

## Clinical Focus Article

# Improving Staffing in the ICU with New Graduate Nurses: A Novel Critical Care Fellowship Program

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### ABSTRACT

**Background:** There is a growing shortage of critical care nurses. New graduate nurses (NGN) are increasingly hired into critical care settings, though NGN job turnover is estimated between 18-60% in the first year of practice. The COVID-19 pandemic exacerbated nurse turnover and the need to rapidly train new ICU nurses while employing effective retention management strategies.

**Aim:** To highlight the success of an NGN Critical Care Fellowship Program (CCFP) within the existing health system's NGN Residency Program prior to and during the COVID-19 pandemic.

**Methods:** The CCFP was launched in 2016 with 7 participating adult ICUs. The NGNs participate in the medical centre's existing 1-year NGN Residency Program and spend a total of 24 weeks orienting in 3 different ICUs. Orientation concludes based on a performance evaluation and readiness to work independently. NGNs are mentored and supported throughout their first year in practice through monthly debriefing of clinical and preceptor experiences.

**Results/Findings:** Between 2016-2022, a total of 65 NGNs have participated in the CCFP. Sixty fellows completed orientation and were hired into an adult ICU during their orientation period. Retention of CCFP NGNs after 1 year was 96% (n=48/50), 2 years was 97% (n=33/34) and 3 years was 96% (n=22/23).

**Conclusions:** Results demonstrate the development of an educationally robust, emotionally compassionate program, concentrated on the development, training and focused support of the NGN can be successfully implemented and sustained over time.

**Keywords:** Critical care, nursing, new graduate nurse, novice, retention, internship, residency, workforce

### INTRODUCTION

There is an unprecedented deficit and growing demand for Registered Nurses (RN) globally due to a growing elderly population, ageing nursing workforce, and the increasing complexity of hospitalized patients (Hussein et al., 2019; Juraschek et al., 2019; Short et al., 2019; Unruh & Fottler, 2005). In the United States, California is predicted to have one of the largest shortages, with a deficit of 193,000 RN jobs by 2030 (Juraschek et al., 2019). The COVID-19 pandemic further exacerbated the RN deficit. In 2021, the supply of RNs decreased by 100,000, one of the greatest declines in the last 40 years (Auerbach et al., 2022). Furthermore, a national

survey by the American Association of Critical Care Nurses (AACN) found 66% of nurses felt their pandemic experiences made them consider leaving the nursing profession (AACN, 2021).

New graduate nurses (NGN) are the largest group of available nurses and makeup 42% of the annual new hire workforce (Short et al., 2019). The transition from academic nursing programs to independent nursing practice can be a stressful, uncertain period (Innes & Calleja, 2018; Wakefield et al., 2023). In their first year, NGNs experience high levels of job stress and risk of anxiety and depression, which peak at approximately 4-8 months (Urban et al., 2022). As a result, NGN job turnover in their first year of practice is estimated between 18-60% (Burr et al., 2011; Unruh & Fottler, 2005). These turnover rates can lead to unanticipated staffing shortages, negative consequences for patient safety, and institutional costs estimated to be \$70,500-88,000 for every NGN lost (Silvestre et al., 2017).

NGNs in the critical care setting face a variety of unique factors that can make the transition to practice especially challenging. Success in the critical care environment requires in-depth knowledge and specialized training in a fast-paced, clinically complex, and technologically advanced setting (Vanderspank-Wright et al., 2020). Administration and titration of sedation, vasopressors, vasodilators, and inotropic agents are common, requiring consideration of individual hemodynamic responses, avoidance of adverse effects, and patient instability (Mikula, 2019). Death is also a frequent occurrence in the intensive care unit (ICU) where NGNs are tasked with facilitating end-of-life communication among patients and families (Baudoin et al., 2022). Without adequate support to transition into critical care, the NGN can be left feeling vulnerable, overwhelmed, and unsure of their career choice, which is thought to contribute to high rates of turnover and attrition (Wakefield et al., 2023).

Nurse residency programs for NGNs can decrease stress and anxiety associated with the transition to practice and decrease turnover in the first year of practice (Ackerson & Stiles, 2018; Eckerson, 2018; Woodward & Willgerodt, 2022). Specifically, practice environments that provide safe learning and effective communication are associated with decreased NGN stress and anxiety (Cochran, 2017). Quality mentorship is another key component of support for NGNs as they transition from novice to competent (Szarejko et al., 2021). The use of simulation in transition to practice programs can increase self-perception of skills, competence, readiness for practice, and confidence (Harper et al., 2021). Paid internships for prelicensure nurses have also proved to be an effective recruiting method and lead to improved retention (Hernandez et al., 2020).

Features of successful NGN transition to critical care practice programs include deliberately chosen preceptors, a supportive workplace culture that allows autonomy, socialization, knowledge and skill acquisition, orientation to the

knowledge required, and mindfully utilized rotations (Innes & Calleja, 2018). Furthermore, developing a “sense of belonging” is vital to the success and well-being of the NGN in high-acuity settings as it can impact learning, socialization, and intention to remain a nurse (Wakefield et al., 2023). Structured ICU NGN orientation programs with elements of didactic instruction, preceptor development, and simulation have also been found to increase retention and cost savings (Bortolotto, 2015).

In anticipation of ICU RN staff shortages across a variety of adult ICUs, we developed a novel Critical Care Fellowship Program (CCFP) to hire, orient, place, and retain NGNs at our institution across 7 adult ICUs.

## **METHODS**

### **Critical Care Fellowship Program Overview**

The CCFP was launched in August 2016 at an academic medical centre in Northern California, licensed for approximately 600 inpatient beds and consisting of 7 adult ICUs. In 2012, the institution established a one-year NGN Residency Program (NGNRP) for NGNs across the health system. Prior to the launch of the CCFP, NGNs hired into an adult ICU participated in the institution’s NGNRP and then completed a unit-specific ICU orientation consisting of a combination of precepting and relevant didactic classes.

The CCFP sought to streamline the onboarding of NGNs across critical care settings by developing a structured, comprehensive, and supportive orientation for NGNs hired to work in an adult ICU. The CCFP builds upon the existing 1-year NGNRP by providing additional critical care course content, clinical rotations across different ICUs, and ongoing mentorship throughout their first year in practice. A timeline of the CCFP is depicted in Table 1 and Standards for Quality Improvement Reporting Excellence in Education (SQUIRE-EDU) were used to guide this manuscript (Ogrinc et al., 2019).

### **Fellow Selection**

NGNs apply to the medical centre’s existing NGNRP. Candidate applications are routed to the CCFP Director and Critical Care Educator for review. Interviews and applicants are selected to align with NGNRP quarterly hiring schedule and anticipated staffing needs of the ICUs over the next year. Based on need, the CCFP accepts approximately four to six fellows per NGNRP cohort.

### **Orientation and Classes**

The medical centre’s NGNRP utilizes the Vizient/American Association of Colleges of Nursing Nurse Residency™ Program curriculum. All CCFP fellows participate in this year-long program and take general nursing orientation classes covering resources and self-care, sepsis, skin integrity, ethical issues, and the art and science of nursing. In addition, fellows complete an evidence-based practice project.

Overall, the NGNRP is designed to support professional growth, skill development, critical thinking, and the promotion of evidence-based practice. It is non-specific to the nursing specialty and patient population.

**Table 1**  
*Critical Care Fellowship Program Timeline*

Month 1	Months 1-3	Months 3-5	Months 5-7	Month 7
Weeks 1-2	Weeks 3-10	Weeks 11-18	Weeks 19-26	Week 25-26
Hospital & Nursing Orientation	Rotation 1 Bi-weekly check-ins Monthly debriefs Critical care classes Transitional meeting	Rotation 2 Bi-weekly check-ins Monthly debriefs Critical care classes Transitional meeting	Rotation 3 Bi-weekly check-ins Monthly debriefs Transitional evaluation	Final evaluation Permanent placement Additional classes Per ICU requirements

Within the first six months of the CCFP, fellows are required to complete an additional series of didactic and simulation-based critical care classes offered at the health system, including Mechanical Ventilation, Hemodynamics, Change in Patient Condition, Ultrasound-Guided Peripheral IV Insertion, Transvenous Pacemakers, EKG, Vascular Access, Sedation Simulation, Delirium and Pain Management Principles. After the first six months and depending on permanent placement, additional classes, such as Renal Replacement Therapies and enrollment in the AACN’s Essentials of Critical Care Orientation program, are required.

**Clinical Rotations**

Following hospital orientation, each fellow is placed into a 6-month ICU clinical rotation schedule that includes orientation in 3 different ICUs (8 weeks/each). ICU rotations include a mix of adult surgical and medical ICUs (i.e., Cardiothoracic, Medical, Burn, Surgical, Trauma, and Neurosurgical specialty units) to allow for wide exposure to unit cultures, clinical specialties, and a broad nursing foundation.



Prior to changing ICUs, a transitional meeting is hosted with the fellow, their current preceptor, their preceptor in the next ICU rotation, and the critical care educator to review NGN progress, patient assignments and situations, and areas for NGN growth. The new preceptor shares information about their ICU, patient populations, and expectations, and engages the fellow about their developing practice. The fellows are encouraged to speak on their own behalf about their progress and target areas of growth.

### **Nurse Preceptors**

All preceptors in the CCFP are required to have taken a series of preceptor and relationship-based care courses (Creative Health Care Management, n.d.) offered by the institution, which aligns with our NGNRP guidelines and accreditation. In addition, all preceptors who participate in the CCFP spend time with the critical care educator to review program expectations, orientation guidelines and fellow competency binder prior to precepting.

### **Monthly Debriefing**

Each month, fellows are required to attend a two-hour debriefing with the critical care educator and CCFP director. The debriefings are designed to assess the transition into professional practice and address complex issues that arise, including imposter syndrome, reality shock, managing critically ill patients, communication, self-care, end-of-life care, setting boundaries with families, and dealing with difficult situations. During these sessions, discussions are facilitated, policy and practice expectations are reviewed, and fellows are encouraged to share challenges with their colleagues to improve their own professional practice.

### **CCFP Evaluations**

Following each eight-week ICU clinical rotation, the fellow's primary preceptor completes an evaluation of their fellow's progress and areas needing improvement. This is reviewed with the critical care educator, fellow and preceptor shortly after the transitional meeting and signed by all parties. Each fellow is also given the opportunity to discuss any concerns they had throughout the rotation. At the end of six months, fellows have an exit meeting with the CCFP director, including a formal evaluation.

### **Permanent Placement into an ICU**

During the six-month orientation, fellows are expected to consider which ICU would be optimal for permanent placement. Each fellow has different perspectives to determine compatibility with a certain unit; however, they are encouraged to consider the units' people, culture, patient population, service line, and areas for professional development. CCFP fellows may apply and interview to be hired for an open position in an ICU at any point in their six-month orientation. If there are no positions open in their preferred ICU, the fellow is placed temporarily into an ICU in need of staff.

If an issue arises about the clinical fit or appropriateness of a fellow in a particular ICU, fellows are supported to re-examine their ICU preference and, under the guidance of the critical care educator and director, may be transitioned to a different ICU or less acute setting. Through frequent meetings with the fellow and preceptors, this situation is often identified early, which reflects an understanding of the orientation time/cost, as well as successful professional development and retention of the fellows at the organization.

**Program Outcomes**

Retention of NGNs participating in the CCFP is measured at 1, 2, and 3 years. Retention is defined as the percentage at which CCFP fellows remain in an RN position at the medical centre. Given the unique challenges to ICU staffing and nursing programs that occurred during the COVID-19 pandemic, we also examined retention prior to and after the start of the pandemic.

**RESULTS**

A total of 65 fellows have participated in the CCFP from 2016-2022, across 14 cohorts. Median CCFP cohort size was 4 fellows (range 3-6) and increased to 5 fellows (range 4-6) starting in 2020. Most CCFP participants were female (69%), and 50% identified as white (Table 2).

**Table 2.**

*Demographic Characteristics of Critical Care Fellowship Program Nurse Residents*

Demographics		CCFP Fellows n (%)
Sex	Male	20 (31)
	Female	45 (69)
Ethnicity	White	32 (50)
	Asian	13 (22)
	Hispanic/ Latinx	14 (20)
	Black	3 (4)
	Middle Eastern / North African	3 (4)

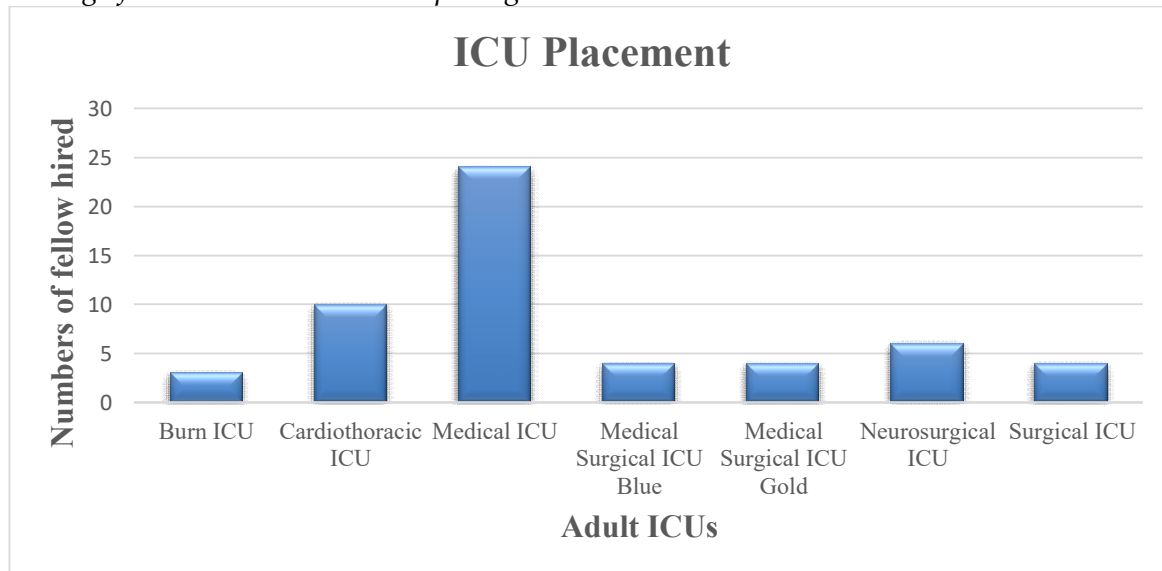
Sixty fellows completed orientation and were hired into an adult ICU permanent position. Five fellows are currently in orientation (first 6 months of CCFP) and have yet to be placed. The Medical ICU accepted the most fellows as permanent hires (n=24), followed by the Cardiothoracic ICU (n=10) (Figure 1). Three fellows transitioned to an acute care unit, one transferred to an affiliated medical campus and two left the health system during the CCFP in the first year.

Retention of fellows after 1 year was 96% (n=48/50), 2 years was 97% (n=33/34) and 3 years was 96% (n=23/24). Ten fellows have been at the medical centre for less than one year and are not considered in the 1-year retention rate.

Table 3 provides rates of retention for CCFP NGNs prior to and after the start of the COVID-19 pandemic.

**Figure 1.**

*Hiring of Critical Care Fellowship Program New Graduate Nurses into an ICU*



**Table 3.**

*Critical Care Fellowship Program Retention Rates*

	2016-2019 Pre-COVID	2020-2022 COVID Era	Total
Retention 1 Year	100% (n=21/21)	93% (n=27/29)	96% (n=48/50)
Retention 2 Years	100% (n=21/21)	92% (n=12/13)	97% (n=33/34)
Retention 3 Years	95% (n=20/21)	100% (n=3/3)	96% (n=23/24)

**DISCUSSION**

We developed the NGN CCFP, which encompassed a combination of didactic training and immersive clinical rotations through three ICUs with a goal of permanent ICU placement to improve ICU staffing and NGN retention. After six years and throughout the pandemic, retention remains at 96-97% at 1, 2 and 3 years. This is higher than the retention rate of our general NGNRP, as well as state and national averages. In comparison, the institution-wide NGNRP has a 1-year retention rate of 94%, the NGN retention national average is approximately 72% (Asber, 2019), and turnover of critical care RNs was estimated at 27.4% in 2021 (Nursing Solutions Inc., 2022). Programs in New York and New Jersey have also

increased NGN and RN retention at 1-year to 78% (Friedman et al., 2011) and 90% (Cadmus & Roberts, 2022), respectively by implementing specialized critical care orientation programs.

While ICU staffing has always been dynamic, the COVID-19 pandemic impacted ICU RN staffing and NGNs in several ways. Many experienced ICU nurses left the ICU, their institution and/or the workforce (Tolksdorf et al., 2022) creating an even greater need to train, hire and retain ICU RNs. Furthermore, many nursing programs lost clinical placements for their students, limiting precepting hours of nurses entering the workforce and potentially creating a larger transition to critical care practice gap (Kavanagh, 2021). Having the CCFP in place during the COVID-19 pandemic provided an existing pipeline to support RN ICU staffing and led to an increase in CCFP cohort size. However, to address the transition to practice gap, we are currently developing a week-long ICU immersive event to allow NGNs the opportunity to reacquaint themselves with the ICU environment, workflow, and expectations using simulation and hands-on practice.

The CCFP has several programmatic strengths and benefits for fellows. When comparing our NGNs to the national population, the NGNs participating in the CCFP are more diverse than the national RN workforce (Smiley et al., 2021). CCFP cohorts are also small, allowing for individualized attention, cohort camaraderie, and follow-up throughout orientation. Frequent check-ins and debriefs allow for relationship building and communication about orientation and progress. Classes are pre-scheduled and kept small to address the learning needs of NGNs in a critical care environment. Institutionally, the CCFP is supported by nursing leadership, ICU managers, and the interprofessional team of the ICUs.

Several limitations of the CCFP have been identified and should be considered. First, there is no formal evaluation of fellow experience during their 6 months or upon completion of the CCFP. Second, there is no process in place for evaluating preceptors from an NGN or managerial perspective. Lastly, there is no centralized data available for NGNs hired into individual ICUs prior to the start of the CCFP to compare our results.

Future efforts of the CCFP will focus on the development of formal program and preceptor evaluations, as well as the ongoing development of the new ICU immersive event. The CCFP undergoes minor variations with each cohort that would benefit from ongoing evaluation. Improvements in tracking NGN data longitudinally will provide needed information for program return on investment and sustainability.

## **CONCLUSION**

This article highlights the components of a successful CCFP in hiring, orienting, and retaining NGNs prior to and through the COVID-19 pandemic. Providing a





successful critical care orientation requires organizational commitment, nursing leadership, and staff focused on the educational and individual needs of NGNs. Our results demonstrate that an educationally robust, emotionally compassionate program, concentrated on the progress, training and focused support of the NGN can be successfully implemented and sustained over time.

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**REFERENCES**

- Ackerson K, Stiles KA. Value of nurse residency programs in retaining new graduate nurses and their potential effect on the nursing shortage. *Journal of Continuing Education in Nursing* 2018;49(6):282-288. <https://doi.org/10.3928/00220124-20180517-09>
- Asber SR. Retention outcomes of new graduate nurse residency programs: An integrative review. *JONA: The Journal of Nursing Administration* 2019;49(9):430-435. doi: 10.1097/NNA.0000000000000780
- Baudoin CD, McCauley AJ, Davis AH. New graduate nurses in the intensive care setting: Preparing them for patient death. *Critical Care Nursing Clinics of North America* 2022;34(1):91-101. doi: 10.1016/j.cnc.2021.11.007.
- Bortolotto SJ. Developing a comprehensive critical care orientation program for graduate Nurses. *Journal for Nurses in Professional Development* 2015;31(4):203-210. <https://doi.org/10.1097/NND.0000000000000139>
- Burr S, Stichler JF, Poeltler D. Establishing a mentoring program: Transforming organizational culture and improving nurse retention. *Nursing for Women's Health* 2011;15(3):214-224.
- Cadmus E, Roberts ML. First-year outcomes: Program evaluation of a statewide nurse residency program. *JONA: The Journal of Nursing Administration* 2022;52(12):672-678. <https://doi.org/10.1097/nna.0000000000001230>



- Cochran C. Effectiveness and best practice of nurse residency programs: A literature review. *Medsurg Nursing* 2017;26(1):53-57, 63.
- Creative Health Care Management (n.d.). Relationship-based Care. Transforming Health Care and Strengthening Results. Available at: <https://chcm.com/solutions/relationship-based-care/> (Accessed: February 28 2023).
- Eckerson CM. The impact of nurse residency programs in the United States on improving retention and satisfaction of new nurse hires: An evidence-based literature review. *Nurse Education Today* 2018;71:84-90. <https://doi.org/10.1016/j.nedt.2018.09.003>
- Friedman MI, Cooper AH, Click E, Fitzpatrick JJ. Specialized new graduate RN critical care orientation: Retention and financial impact. *Nursing Economics* 2011;29(1):7-14.
- Harper MG, Bodine J, Monachino A. The effectiveness of simulation use in transition to practice nurse residency programs: A review of literature from 2009 to 2018. *Journal for Nurses in Professional Development* 2021;37(6): 329-340. <https://doi.org/10.1097/NND.0000000000000787>
- Hernandez SHA, Francis MA, Winn D. Employment and retention of nurses who completed an internship and residency program. *Journal of Continuing Education in Nursing* 2020;51(11):504-508. <https://doi.org/10.3928/00220124-20201014-06>
- Hussein R, Salamonson Y, Hu W, Everett, B. Clinical supervision and ward orientation predict new graduate nurses' intention to work in critical care: Findings from a prospective observational study. *Australian Critical Care* 2019;32(5):397-402. <https://doi.org/10.1016/j.aucc.2018.09.003>
- Nuring Solutions Inc. (2022). 2022 NSI National Health Care Retention & RN Staffing Report. NSI Nursing Solutions, Inc. Available at: <https://nsinursingsolutions.com/Library.php> (Accessed: February 14 2023).
- Innes T, Calleja P. Transition support for new graduate and novice nurses in critical care settings: An integrative review of the literature. *Nurse Education in Practice* 2018;30:62-72. <https://doi.org/10.1016/j.nepr.2018.03.001>
- Juraschek SP, Zhang X, Ranganathan V, Lin VW. United States Registered Nurse Workforce Report Card and Shortage Forecast. *American Journal Medical Quality* 2019;34(5):473-481. <https://doi.org/10.1177/1062860619873217>
- Kavanagh JM. Crisis in competency: A defining moment in nursing education. *Online Journal of Issues in Nursing* 2021;26(1). <https://doi:10.3912/OJIN.Vol26No01Man02>
- Mikula A. The challenge of drip titration. *Critical Care Nurse* 2019; 39(5):73-75. <https://doi.org/10.4037/ccn2019266>



- American Association of Critical Care Nurses. *Hear Us Out*, 2021.  
<https://www.hearusout.com/>. Accessed February 6, 2023.
- Ogrinc G, Armstrong GE, Dolansky MA, Singh MK, Davies L. SQUIRE-EDU (Standards for QUality Improvement Reporting Excellence in Education): Publication Guidelines for Educational Improvement. *Academic Medicine* 2019;94(10):1461-1470. <https://doi.org/10.1097/acm.0000000000002750>
- Short K, Freedman K, Matays J, Rosamilia M, Wade K. Making the transition: A critical care skills program to support newly hired nurses. *Clinical Nurse Specialist* 2019;33(3):123-127.  
<https://doi.org/10.1097/NUR.0000000000000444>
- Silvestre JH, Ulrich BT, Johnson T, Spector N, Blegen MA. A multisite study on a new graduate registered nurse transition to practice program: Return on investment. *Nursing Economics* 2017;35(3):110. [ROI.pdf \(ncsbn.org\)](https://doi.org/10.1097/NUR.0000000000000444)
- Smiley RA, Ruttinger C, Oliveira CM, Hudson LR, Allgeyer R, Reneau K. A., Silvestre JH, Alexander, M. (2021). The 2020 national nursing workforce survey. *Journal of Nursing Regulation*, 12(1), S1-S96  
[https://doi.org/10.1016/S2155-8256\(21\)00027-2](https://doi.org/10.1016/S2155-8256(21)00027-2).
- Szarejko K, Lewis D, Burns H. The nurse residency education navigator: educator, facilitator, and clinician. *Journal of Continuing Education in Nursing* 2021;52(2):79-84. <https://doi.org/10.3928/00220124-20210114-07>
- Tolksdorf KH, Tischler U, Heinrichs K. Correlates of turnover intention among nursing staff in the COVID-19 pandemic: a systematic review. *BMC Nursing* 2021;21(1):174. doi: 10.1186/s12912-022-00949-4.
- Unruh LY, Fottler MD. Projections and trends in RN supply: What do they tell us about the nursing shortage? *Policy, Politics, & Nursing Practice* 2025;6(3):171-182. doi: [10.1177/1527154405278856](https://doi.org/10.1177/1527154405278856)
- Urban RW, Rogers MR, Eades TL, Allard PM, Porter MT, Cipher DJ. Resilience, stress, anxiety, and depression: exploring the mental health of new graduate nurses transitioning to practice during COVID-19. *Journal of Continuing Education in Nursing* 2022;53(12):533-543.  
<https://doi.org/10.3928/00220124-20221107-05>
- Vanderspank-Wright, B, Lalonde M, Squires J, Graham ID, Efstathiou N, Burry RD, Marcogliese E, Skidmore B, Vandyk A and the Canadian Association of Critical Care Nurses and the National Emergency Nurses Association. Identifying, describing, and assessing interventions that support new graduate nurse transition into critical care nursing practice: a systematic review protocol. *Systematic Reviews* 2020;9(1):241.  
<https://doi.org/10.1186/s13643-020-01483-7>
- Wakefield E, Innes K, Dix S, Brand G. Belonging in high acuity settings: What is needed for newly graduated registered nurses to successfully transition? A



qualitative systematic review. *Nurse Education Today* 2023;121:105686.

<https://doi.org/10.1016/j.nedt.2022.105686>

Woodward KF, Willgerodt M. A systematic review of registered nurse turnover and retention in the United States. *Nursing Outlook* 2022;70(4):664-678.

<https://doi.org/10.1016/j.outlook.2022.04.005>