articles and (6) consulting and translating knowledge.<sup>16 17</sup> The proposed scoping review results will be reported in accordance with the Preferred Reporting

Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR) guidelines.<sup>18</sup>

### Types of sources

This scoping review will consider both experimental and quasi-experimental study designs including randomised controlled trials, non-randomised controlled trials, pre-observational and postobservational studies and interrupted time-series studies. In addition, analytical observational studies including prospective and retrospective cohort studies, case-control studies and analytical cross-sectional studies will be considered for inclusion. This review will also take into account descriptive observational study designs including case series, individual case reports and descriptive cross-sectional studies for inclusion. Qualitative studies will also be considered that use, but are not limited to, designs such as phenomenology, grounded theory, ethnography, qualitative description, action research and feminist research. Systematic or scoping reviews and meta-syntheses will be excluded, but their reference lists will be reviewed by hand. Relevant titles and authors within those reference lists will be searched and screened against inclusion/exclusion criteria for potentially relevant studies.

### Eligibility criteria

Eligible studies for inclusion in this scoping review will include nurses as their participants (registered nurses (RN), licenced practical nurses (LPN), registered practical nurses (RPN)); they will discuss factors, strategies or interventions related to nurse retention, and they should occur during or post-COVID-19 pandemic (2019–present). The definition of the concept of retention/turnover will be kept broad to include studies that look at a job, unit, organisation, specialty and professional turnover. Eligible articles must be in English or translatable into English. Studies will be excluded if the included nurses cannot be segmented out in the results and if they focus on nursing students nurse leaders, nurse managers or advanced practice nurses (eg, clinical nurse specialists, nurses practitioners) as their duties and responsibilities differ from those of the regular nursing population which may impact their experience of retention. Systematic or scoping reviews and meta-syntheses will be excluded, but their reference lists will be hand-screened for suitable studies. Eligibility criteria are displayed in [table 1](#).

### Search strategy

The search strategy will aim to locate both published and unpublished studies. An initial limited search of Medline was undertaken to identify articles on the topic and guide the search strategy development. The text words contained in the titles and abstracts of relevant articles and the index terms used to describe the articles were used to develop a full search strategy for Embase, CINAHL and Scopus. See online supplemental appendix B for an example of the Medline (Ovid) search strategy. The search strategy, including all identified keywords and

**Table 1** Eligibility criteria

	Inclusion	Exclusion
<b>Participants</b>	Nurses: RN, LPN, RPN, PHN	If data of population cannot be segmented to identify which data came from nurses  PSW, CNS, NPs, nurse managers, nurse administrators, nurse educators, etc.
<b>Concept</b>	Needs to discuss, address a strategy or interventions or experience of: <ul style="list-style-type: none"> <li>▶ Retention</li> <li>▶ Intent to leave</li> <li>▶ Intent to stay</li> <li>▶ Turnover</li> <li>▶ Quitting</li> </ul>	
<b>Context</b>	Occur during or post the COVID-19 pandemic All areas of practice All types of primary studies Commentaries English or translated into English	Conference proceedings Dissertations  Reviews: however, references will be hand-screened for inclusion

CNS, clinical nurse specialist; LPN, licenced practical nurses; NPs, nurse practitioners; PHN, public health nurses; PSW, personal support workers; RN, registered nurses; RPN, registered practical nurses.

index terms, will be adapted for each included database and/or information source. A health sciences librarian at the university was consulted throughout the development of the search strategy. The reference list of all included sources of evidence will be screened for additional studies.

### Study/source of evidence selection

Following the search, all identified citations will be collated and uploaded into Covidence (Covidence systematic review software, Veritas Health Innovation, Melbourne, Australia), and duplicates removed.<sup>19</sup> Following a pilot test, titles and abstracts will then be screened by two or more independent reviewers for assessment against the inclusion criteria for the review. Potentially, relevant sources will be retrieved in full and their citation details imported into Covidence (Covidence systematic review software, Veritas Health Innovation, Melbourne, Australia). The full text of selected citations will be assessed in detail against the inclusion criteria by two or more independent reviewers. Reasons for exclusion of sources of evidence at full text that do not meet the inclusion criteria will be recorded and reported in the scoping review. Any disagreements that arise between the reviewers at each stage of the selection process will be resolved through discussion or with an additional reviewer/s. The results of the search and the study inclusion process will be reported in full as outlined in the PRISMA-ScR and the final scoping review as well as presented in a PRISMA-ScR flow diagram.<sup>18</sup>

### Data extraction

Data will be extracted from papers included in the scoping review by two or more independent reviewers using a data

extraction tool developed by the reviewers in Microsoft Excel. The following data items will be extracted: title, journal, authors, year of publication, country of publication, study setting, study population (n=), factors that mitigate intent to leave (or other retention measure), strategies identified to address nurse retention, description of interventions used to address nurse retention, tool used to measure retention/turnover intention, retention prevalence and/or scores.

The draft extraction form (see online supplemental appendix A) will be modified and revised as necessary during the process of extracting data from each included evidence source. Modifications will be detailed in the scoping review. Any disagreements that arise between the reviewers will be resolved through discussion, or with an additional reviewer/s. If appropriate, the authors of papers will be contacted to request missing or additional data, where required.

*Critical appraisal of individual sources of evidence:* it is expected that there may be a broad range of quality in studies evaluating factors, strategies and interventions for improving nurse retention. Applicable qualitative, quantitative and mixed methods studies will be evaluated using the Mixed Methods Appraisal Tool (MMAT) V.2018.<sup>20</sup> The MMAT allows for the separate methodological evaluation of qualitative research, randomised controlled trials, non-randomised studies, quantitative descriptive studies and mixed methods studies within one appraisal tool.<sup>20</sup>

### Data analysis and presentation

Data will be synthesised qualitatively to map the current evidence available to address the study's aims of



investigating and describing factors, strategies and interventions that improve nurse retention. Correlational factors presented strategies and tested interventions will be presented in table form and described in narrative form. We anticipate that various turnover and retention measurement approaches will be employed across different studies, which may impede direction comparisons of interventions. Despite these variations, we will strive to accurately represent the outcomes by synthesising the data using standardised metrics where possible and by qualitatively assessing the impact of each intervention within its respective context.

### Anticipated review outcomes

In this scoping review, we anticipate identifying a range of outcomes from the included studies that relate to nurse retention during and after the COVID-19 pandemic. These outcomes will be categorised and synthesised according to the following objectives:

1. Factors associated with nurse retention
  - Workplace environment: elements such as organisational culture, leadership support, workload and work-life balance.
  - Psychosocial factors: stress, burnout, job satisfaction, mental health impacts and coping mechanisms.
  - Demographic factors: age, gender, years of experience and geographical location.
  - Work outcomes: patient safety, morbidity and mortality.
2. Strategies suggested to support nurse retention
  - Subnational and national strategies: policy changes, governmental support and government-driven incentives.
  - Organisational strategies: policy changes, financial incentives, flexible work arrangements and professional development opportunities.
  - Individual strategies: resilience training, task rotation, mental health support, mentorship programmes and peer support networks.
3. Interventions trialled to support nurse retention
  - Programmatic interventions: implementation of wellness programmes, mentoring and leadership training.
  - Technological interventions: use of digital tools and telehealth to reduce workload and support patient care.
  - Policy interventions: changes in staffing policies, staffing ratios, shift patterns and emergency response protocols.

The outcomes identified from the included studies will be synthesised qualitatively. We will map these outcomes against the study objectives to understand the current evidence and gaps in knowledge. The synthesis will focus on common themes, diversity of findings and gaps in the evidence.

### Ethics and dissemination

Approval for the broader research study, including this scoping review, has been obtained from the university health sciences research board (protocol #00042510). This study poses no ethical concerns as it involves secondary data analysis and does not involve human subjects or sensitive information. Findings will be disseminated through publication in a peer-reviewed journal and presentation at relevant conferences. Full data from this scoping review will be publicly accessible on request for transparency, accessibility and utilisation to promote further research and knowledge advancement in the field.

**Acknowledgements** The study team is acknowledging and thanks Health Sciences Librarian, Mikaela Gray, for her expertise in the creation of this search strategy.

**Contributors** LB, LMH, CM, SP and SV all contributed to the background research to prompt the proposed study, along with the development of the study objectives, search strategies and analysis plan. LB is the guarantor.

**Funding** Canadian Institutes of Health Research Operating Grant Program (W12 179956).

**Competing interests** None declared.

**Patient and public involvement** Patients and/or the public were not involved in the design, conducting or reporting or dissemination plans of this research.

**Patient consent for publication** Not applicable.

**Provenance and peer review** Not commissioned; externally peer reviewed.

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### ORCID iDs

Laura Buckley <http://orcid.org/0000-0003-1737-8678>

Linda McGillis Hall <http://orcid.org/0000-0001-7515-6657>

Sheri Price <http://orcid.org/0000-0002-5535-6624>

Sanja Visekruna <http://orcid.org/0009-0005-3183-5398>

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