WESTERN SYDNEY
UNIVERSITY

Clinical Support for New Graduate Nurses in Acute Care Settings

(The CLASSIC Project)

A thesis submitted in fulfilment of the requirements of

Doctor of Philosophy

Rafic Hussein, RN, BS (Nursing), Grad. Cert Critical Care – (ICU), Cert IV Workplace Training and Assessment, Grad. Dip. HR, MPH, MHM, PhD Candidate

Western Sydney University

October 2021

Statement of Authentication

This thesis is submitted to the Western Sydney University in fulfilment of the requirement of Doctor of Philosophy.

The work presented in this thesis is, to the best of my knowledge and belief, original except as acknowledged in the text. I hereby declare that ethical clearance was obtained for this body of research and I have not submitted any material contained here with, either in full or in part, for a degree in this or any other institution.

Signature: [redacted] Date: 6/10/21

Abstract

Background

Transitional support programs play a critical role in influencing job satisfaction and importantly, the retention of new graduate nurses. Early workplace experiences of new graduate nurses can be challenging, as they are required to adapt to a new practice environment and at the same time, acquire specialised skills specific to that clinical specialty. This transition may be particularly stressful in acute care settings characterised by increasing acuity of patient care and heavy workloads. While seemingly common sense, little is known about how personal and situational (environmental) factors interact in specific contexts to influence new graduate nurses' intention to stay or leave the profession.

Aim

This study examined new graduate nurses' satisfaction with a 12-month transitional support program and their intention to remain working in their current ward or unit.

Methods

The study used a sequential mixed methods design. New graduate nurses employed at an 877-bed tertiary level teaching hospital located in the south-western Sydney region of New South Wales, Australia were invited to complete a survey at baseline (8-10 weeks) and close to the end of their transitional support program (10-12 months). At follow-up, new graduate nurses were also invited to participate in face-to-face semi-structured interviews.

Results

The study participants (n = 109) ranged in age from 20 to 53 years (median 23, interquartile range 21–29) and over three-quarters (77%) were female. Just over half of the new graduate nurses reported previous experience in nursing-related work before being accepted into the transitional support program, with most having worked as assistants in nursing. During the two clinical rotations within their new graduate year, over one-third, 36 (41%) of the nurses were allocated to work in a critical care area.

At baseline, those who were younger (<23 years) and working in non-critical-care areas were more satisfied with their practice environment (both $p < 0.05$). Using stepwise multiple regression, independent and significant predictors of new graduate nurses' satisfaction were: (1) unit satisfaction (standardised beta, $\beta = 0.41$); (2) satisfaction with clinical supervision ($\beta = 0.31$); and (3) assigned unit: critical-care areas ($\beta = –0.17$), explaining 32.5% of the variance.

Of the 87 new graduate nurses who completed the 12-month follow-up surveys, those who were not having to practise beyond personal clinical capability (AOR: 4.215, 95% CI: 1.099-16.167) and working in a critical care specialty (AOR: 6.530, 95% CI: 1.911-22.314) were more likely to indicate an intention to remain in their current ward/unit. Further analysis of those nurses who indicated an intention to remain in critical care revealed that high satisfaction with clinical supervision (AOR: 3.861, 95% CI: 1.320-11.293) and high satisfaction with unit orientation (AOR: 3.629, 95% CI: 1.236 -10.659) were significant predictors.

Major themes identified from the 26 new graduate nurses interviewed in the final stage of their transitional support program were: 1) clinical support facilitates learning; 2) conditions required for good clinical support; and 3) transforming me.

Conclusion

As new graduates enter challenging practice environments, supporting a smooth transition is essential to promote job satisfaction and intention to remain in nursing. Findings from this study highlight both the effectiveness and limitations of formal transitional support programs for new graduate nurses. Specifically, this study showed the importance of a structured, unit-based orientation and clinical support, and at the same time highlighted the adverse effect of assigning new graduate nurses to critical care specialties in their first rotation. Importantly, the findings highlight the significance of mutable factors, also described as situational factors in this thesis, which need to be considered by management and policy makers who seek to promote job satisfaction and intention to stay in areas of need.

Research Outcomes

Based on the findings from this study, a number of recommendations were implemented in the study setting. These include: i) a revised duration and more structured orientation for non-critical care areas to better support new graduate nurses; ii) the recruitment of two new full-time equivalent positions to provide after-hours clinical support to new graduate nurses comprising of an afterhours clinical nurse consultant and an afterhours clinical nurse educator; and iii) not allocating new graduate nurses to critical-care areas such as ICU and ED on first rotation during their 12-month transitional support program.

Dedication

Firstly, I start with the name of God. I thank God, the lord of the worlds, I praise Him and thank Him for all His blessings and the uncountable endowments He bestowed upon us out of His generosity, His grace and without Him being obligated to do so.

I also dedicate this work to my parents who migrated to Australia in 1985 from War torn Lebanon for a better life. I humble myself to them and thank them for their continued support, compassion, inspiration and advice. They are the most deserving of my companionship and their wisdom has always been the comfort to my heart and the light that guides me through life.

I thank my loving wife Marijana for all her overwhelming support to me and my children throughout this PhD journey. Without her understanding, affection, motivation toward me and perseverance I would not have achieved what I have.

I am indebted to all the new graduate nurses, nurse educators and nursing managers, for without their participation this research would not have been possible. I am delighted to be a student of the School of Midwifery and Nursing both as a nursing student and a PhD candidate, and thank Western Sydney University for providing me a great platform for my academic career.

Acknowledgement

I express my sincere gratitude to my enthusiastic principal supervisor Associate Professor Bronwyn Everett for providing me with the invaluable guidance, assistance and support throughout my PhD candidature. Working with you has been a rewarding academic experience, and I thank you Bronwyn wholeheartedly.

I extend my special appreciation to my co-supervisors Professor Yenna Salamonson and Professor Wendy Hu. This work would not have been possible without their rewarding intellectual experience, valuable feedback and support. I also give my deep appreciation to Associate Professor Lucie Ramjan for her valuable feedback, belief in persevering and encouragement.

My sincere thanks to Dr. Sungwon Chang who offered me constructive assistance on statistical issues. I wish to also acknowledge my Directors of Nursing Anna Thornton and Scott McGrath for their instrumental support to me as a Nursing Unit Manager (NUM) and a PhD Student. I am greatly appreciative to the nurses who also dedicated their time to participate in this study.

To my family and friends my heartfelt gratitude goes to you for your support, sacrifices and trust during my PhD journey. Your love, assistance and inspiration are the foundation to the completion of this thesis.

Finally, despite the recent drought, black summer bushfires (followed by floods) and the current COVID-19 'lockdown' in Sydney as I finalise this thesis, we work together to keep each other, our families and our community safe. Together we build on resilience. To this end, I present this thesis.

Table of Contents

Contents

List of Publications

Peer-reviewed papers published and citations

1. Hussein, R., Everett, B., Hu, W., Smith, A., Thornton, A., Chang, S., & Salamonson, Y. (2016). Predictors of new graduate nurses' satisfaction with their transitional support programme. *Journal of Nursing Management, 24*(3), 319-326. https://doi.org/10.1111/jonm.12321. [Q1; IF 2.243; Scopus citations 11]

   Wray, J., Watson, R., Gibson, H., & Barrett, D. (2021). Approaches used to enhance transition and retention for newly qualified nurses (NQNS): A rapid evidence assessment. *Nurse Education Today, 98*. https://doi.org/10.1016/j.nedt.2020.104651

   Coventry, T. H., & Russell, K. P. (2021). Clinical sympathy – A mixed method study of the relationship between the clinical nurse educator and the graduate nurse. *Nurse Education in Practice, 55*. https://doi.org/10.1016/j.nepr.2021.103150

   ten Hoeve, Y., Brouwer, J., & Kunnen, S. (2020). Turnover prevention: The direct and indirect association between organizational job stressors, negative emotions and professional commitment in novice nurses. *Journal of Advanced Nursing, 76*(3), 836-845. https://doi.org/10.1111/jan.14281

   Zangaro, G. A., & Jones, K. (2019). Practice Environment Scale of the Nursing Work Index: A Reliability Generalization Meta-Analysis. *Western Journal of Nursing Research, 41*(11), 1658-1684. https://doi.org/10.1177/0193945918823779

   Hegney, D., Chamberlain, D., Harvey, C., Sobolewska, A., Knight, B., & Garrahy, A. (2019). From incomer to insider: The development of the TRANSPEC model – A systematic review of the factors influencing the effective rapid and early career TRANsition to a nursing SPECiality in differing contexts of practice. *PLoS ONE, 14*(5). https://doi.org/10.1371/journal.pone.0216121

   Edwards, D., Carrier, J., & Hawker, C. (2019). Effectiveness of strategies and interventions aiming to assist the transition from student to newly qualified nurse: An update systematic review protocol. *JBI Database of Systematic Reviews and Implementation Reports, 17*(2), 157-163. https://doi.org/10.11124/JBISRIR-2017-003755

   Neves, T. M. A., Parreira, P. M. S. D., Graveto, J. M. G. N., Rodrigues, V. J. L., & Marôco Domingos, J. P. (2018). Practice environment scale of the nursing work index: Portuguese version and psychometric properties. *Journal of Nursing Management, 26*(7), 833-841. https://doi.org/10.1111/jonm.12606

   Labrague, L. J., & McEnroe-Petitte, D. M. (2018). Job stress in new nurses during the transition period: an integrative review. *International Nursing Review, 65*(4), 491-504. https://doi.org/10.1111/inr.12425

   Cunnington, T., & Calleja, P. (2018). Transition support for new graduate and novice nurses in critical care settings: An integrative review of the literature. *Nurse Education in Practice, 30*, 62-72. https://doi.org/10.1016/j.nepr.2018.03.001

   Brown, J., Hochstetler, G. A., Rode, S. A., Abraham, S. P., & Gillum, D. R. (2018). The lived experience of first-year nurses at work. *Health Care Manager, 37*(4), 281-289. https://doi.org/10.1097/HCM.0000000000000228

   Lea, J., & Cruickshank, M. (2017). The role of rural nurse managers in supporting new graduate nurses in rural practice. *Journal of Nursing Management, 25*(3), 176-183. https://doi.org/10.1111/jonm.12453

2. Hussein, R., Everett, B., Ramjan, L. M., Hu, W., & Salamonson, Y. (2017). New graduate nurses' experiences in a clinical specialty: A follow up study of newcomer perceptions of transitional support. *BMC Nursing, 16*(1), 42. https://doi.org/10.1186/s12912-017-0236-0. [Q1; IF 1.846; Scopus citations 31]

   Su, Q., Jiang, M., Yun, B., Ma, Y., Zuo, Y., & Han, L. (2021). Effect of clinical teaching behaviours on transition shock in graduate nurses. *Journal of Advanced Nursing, 77*(2), 763-774. https://doi.org/10.1111/jan.14635

   Serafin, L., Pawlak, N., Strząska-Kliś, Z., Bobrowska, A., & Czarkowska-Pączek, B. (2021). Novice nurses' readiness to practice in an ICU: A qualitative study. *Nursing in Critical Care*. https://doi.org/10.1111/nicc.12603

   Sarnkhaowkhom, C., Promkanya, A., Pomisrikeaw, S., & Ritthapanya, N. (2021). "Novice nurse and novel coronavirus"—experiences of novice nurses caring for patients diagnosed with COVID-19 in Thailand. *Nursing Open*. https://doi.org/10.1002/nop2.996

   Rogers, S., Redley, B., & Rawson, H. (2021). Developing work readiness in graduate nurses undertaking transition to practice programs: An integrative review. *Nurse Education Today, 105*, Article 105034. https://doi.org/10.1016/j.nedt.2021.105034

   Reebals, C., Wood, T., & Markaki, A. (2021). Transition to Practice for New Nurse Graduates: Barriers and Mitigating Strategies. *Western Journal of Nursing Research*. https://doi.org/10.1177/0193945921997925

   Musallam, E., & Flinders, B. A. (2021). Senior BSN students' confidence, comfort, and perception of readiness for clinical practice: The impacts of COVID-19. *International Journal of Nursing Education Scholarship, 18*(1). https://doi.org/10.1515/ijnes-2020-0097

   Ma, W., Jiang, Y., Liang, T., Zhang, H., & Ma, F. (2021). Newly graduated nurses' perceptions of work environment: A cross-sectional study in China. *International Journal of Nursing Practice*. https://doi.org/10.1111/ijn.12929

   Ma, W., He, Y., Zhao, W., Xu, R., & Liang, T. (2021). Developing and validating the transition status scale for newly graduated nurses in China. *Journal of Nursing Management*. https://doi.org/10.1111/jonm.13278

Lindfors, K., Kaunonen, M., Huhtala, H., & Paavilainen, E. (2021). Newly graduated nurses' evaluation of the received orientation and their perceptions of the clinical environment: An intervention study. *Scandinavian Journal of Caring Sciences*. https://doi.org/10.1111/scs.12963

Lalithabai, D. S., Ammar, W. M., Alghamdi, K. S., & Aboshaiqah, A. E. (2021). Using action research to evaluate a nursing orientation program in a multicultural acute healthcare setting. *International Journal of Nursing Sciences, 8*(2), 181-189. https://doi.org/10.1016/j.ijnss.2021.01.002

Kovancı, M. S., & Atlı Özbaş, A. (2021). 'Young saplings on fire' newly graduated nurses in the COVID-19 pandemic: A qualitative study. *Journal of Nursing Management*. https://doi.org/10.1111/jonm.13460

Jenkins, C., Oyebode, J., Bicknell, S., Webster, N., Bentham, P., & Smythe, A. (2021). Exploring newly qualified nurses' experiences of support and perceptions of peer support online: A qualitative study. *Journal of Clinical Nursing, 30*(19-20), 2924-2934. https://doi.org/10.1111/jocn.15798

Hopkins, J. F., Hamilton, B. E., Prematunga, R. K., Ennis, G., Fairest, K., & Houghton, J. (2021). Action learning sets for supporting postgraduate mental health nurses' transition to professional practice: A qualitative study. *International Journal of Mental Health Nursing, 30*(3), 772-782. https://doi.org/10.1111/inm.12844

Franklin, G., Martin, C., Ruszaj, M., Matin, M., Kataria, A., Hu, J., Brickman, A., & Elkin, P. L. (2021). How the COVID-19 pandemic impacted medical education during the last year of medical school: A class survey. *Life, 11*(4). https://doi.org/10.3390/life11040294

Chung, J. Y. S., Li, W. H. C., Ho, L. L. K., Cheung, A. T., & Chung, J. O. K. (2021). Newly graduate nurse perception and experience of clinical handover. *Nurse Education Today, 97*. https://doi.org/10.1016/j.nedt.2020.104693

Ashipala, D. O., & Shatimwene, G. P. (2021). Perceptions of employability skills of newly qualified nursing graduates from the University of Namibia. *Africa Journal of Nursing and Midwifery, 23*(1). https://doi.org/10.25159/2520-5293/8017

Alomari, A. H., Collison, J., Hunt, L., & Wilson, N. J. (2021). Stressors for emergency department nurses: Insights from a cross-sectional survey. *Journal of Clinical Nursing, 30*(7-8), 975-985. https://doi.org/10.1111/jocn.15641

Aldosari, N., Pryjmachuk, S., & Cooke, H. (2021). Newly qualified nurses' transition from learning to doing: A scoping review. *International Journal of Nursing Studies, 113*. https://doi.org/10.1016/j.ijnurstu.2020.103792

Vichittragoonthavon, S., Klunklin, A., Wichaikhum, O. A., Viseskul, N., & Turale, S. (2020). Essential clinical skill components of new graduate nurses: A qualitative study. *Nurse Education in Practice, 44*. https://doi.org/10.1016/j.nepr.2020.102778

Molala, W., & Downing, C. (2020). Experiences of newly qualified critical care nurses caring for post-cardiothoracic surgery paediatric patients in a private hospital in gauteng. *International Journal of Africa Nursing Sciences, 13*. https://doi.org/10.1016/j.ijans.2020.100213

Elias, C. E., & Day, T. (2020). Experiences of Newly Qualified Nurses in Critical Care: A qualitative systematic review. *Journal of the Intensive Care Society, 21*(4), 334-343. https://doi.org/10.1177/1751143720926794

Collard, S. S., Scammell, J., & Tee, S. (2020). Closing the gap on nurse retention: A scoping review of implications for undergraduate education. *Nurse Education Today, 84*. https://doi.org/10.1016/j.nedt.2019.104253

Alshawush, K. A., Hallett, N., & Bradbury-Jones, C. (2020). Impact of transition programmes for students and new graduate nurses on workplace bullying, violence, stress and resilience: A scoping review protocol. *BMJ Open, 10*(10). https://doi.org/10.1136/bmjopen-2020-038893

Zangaro, G. A., & Jones, K. (2019). Practice Environment Scale of the Nursing Work Index: A Reliability Generalization Meta-Analysis. *Western Journal of Nursing Research, 41*(11), 1658-1684. https://doi.org/10.1177/0193945918823779

Wendler, A. J., Wendler, Z., & Wendler, M. C. (2019). Innovation during Orientation: How Does Rhetoric Drive New Graduate Nurse Performance?. *Journal for Nurses in Professional Development, 35*(5), 268-274. https://doi.org/10.1097/NND.0000000000000554

Rush, K. L., Janke, R., Duchscher, J. E., Phillips, R., & Kaur, S. (2019). Best practices of formal new graduate transition programs: An integrative review. *International Journal of Nursing Studies, 94*, 139-158. https://doi.org/10.1016/j.ijnurstu.2019.02.010

Lee, H. L., Liu, P. C., Hsieh, M. C., Chao, A. S., Chiu, Y. W., & Weng, Y. H. (2019). Comparison of high-fidelity simulation and lecture to improve the management of fetal heart rate monitoring. *Journal of Continuing Education in Nursing, 50*(12), 557-562. https://doi.org/10.3928/00220124-20191115-07

Lee, E. (2019). Why newly graduated nurses in South Korea leave their first job in a short time? A survival analysis. *Human Resources for Health, 17*(1). https://doi.org/10.1186/s12960-019-0397-x

Ke, Y. T., & Stocker, J. F. (2019). On the difficulty of finding one's place: A qualitative study of new nurses' processes of growth in the workplace. *Journal of Clinical Nursing, 28(*23-24), 4321-4331. https://doi.org/10.1111/jocn.14996

Calleja, P., Adonteng-Kissi, B., & Romero, B. (2019). Transition support for new graduate nurses to rural and remote practice: A scoping review. *Nurse Education Today, 76*, 8-20. https://doi.org/10.1016/j.nedt.2019.01.022

Liang, H. F., Lin, C. C., & Wu, K. M. (2018). Breaking through the dilemma of whether to continue nursing: Newly graduated nurses' experiences of work challenges. *Nurse Education Today, 67*, 72-76. https://doi.org/10.1016/j.nedt.2018.04.025

3. Hussein, R., Salamonson, Y., Everett, B., Hu, W., & Ramjan, L. M. (2019). Good clinical support transforms the experience of new graduates and promotes quality care: A qualitative study. *Journal of Nursing Management, 27*(8), 1809-1817. https://doi.org/10.1111/jonm.12880. [Q1; IF 2.243; Scopus citations 1]

   Çamveren, H., Arslan Yürümezoğlu, H., & Kocaman, G. (2020). Why do young nurses leave their organization? A qualitative descriptive study. *International Nursing Review, 67*(4), 519-528.

4. Hussein, R., Salamonson, Y., Hu, W., & Everett, B. (2018). Clinical supervision and ward orientation predict new graduate nurses' intention to work in critical care: Findings from a prospective observational study. *Australian Critical Care, 32*(5), 397-402.. https://doi.org/10.1016/j.aucc.2018.09.003. [Q1; IF 2.214; Scopus citations 5]

   Whittam, S., Torning, N., & Patching, J. (2021). A narrative inquiry approach to understanding senior intensive care nurses' experiences of working with new graduate nurses. *Journal of Clinical Nursing*. https://doi.org/10.1111/jocn.15844

   Serafin, L., Pawlak, N., Strząska-Kliś, Z., Bobrowska, A., & Czarkowska-Pączek, B. (2021). Novice nurses' readiness to practice in an ICU: A qualitative study. *Nursing in Critical Care*. https://doi.org/10.1111/nicc.12603

   Kenny, A., Dickson-Swift, V., McKenna, L., Charette, M., Rush, K. L., Stacey, G., Darvill, A., Leigh, J., Burton, R., & Phillips, C. (2021). Interventions to support graduate nurse transition to practice and associated outcomes: A systematic review. *Nurse Education Today, 100*. https://doi.org/10.1016/j.nedt.2021.104860

   Kapaale, C. C. (2020). Validating Factors That Influence Student Nurse Intention Regarding Perioperative Nursing. *Journal of Nursing Measurement, 28*(3), E293-E313. https://doi.org/10.1891/JNM-D-19-00040

   Aparício, C., & Nicholson, J. (2020). Do preceptorship and clinical supervision programmes support the retention of nurses?. *British Journal of Nursing, 29*(20), 1192-1197. https://doi.org/10.12968/bjon.2020.29.20.1192

Conference Papers and Presentations

1. Hussein, R., Everett, B., Hu, W., Smith, A., Thornton, A., Chang, S., & Salamonson, Y. (Oral Presentation). *Predictors of new graduate nurses' satisfaction with their transitional support programme.* South Western Sydney Local Health District Nursing and Midwifery Showcase. 2014|. Liverpool, Sydney, Australia.

2. Hussein, R., Everett, B., Hu, W., Smith, A., Thornton, A., Chang, S., & Salamonson, Y. (Oral Presentation). Predictors of new graduate nurses' satisfaction with their transitional support programme. University of Western Sydney Research Futures Forum. 2014|. University of Western Sydney, Sydney, Australia.

3. Hussein, R., Everett, B., Hu, W., & Salamonson, Y. (Oral Presentation). *New Graduate nurses satisfaction with their transitional support program: A mixed methods study.* Liverpool Hospital Nursing & Midwifery Research Forum. 2014|. Liverpool, Sydney, Australia.

4. Hussein, R., Everett, B., Hu, W., & Salamonson, Y. (Oral Poster Presentation). *What elements of clinical supervision influence new graduate nurses' intention to stay in a clinical specialty?* Ingham Institute of Applied Medical Research. Showcase. 2015|. Liverpool, Sydney, Australia.

5. Hussein, R., Everett, B., Ramjan, L. M., Hu, W., & Salamonson, Y. (Oral Presentation). *New graduate nurses' experiences in a clinical specialty: A follow up study of newcomer perceptions of transitional support.* University of Western Sydney Research Futures Forum. 2016|. Western Sydney University, Sydney, Australia.

6. Hussein, R., Everett, B., Ramjan, L. M., Hu, W., & Salamonson, Y. (2017). *New graduate nurses' experiences in a clinical specialty: A follow up study of newcomer perceptions of transitional support.* June 2017|. Health Beyond Research & Innovation Showcase. Liverpool Catholic Club, Sydney, Australia.

7. Hussein, R., Salamonson, Y., Everett, B., Hu, W., & Ramjan, L. M. (Oral Presentation). (2018). *Good clinical supervision facilitates learning and transforms new graduate nurses into leaders: A qualitative study*. School of Nursing & Midwifery Research Futures Forum. Western Sydney University, Sydney, Australia.

8. Hussein, R., Salamonson, Y., Everett, B., Hu, W., & Ramjan, L. M. (Oral Presentation). (2019). *Good clinical support transforms the experience of new graduates and promotes quality care: A qualitative study.* School of Nursing & Midwifery Research Futures Forum. Western Sydney University, Sydney, Australia.

9. Hussein, R., Salamonson, Y., Everett, B., Hu, W. (2021). *Clinical support for new graduate nurses in acute care settings (The CLASSIC Project)*. School of Nursing & Midwifery Research Futures Forum. Western Sydney University, Sydney, Australia. Winner, Best Presentation.

International Conference Presentations

10. Hussein, R., Salamonson, Y., Hu, W., & Everett, B. (Oral Presentation). *Clinical supervision and ward orientation predict new graduate nurses' intention to work in critical care: Findings from a prospective observational study.* 2017|. Nursing Management Conference. Dubai, United Arab Emirates.

Awards

2014 Best Junior Researcher Presentation Award Western Sydney University.

2021 Best Final Year HDR Presentation – Day 1: Online Higher Degree Research Conference. Nursing and Midwifery. Western Sydney University.

List of Abbreviations

AIN	Assistant in Nursing
CASP	Critical Appraisal Skills Programme Checklist
CLASSIC	The Clinical Support for New Graduate Nurses in Acute Care Settings
CNC	Clinical Nurse Consultant
CNE	Clinical Nurse Educator
CNS	Clinical Nurse Specialist
CS	Clinical Supervision
ED	Emergency Department
EN	Enrolled Nurse
ICU	Intensive Care Unit
MCSS	Manchester Clinical Supervision Scale
NGN	New Graduate Nurse
NM	Nurse Manager
NUM	Nursing Unit Manager
PIS	Participant Information Statement
PES-AUS	Practice Environment Scale Australia
PRISMA	Preferred Reporting Items for Systematic Reviews and Meta-Analysis
RN	Registered Nurse
SPSS	Statistical Package for the Social Sciences
SWSLHD	South Western Sydney Local Health District
TL	Team Leader
TSP	Transitional Support Program
UK	United Kingdom
USA	United States of America
WSU	Western Sydney University

Glossary

Term	Definition
Acute care setting	A hospital providing healthcare services to patients for short periods of acute illness, injury or recovery.
Clinical specialty	the allocated clinical placement or ward for new graduate nurses during TSP.
Clinical supervision	An intervention that is provided by a senior member of a profession to a junior member or members of that same profession. This relationship is evaluative, extends over time and has the simultaneous purposes of enhancing the professional functioning of the junior member(s), monitoring the quality of professional services offered to the clients she, he or they see(s) and serves as a gatekeeper for those who are to enter the particular profession (NSW Health toolkit 2001).
Clinical supervision (CS) Session	A formal or informal 'clinical' support encounter between a bed-side nurse (New Graduate) and their immediate clinical supervisor.
Clinical supervisor	The immediate clinical nurse educator (CNE), Clinical Nurse Specialist (CNS) or Team Leader (TL) accessible to a new graduate nurse on a given shift in the work environment.
Clinical capability	The combination of skills, knowledge, attitudes, values and abilities that underpin safe and effective performance in a profession/occupational area.
Confidence	New graduate nurses' confidence in handling clinical situations.
Critical care	The specialised care of patients whose conditions are life -threatening and who require comprehensive care and constant monitoring.
Enrolled nurse (EN)	A person who provides nursing care under the direction and supervision of a Registered Nurse (RN), and as part of an interdisciplinary team.
Formative	The development of knowledge, attitudes and clinical skills for clinical practice (Cutcliffe et al., 2001).
Formal Clinical Supervision	The process of delivering clinical supervision that is guided by a model and/or conceptual framework.
Informal Clinical Supervision	Is where the supervisee has access to their supervisor in 'real time' to facilitate patient care.
Likert Scale	A scale of measurement in which respondents are asked to respond to statements based on how much they agree or disagree.
Manchester Clinical Supervision Scale (MCSS-26)	a survey used to measure nurses' perceived effectiveness and satisfaction with clinical supervision received.

Normative	The assistance provided to supervisees to becoming responsible for monitoring of clinical practice and complying with policies and procedures (Cutcliffe et al., 2001).
Personal factors	Personal factors or characteristics assessed in this project that may influence NGNs' satisfaction with the practice environment include: i) age; ii) gender; iii) history of previous paid employment, and; iv) level of confidence in handling clinical situations.
Practice Environment Scale (PES-AUS)	A survey used to measure positive regard nurses have for their practice environment and identifies issues related to professional practice, staff satisfaction and retention, thus enabling targeting of pre-identified service gaps and areas for improvement.
Open-ended questions	A question used in the survey of this project that enables participants to provide a response to the questions in their own words.
Reality Shock	A term that describes the gap between the undergraduate program and the realities in the workplace (Kramer, 1974).
Restorative	The provision of support to better manage the emotional burden of clinical work (Cutcliffe et al., 2001).
Situational factors	Situational or organisational factors are those that may influence the NGNs' satisfaction with the practice environment. These include assigned unit (critical-care or non-critical care), level of satisfaction with unit-based orientation and satisfaction with the clinical supervision offered within the TSP.
Tertiary level hospital	Highly specialized staff and technical equipment—for example, cardiology, intensive care unit, and specialized imaging units; clinical services highly differentiated by function; could have teaching activities; size ranges from 300 to 1,500 beds
Transition	The period of time (1-2 years) when a new graduate nurse undergoes a process of learning and adjustment in order to acquire the skills, knowledge and values required to become a functioning member of the healthcare team.
Transitional Support Programs	Programs where new graduate nurses rotate across clinical specialties to develop knowledge and skill. Can also be referred to as transition to specialty practice programs or graduate nurse programs.
Workplace satisfaction	For the purpose of the CLASSIC Project, workplace satisfaction is taken to mean satisfaction with the practice environment, clinical supervision and orientation received.

Preface

The purpose of this preface is to introduce my own position as researcher in this project, and to acknowledge the experiences and beliefs which I brought to the interpretation of the data.

This research began in January 2012 and emerged from my role as a clinical nurse educator and later as a workforce Nurse Manager (NM) and Nursing Unit Manager (NUM) of a large intensive care unit in a tertiary level teaching hospital in South Western Sydney, Australia. In these roles, I was responsible for the recruitment and support of nurses, including new graduate nurses (NGNs) who were making the transition from university to practice in acute care settings. I observed new graduates at times struggle with the challenges faced in departments such as emergency, intensive care and general ward areas. Witnessing these struggles reminded me of my own experiences as a new graduate. While mostly positive, I recall times when I felt intimidated by senior nurses who would question me in front of other staff (including medical and allied health staff) in an attempt to 'educate' me, but I felt at the time it was more about trying to show me up as lacking knowledge. This impacted on me in that I knew I had to be resilient if I wanted to remain in nursing. I would take lots of notes, write things that I didn't understand down and go home and look these up. I would also ask lots of questions and I tried to ensure I worked with nurses who I felt were approachable and supportive. Fortunately, I could debrief with my wife (who was also a new graduate nurse!) and other family members who were more experienced nurses.

As a new graduate I was fortunate that I had good social support, and in some ways these negative experiences firmed my resolve never to treat new graduates as I had been treated. I suspect this is partly why I became interested in understanding how managers could better

support new graduates, but it was some early experiences as a clinical nurse educator and nurse manager that ultimately brought me to this research.

Early in my career I recall learning about a new graduate who would induce vomiting prior to commencement of a shift out of fear of what might lie ahead. I also recall new graduates walking into my office to “vent” their challenging experiences on the floor then breaking into tears and saying, “I can’t do it” or “I am not ready for critical care nursing”. Some of these new graduates would later leave nursing.

Following a critical incident involving new graduate nurses, one of the recommendations following the investigation included providing ‘improved clinical supervision’. Unsure what this comprised, I undertook preliminary research into the clinical supervision of new graduate nurses however, what I found was that research predominantly focused on clinical supervision of new graduate nurses in mental health settings which didn’t seem particularly relevant in the context of an acute care setting.

This research study aimed to broaden the discourse by providing insights into how the nursing profession could better support its NGNs in acute clinical environments during their transition to practice (TSP), positively impacting on their practice development and provision of safe patient care and ultimately, their intention to stay in nursing.

CHAPTER ONE
Introduction

1.1 Overview

This thesis explores the clinical support and experiences of new graduate nurses during a 12-month transitional support program (TSP). The findings of this thesis are presented as a series of four publications. This chapter describes the background, which contains an overview on the development of clinical supervision (CS) in nursing, including the importance of clinical support in contemporary nursing practice, the need for TSPs to support new graduate nurses (NGNs) and the personal and situational factors that influence NGNs' job preparedness, job satisfaction and intention to stay in their assigned clinical specialty. The study aims and structure are also described in this chapter.

1.2 Background

In Australia, as in many developed countries, a rapidly ageing population combined with escalating rates of complex and chronic diseases has increased the demand for acute care services (Innes & Calleja, 2018). Globally, developed countries are experiencing a looming nursing shortage, a consequence of a generation of 'baby boomer' nurses leaving the workforce and being replaced with a surge of new graduates (Figueroa et al., 2016; Gellasch, 2015). Despite this 'replacement', NGNs account for the highest number of nurses both entering and exiting the profession (Tomietto et al., 2015). Although NGNs leave the profession for multiple reasons including negative workplace experiences, excessive workloads, inadequate skills and knowledge, and insufficient support from colleagues and managers (Çamveren et al., 2020; Ulupinar & Aydogan, 2021), these factors are more likely to be encountered in increasingly complex clinical settings (Kavanagh & Szweda, 2017).

Acute healthcare settings both in Australia and developed countries are rapidly evolving and becoming increasingly complex (Australian Government Department of Health, 2020). Estimates suggest 67% to 85% of NGNs are employed in acute care settings (Rush et al., 2019), characterised by rapid patient turnover, increasing use of technology, and higher patient acuity, with many patients in advanced stages of illness (Gilmour et al., 2017; Parker et al., 2014).

The first year of practice is still recognised as a stressful period, particularly at the point of care (Figueroa et al., 2016; Hampton et al., 2021; Jamieson et al., 2019). Ongoing reports of NGNs' transitional experiences continue to highlight an almost half-century old problem—commonly referred to as 'reality shock' among NGNs (Kramer, 1974). This suggests that little has changed over time (Huston et al., 2018) with recent systematic reviews still reporting NGNs' lack of practice-readiness for their role as registered nurses (RNs) (Bakon et al., 2018; Rush et al., 2019).

Factors contributing to this gap include entry level competencies in the areas of communication, critical thinking, time management, stress management and leadership skills (Theisen & Sandau, 2013). These factors are further compounded by high levels of stress related to NGNs facing unfamiliar treatment modalities, caring for deteriorating patients (Rush et al., 2019), being unable to make connections with teams, seeing patients suffer (Baldwin et al., 2021), working in an unsupportive workplace culture (Hawkins et al., 2019), being clinically unprepared and receiving inadequate or no regular feedback from preceptors (McKenzie et al., 2021). Finally, evidence suggests registered nurses are not equipped with the necessary skills to support NGNs' development during their first year of

practice, particularly out of hours when nurse educators are often not available (Henderson et al., 2015).

Providing support to NGNs during the first year of practice is therefore critical to promote growth capability, capacity and confidence to provide safe and quality care, to increase job satisfaction and ultimately, retention rates (Innes & Calleja, 2018; McKillop et al., 2016).

1.2.1 Importance of clinical support in contemporary nursing practice

In 2008, the Special Commission of Inquiry into the New South Wales (NSW) Acute Public Health System highlighted the importance of patient safety and its link to effective clinical supervision of junior clinicians, including nurses (Garling, 2008). More recently the need for standardisation of clinical supervision for hospital clinicians, including nurses, was highlighted as a national priority by Health Workforce Australia, and a National Clinical Supervision Support Framework developed to support the acquisition of core skills and competencies (Health Workforce Australia, April 2011). While it is well-established that clinical supervision builds clinical nurse competence and reduces clinical errors (Garling, 2008), evidence also indicates inadequate supervision is a contributing factor to critical incidents with poor patient outcomes (Mellor & Greenhill, 2014; Spector et al., 2015; Tyndall et al., 2018).

Hence, in order to achieve more effective NGN supervision there is a need to optimise a more 'front line' approach to clinical learning and supervision of NGNs in acute care settings. This is essential for ongoing improvements in patient safety and establishment of a model of clinical support that is more responsive to the clinical moment 'here' and 'now' for all acute care patients and nurses.

1.2.2 Transitional support programs

In Australia, following decades of negotiation and political lobbying, a decision to transfer nursing education from the hospital setting to the tertiary sector was announced in 1984 (Levett-Jones & FitzGerald, 2005). The challenges faced by NGNs in their transition from university to the acute care setting soon became apparent and resulted in the development of new graduate programs (Schoessler & Waldo, 2006), also referred to as graduate nurse programs (GNPs), transition to specialty practice program (Missen et al., 2015), transition to practice, residency internship, nurse entry to practice and early career nursing programs (Doughty et al., 2018). Collectively, these programs aim to promote clinical adjustment, support NGNs' professional development and improve retention (Missen et al., 2014). Ranging anywhere from 6-24 months, these programs enable NGNs to rotate across 2-3 specialty settings, generally include facility and ward orientation, pre-planned study days, varying levels of preceptorship periods, formal and informal clinical supervision and support. Hence, transitional support programs are not standardised, with wide variability among programs across acute care settings with different aims/objectives, content and type of support provided (Bakon et al., 2018).

Nonetheless, transition to practice remains a contentious issue with growing concerns over NGNs' ability to cope and deliver safe nursing care in an environment characterised by nursing staff shortages, increased patient acuity (Twibell et al., 2012) and at times limited access to support (Rush et al., 2019). While in many acute care settings transitional support programs still exist, the move to more ward-based and individualised education and training is still emerging (Hung et al., 2020).

1.2.3 Clinical supervision in nursing

Despite numerous definitions of clinical supervision (Pollock et al., 2017), and as many approaches to its implementation both within and between professional groups and practice settings (Milne, 2007; Pollock et al., 2017), these definitions and approaches all share a common understanding that clinical supervision is a practice commonly undertaken by experienced and skilled nursing clinicians to assist less advanced practitioners (Sloan & Watson, 2002).

Although it is not the intent of this thesis to embark on a comprehensive historical journey through what has been described as the 'global phenomenon' of clinical supervision (Cutcliffe, 2005), it is important to provide some insight into its rather fitful development and implications for the nursing profession. It could be argued that contemporary clinical supervision was foreshadowed by Florence Nightingale during the Crimean War where she introduced the practice of senior nurses guiding junior nurses (White & Winstanley, 2014). However, clinical supervision as we know it today has its roots in two developments. The first was charitable work conducted during the late nineteenth century, which in turn formed the basis for modern social work (White & Winstanley, 2014). During this period charity visitors began to organise their activities and "learn principles of practice and techniques of intervention from one another" (Hansan, n.d.), features which White and Winstanley (2014) liken to staff support and practice development. The second development—which took place during the 1920s—was the requirement for psychoanalysts in training to undergo supervised psychoanalysis sessions (White & Winstanley, 2014). The application of clinical supervision principles to supervising nursing practice soon followed (Taylor, 1940) however, in 1954 a key factor that ultimately influenced the widespread

adoption of clinical supervision was a lack of trained social workers. This resulted in psychiatric nurses being seconded from hospital wards to what was at the time an embryonic community-based mental health service (May, 1961; Moore, 1961).

By the 1970s, clinical supervision had become a structured formal arrangement of support for staff employed in human service agencies, including social work and psychotherapy (Kadushin, 1976). This was soon followed by the publication of one of the most widely adopted (and adapted) frameworks for clinical supervision in health care practice, particularly among nurses and allied health workers (Proctor, 1986).

Although clinical supervision, as outlined in Proctor's framework, was more likely to occur in mental health settings, it was soon recognized that it could be adapted and the underlying principles used in general nursing contexts (Begat et al., 1997; Butterworth, 1992). Consequently, the 1980s witnessed what White and Winstanley (2014, p. 17) have called a "proliferation in groundbreaking international clinical supervision publications" with its use being reported in the United States of America (USA), Australia, New Zealand, Europe and Scandinavia. During the 1990s and early part of the 2000s, numerous clinical supervision models were being described within the nursing literature ranging from growth and support models (Butterworth, 1992), cluster models (Bourgeois et al., 2011), the 4S model (structure, skills, support and sustainability) (Waskett, 2009) and Proctor's normative, formative, restorative model (Winstanley & Edward, 2003).

Clinical supervision had become a key feature in clinical governance and quality assurance programs (Mills et al., 2005). However, along with the proliferation of clinical supervision models were differences in the conceptualisation of clinical supervision (Lynch et al., 2008;

Lyth, 2000), leading to differing interpretations of the perceived role of clinical supervision (Rizzo, 2003). This ambiguity and confusion contributed to a diffused understanding of its purpose, value and effective adoption in nursing (Cleary et al., 2010; Franklin, 2013).

Few current models of clinical supervision have been derived from empirical research on newly graduated nurses but rather, based on clinical experiences (Milne et al., 2008) and in an ad hoc fashion (Mullarkey et al., 2001). The development of a more pragmatic and nursing-specific model of clinical supervision to align with the learning needs of NGNs has the potential to improve confidence as well as clinical competence of this group, and at the same time, improve the quality of care and promote patient safety in acute care settings.

In the Clinical Support for New Graduate Nurses in Acute Care Settings (CLASSIC) Project, clinical supervision was defined more broadly, consisting of transition support at point of care (for example, clinical teaching, buddying), facilitated professional development (for example, coaching and mentoring) and formalised clinical supervision (Health Education and Training Institute, 2013).

1.2.4 Effectiveness of clinical supervision

As previously described, NGNs face significant challenges when entering the workforce (Parker et al., 2014), thus underscoring the importance of providing effective clinical supervision. Gonge and Buus (2011) suggest the effectiveness of clinical supervision "reflects on how the individual experiences the complex process of participating in clinical supervision" (p. 103), with consensus that clinical supervision is effective in providing peer support and stress relief, as well as promoting professional accountability and skill and knowledge development within specialty groups such as mental health nurses and aged care

nurses (Brunero & Stein-Parbury, 2008; Snowdon et al., 2016), benefits that might be categorized as restorative or formative in accordance with Proctor's model (Proctor, 1986).

Interestingly, in an overview of reviews of the effectiveness of clinical supervision in which six of the ten studies were undertaken in mental health or counselling settings (Pollock et al., 2017), the authors reported there was no convincing evidence of effectiveness, although they also noted a lack of consistency and large variations in what was delivered as clinical supervision. More recent studies suggest clinical supervision is effective, including in non-mental health nursing specialties such as perioperative (Crafoord & Fagerdahl, 2017; Jans et al., 2021), palliative care (Keane et al., 2020) and primary care nursing (Almadani, 2019; Bruce et al., 2018).

While Pollock et al. (2017) and co-authors identified lack of consistency and variability in the delivery of clinical supervision as factors contributing to their review findings (Pollock et al., 2017), it is likely that the effectiveness of clinical supervision "reflects on how the individual experiences the complex process of participating in clinical supervision" (Gonge & Buus, 2011) (p. 103). For example, personal and sociodemographic characteristics of the individual such as age, sex and education and environmental factors such as workloads, workplace culture, general versus specialty practice settings and staff education have all been shown to mediate both the experience and effectiveness of clinical supervision (Gonge & Buus, 2011; McKenzie et al., 2021; White & Winstanley, 2010).

1.2.5 Clinical supervision and new graduate nurses

As previously described, when clinical supervision is provided for NGNs, this usually comprises both formal and informal components and is generally provided within a larger

program such as a transitional support program. The inclusion of both components is particularly important as evidence suggests that clinical supervisors (who are most often the clinical nurse educators or senior ward nurses), often do not have sufficient time to provide the level of supervision required by NGNs to reduce their anxiety, improve clinical skills and competency, and promote confidence, all of which have been shown to increase both the satisfaction and retention of NGNs (Aparício & Nicholson, 2020; Bakon et al., 2018; Rush et al., 2019; Tapping et al., 2013).

1.2.6 Job satisfaction and new graduates' intention to stay in nursing

The U.S. Department of Labor Bureau of Labor Statistics (2016) predicts the number of nursing vacancies will be nearly 1.2 million by 2022, despite the projected growth of nursing employment by 7% from 2019 to 2029. In the United Kingdom (UK), the nursing workforce deficit is expected to reach 38,000 nursing vacancies as a result of the COVID-19 pandemic (NHS Digital, 2020). In Australia, a deficit of over 100,000 nurses is expected by 2025 (Health Workforce Australia, 2014). Researchers have also found that NGNs' inability to deal with intense working environments has resulted in significantly high turnover rates of 35-65% in the first year of employment (Beecroft et al., 2008). Additional studies show that between 15% (Unruh & Zhang, 2014) to 60% (Burr et al., 2011) of NGNs are still leaving nursing within the first year of practice.

In Australia there is also a lack of empirical data that quantifies NGN retention (Stewart et al., 2006) and accessibility to national figures on NGNs' employment in transitional support programs is difficult, as these figures are predominantly maintained at an area health service level. The turnover of nurses has been linked to the notion of 'reality shock' (Hoffart et al., 2011) resulting in significant financial costs for health care organisations (Twibell et

al., 2012). Ultimately, NGNs' intention to stay in acute care settings remains a concern (Cadmus & Wurmser, 2019; Missen et al., 2014; Tapping et al., 2013) and the reliance on clinical support to facilitate an effective transition into clinical specialties is paramount. Subsequently, nurse managers and clinical supervisors remain challenged to facilitate the transition of NGNs into acute care in a way that develops confidence, fosters satisfaction, thereby improving retention (Giallonardo et al., 2010; Henderson et al., 2015; Pineau Stam et al., 2015).

1.3 Statement of the problem

New graduate support programs are designed on the basis that providing education and clinical support for nurses in their first year of practice promotes the development of clinical proficiency, supports professional development and improves their retention (Herdrich & Lindsay, 2006; Kathy L. Rush et al., 2013; Scott et al., 2008). However, there is increasing awareness that these programs alone may not be sufficient to support NGNs and induce the level of competence that will lead to better standards of patient care. While the delivery of quality care and ensuring patient safety is the responsibility of all health care professionals, new graduate nurses are entering acute healthcare settings increasingly characterised by complex technology, higher acuity patients, staff shortages and heavy workloads (Gilmour et al., 2017; Parker et al., 2014). Such settings may challenge NGNs' ability to deliver consistent, safe, quality care, with some studies suggesting as few as 25% of NGNs demonstrate practice readiness (Kavanagh & Szweda, 2017). Dealing with these intense working environments contributes to high NGN turnover rates, with between 15% (Unruh & Zhang, 2014) to 60% (Beecroft et al., 2008; Burr et al., 2011) of NGNs leaving nursing within the first year of practice.

Previous researchers have focused on common elements of transitional support programs likely to influence NGN job satisfaction and their decision to remain in nursing however, less is known about how these factors interact in specific contexts to influence NGN's intention to stay or leave the profession. The CLASSIC Project sought to understand the factors that influenced NGNs' satisfaction with transitional support, development of competence and confidence, approach to patient care and safety, satisfaction and intention to stay in their clinical specialty.

1.4 Research aim and significance

The aim of the CLASSIC Project was to examine the effectiveness of a 12-month transitional support program offered to NGNs in a tertiary referral hospital. The project also sought to understand their experiences of clinical support and the practice environment across a number of specialties, and whether these experiences affected their job satisfaction, level of confidence in handling clinical situations and intention to remain in their clinical specialty. Understanding the factors affecting clinical support of NGNs in high-acuity clinical settings could inform more appropriate interventions that are tailored to their needs and elucidate how these factors influence their intention to stay.

1.5 Research questions

The following research questions were addressed in sequential studies:

1. What are the personal and situational factors, and elements of clinical supervision that influence new graduate nurses' workplace satisfaction during their transitional support program?

2. What are the changes in new graduate nurses' perceptions and experiences during the transitional period?

3. What are the clinical support experiences of new graduate nurses throughout their transition period, and how do these experiences impact on their learning, job satisfaction and skill development?

4. What are new graduate nurses' perceptions of clinical supervision and the practice environment, and how do these influence their intention to stay in their clinical specialty following their TSP?

1.6 Thesis structure

This thesis is submitted as a series of publications that were completed during the period of enrolment. It contains four papers published in refereed journals, where the candidate is first author. Supporting these publications are the introduction, methods and summary chapter to provide context and further explanation where necessary. The thesis structure is presented in Figure 1.

Chapter One presents a background to the challenges faced by new graduate nurses commencing practice in acute care settings and how transitional support programs, comprised of formal and informal clinical supervision aim to support new graduate nurses. The evolutionary development of clinical supervision, its importance in contemporary nursing practice and the benefits resulting from effective clinical supervision are described.

Chapter Two presents a review of the literature, with a focus on transitional support programs including models of support utilised in NGNs' transition to practice.

Chapter Three presents the methodology and methods used in the CLASSIC Project. The rationale for the selection of a sequential embedded mixed methods design and details of each phase are provided.

Chapter Four (Paper 1) presents the results related to the predictors of NGNs' satisfaction with their practice environment during the early stages of their TSP in a large tertiary facility. This chapter is presented as a paper published in the *Journal of Nursing Management* (Hussein et al., 2015).

Chapter Five (Paper 2) presents the follow-up findings that examined change in NGNs' perceptions over the 12-month TSP. This chapter is presented as a paper published in *BMC Nursing* (Hussein et al., 2017).

Chapter Six (Paper 3) reports the clinical support experiences of NGNs and how these experiences influenced their learning, job satisfaction and skill development during their new graduate transition. The paper was published in the *Journal of Nursing Management* (Hussein et al., 2019).

Chapter Seven (Paper 4) reports the results related to NGNs' intention to remain in their clinical specialty. This chapter is presented as a paper published in *Australian Critical Care* (Hussein et al., 2019).

Chapter Eight (Summary and Conclusion) presents a summary of the integration of both the quantitative and qualitative findings of the CLASSIC Project. It provides an overall conclusion for the study, addresses the study strengths and limitations and concludes with recommendations for clinical practice and future research directions.

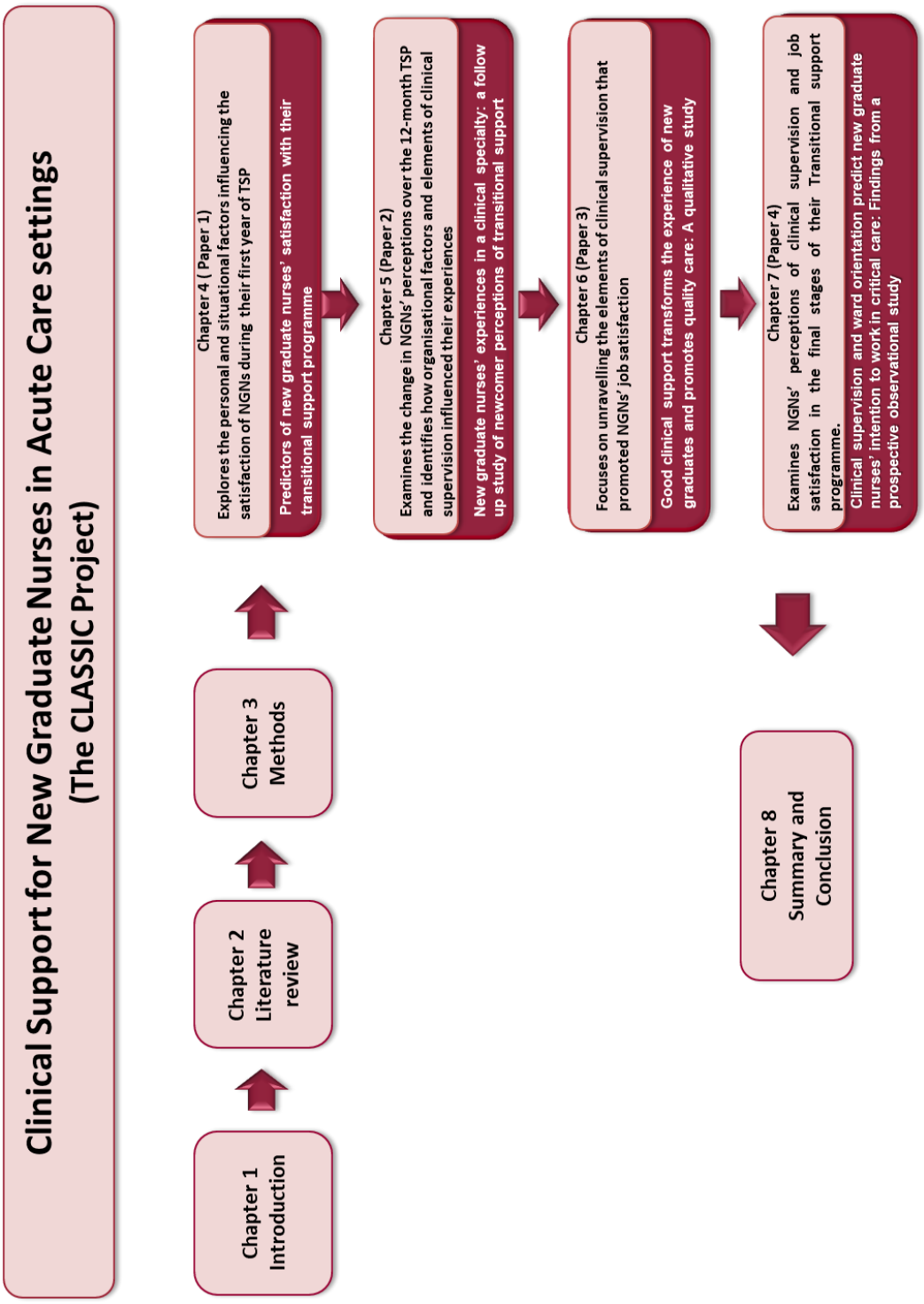


Figure 1.1: Thesis structure flowchart

CHAPTER TWO
Literature Review

2.1 Introduction

This chapter presents a critical review of the literature to identify key elements of and approaches toward clinical support for an effective new graduate nurse (NGN) transitional support program (TSP). To achieve this, a comprehensive review of the literature was conducted to identify clinical support approaches and key elements used in TSPs to support NGNs in acute care settings. This review was updated in July 2020 to identify additional studies published since the review was originally undertaken in 2016.

2.2 Background

The transition from a nursing student to an NGN can be a difficult time during which nursing graduates need to learn how to practice independently in fast-paced acute care settings (Boychuk Duchscher, 2001; Parker et al., 2014). Researchers have described this as a challenging time that is associated with stress, feelings of being unprepared and reality shock (Kramer, 1974; Missen et al., 2014). These challenges can lower NGNs' satisfaction and confidence and ultimately increase turnover within the first 12 months of practice (Laschinger et al., 2010). To assist NGNs during transition, acute care facilities offer clinical support approaches within programmes aimed at their professional development (Parker et al., 2014).

Transitional support programs were developed to support, guide and mentor NGNs in hospitals and health systems during their transition to practice (Scott et al., 2008). A TSP aims to support NGNs to adjust to their professional role and develop new skills to promote

safe and competent practice, particularly when working in different speciality settings. Generally, TSPs are multifaceted, incorporating strategies to promote supportive environments and educate graduate nurses during their transition. These strategies commonly include a combination of orientation, preceptorship, study days, classroom learning, clinical supervision, reflective sessions and structured clinical immersion. Research has shown that these elements of support reduce work-related stress and turnover while improving patient safety and enhancing job satisfaction (Laschinger et al., 2010; Trepanier et al., 2012).

Kramer (1974) originally used the term 'reality shock' to describe the disparity between new graduates' expectations and 'real life' clinical practice. In 2009, the term 'transition shock', was first used to capture the 'acute and dramatic process of professional role adaptation for the new nurse (Duchscher Boychuk, 2009). The term was introduced to describe the physical, intellectual, developmental and sociocultural alarm NGNs may experience during their transitional experience. This is not surprising as it is common for the acute care hospital settings to be entrenched in a hierarchical culture of dominant normative behaviours that have previously been described as prescriptive, cognitively restrictive and intellectually oppressive (Boychuk Duchscher, 2001).

In Australia, the quality of clinical support offered to NGNs within these programs continues to attract attention in acute care settings. To date, there is no standard model for the duration, type or amount of supervision provided to new graduates during their transitional support program, nor are there specific qualifications required of staff who support new graduates during their transition, such as clinical supervisors, mentors or preceptors. A study by Mellor and Greenhill (2014) found that the focus on patient safety was less

prioritised without leadership support. It is important that healthcare organisations are aware of the roles and responsibilities of NGNs so that expectations of NGNs are realistic, particularly given that patients are often admitted with multi-system disorders Sturmberg and Lanham (2014). Hence, the need for clinical support of NGNs is paramount to address transition concerns and prevent NGNs practicing out of their depth.

There is evidence that clinical support of NGNs has been growing in acute care settings (Blegen et al., 2015; Ostini & Bonner, 2012; Parker et al., 2014). Whilst these efforts have resulted in improved NGNs' confidence and competence, job satisfaction and retention rates (Haggerty et al., 2013; McKillop et al., 2016; Tapping et al., 2013); not all hospitals have invested in transition programs for new graduates (Spector et al., 2015).

The purpose of this review was to synthesise the existing literature, to identify what is known about the elements or the approaches used in NGN clinical support that are effective in promoting success during their transition to graduate practice. This knowledge will provide empirical evidence to inform nurse managers and educators who are considering how to best address the core needs of NGNs. Specifically, this review will address the following question: "What are the approaches and factors of NGN clinical support that promote transition to practice?"

2.3 Methods

2.3.1 Search strategy

An integrative review was selected as a suitable method to synthesise literature regarding elements of clinical support offered to NGNs within their transition to practice programs. This integrative review followed the approach suggested by Whittemore and Knafl (2005): 1. Problem identification 2. Literature search stage, 3. Data evaluation, 4. Data analysis and 5.

Presentation. Electronic searches of CINAHL, Embase Classic, Embase, Maternity & Infant Care, Nursing and Allied Health, Ovid Emcare, Ovid Medline, ProQuest Central, PsycINFO, and Scopus were used to ensure all relevant articles were located. The searches were not restricted to papers with a publication date to ensure all historical and contemporary practices of clinical support for NGNs were captured.

Search strategies using database-specific subject headings and key search terms were run in each of the databases (Appendix A). The search terms used are presented in Table 2.1. This search was run on the 20th of June 2015.

Table 2.1: Search strategy

POPULATION	INTERVENTION
• “new nurs*”	"clinical supervision"
• “recent nurs*”	"clinical support"
• “new* graduat* nurs*”	"transition* support programs"
• “recent* graduat* nurs*”	"new graduat* program*"
• “new* qualif* nurs*”	"recent* graduat* program*"
• “recent* qualif* nurs*”	"professional support"
• “junior nurs*”	"transition* guidance"
• “new* licensed nurs*”	"transition* program*"
• “new* registered nurs*”	"transition* practice program*"
• “new* certified nurs*”	“pathway* to practice program*”
• “recent* licensed nurs*”	“support”
• “recent* registered nurs*”	“preceptorship in nurs*”
• “recent* certified nurs*”	
• “novice nurs*”	

2.3.2 Inclusion and exclusion criteria

To ensure all relevant articles were included, a broad definition of new graduate nurse clinical support was used and all domains of clinical supervision were considered. Studies were included if they:

a. Incorporated a form of clinical support or supervision to NGNs during their transitional support program in an acute care setting;
b. explored an approach or model of clinical support or supervision to meet the needs of NGNs for successful transition to graduate practice.

Studies were excluded if:

a. Participants were nursing students, enrolled nurses, assistants in nursing or non-new graduate nurses;
b. the study setting was a mental health setting or a non-acute care setting for example, aged care facility;
c. the article was not published in the English language;

2.3.3 Study selection and data collection

The 27-item PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) Statement was used to guide the search (Moher et al., 2009). The search yielded a total of 6464 papers. After duplicates were removed the doctoral candidate and one supervisor (YS) undertook initial screening based on the study title and abstract. A research assistant (JT) was employed to assist with the initial screening of articles by title and abstract. A total of 2193 records which were not relevant to the scope of the project were excluded resulting in the full text of *n*=148 being retrieved for further consideration. Following review of full text articles, *n*=122 articles were excluded. This included papers removed due to a wrong intervention implemented for example, mentorship (*n*=11) and preceptorship (*n*=13), resulting in 26 studies for inclusion in the final review. Details are presented in the PRISMA flowchart (Figure 2.2).

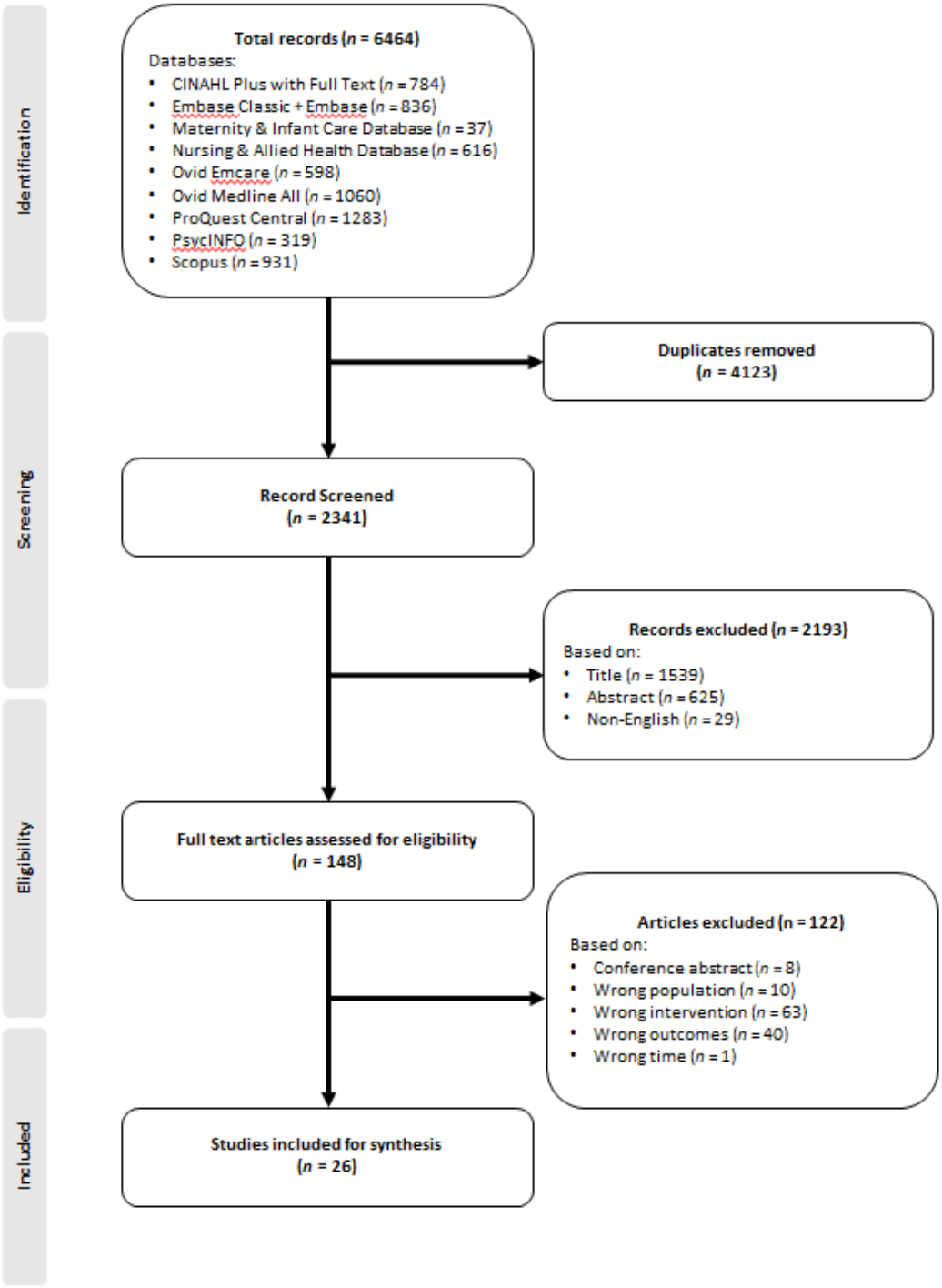


Figure 2.2: PRISMA Flowchart (Moher et al., 2009)

2.3.4 Critical appraisal

Methodological quality of the qualitative and quantitative studies included in this literature review was undertaken by the doctoral candidate and a research assistant (JT) using the JBI checklists (JBI, 2020). Mixed methods studies were critically appraised using the mixed methods appraisal tool (MMAT) by Hong et. al (Hong et al., 2018). Findings of the critical appraisals are presented in Appendix B. Overall, the quality of the qualitative and quantitative studies was considered moderate and the quality of the mixed methods studies low-to-moderate. No studies were excluded based on methodological quality but instead to develop an understanding of the relative strengths and weaknesses of the literature (Centre for Reviews and Dissemination, 2009).

2.3.5 Data extraction procedure

Data were extracted from published studies using the framework Population, Intervention, Outcomes and Time. A template covering the country of origin, setting, study design, model of support, elements of support, outcome and additional comments was utilised.

Articles were reviewed for their scope, purpose, sample and methods, elements of clinical support approach (for example, orientation, clinical supervision, preceptorship, mentoring, study and reflective learning days), mode of delivery (for example, face-to-face, online, distance learning) and findings. The details of each article reviewed are presented in Table 2.2.

Table 2.2: Summary of included studies

Study, country, setting	Scope, purpose, sample and methods	Clinical support approach		Key findings	Themes
Al-Dossary et al. (2016) (Saudi Arabia) Three hospitals in Saudi Arabia (Two with residency programs and one with no residency program)	**Aim** To examine the impact of residency programs on clinical decision-making among new graduate nurses (NGNs) who completed a residency program compared to those who did not participate in residency programs **Sample** Convenience Sample; Comparative study between 2 hospitals with a residency program and one with no residency program NGNs in a residency program (n = 43); NGNs with no residency program (n = 55). **Methods** Descriptive study using a self-administered questionnaire and the Clinical Decision Making in Nursing Scale	**Key elements of clinical support approach** ○ Department and hospital orientation (2 weeks) ○ Content (e.g. mission, vision, rules and regulations, infection control, hospital computer systems, etc.) ○ Clinical and technical skills (nursing-related) ○ Preceptorship **Delivered by:** ○ Preceptors ○ Head nurses	**Mode of delivery** ○ Face-to-face **Program duration** 6-12 months	○ NGNs in the residency programs had significantly higher levels of clinical decision-making skills than non-residents (t = 23.25, p < 0.001) ○ Enrolment in a residency program explained 86.9% of the variance in total clinical decision making controlling for age and overall grade point average	Transitional process, leadership, patient outcomes, nursing professional role, clinical decision making
Forde-Johnston (2017) (UK)	**Aim** To evaluate the Oxford University Hospitals NHS Foundation Trust foundation preceptorship programme for newly qualified nurses commencing Band 5 posts in the trust	**Key elements of clinical support approach** ○ Labelled as 'Foundation preceptorship programme' ▪ 16 study days; 1:1 support with preceptor-preceptee clinical supervision time (minimum, 2 clinical shifts per week)		○ Overall favourable responses regarding program content, structure, organisation and management ○ High level of intellectual challenge but perceived as being necessary	Working on clinical skills, clinical supervision, confidence, intellectual challenges, being supported

Study, country, setting	Scope, purpose, sample and methods	Clinical support approach		Key findings	Themes
Oxford University Hospitals NHS Foundation Trust	**Sample** NGNs (*n* = 37) **Methods** Mixed methods using 2 questionnaires and 3-monthly focus groups with NGNs and nurse managers in the trust	▪ Monthly clinical supervision and monthly review meetings with preceptor		○ Positive feedback about preceptor-preceptee supervision time ○ Increased new graduate nurses (NGNs') confidence in practice	
		Delivered by: ○ Practice development nurses, educators, advanced nurse practitioners, ward and specialist nurses, preceptors	**Mode of delivery** ○ Face-to-face **Program duration** ○ 12 months		
Gellerstedt et al. (2019) (Sweden) 1,600-bed University Hospital with 1,609,000 patient visits and 105,600 inpatient care days per year	**Aim** To describe newly graduated nurses' (NGNs') experiences of introduction processes and leadership within a hospital trainee programme. **Sample** NGNs (*n* = 19) **Methods** Qualitative design with an inductive approach using 60-minute focus group interviews (FGIs) with questions based on a pre-developed topic guide.	**Key elements of clinical support approach** ○ Traineeship program: study visits, reflection, training days, skills development including at simulation centre ○ Rotation through different clinics, e.g. surgical and medical wards		○ Bridging gap between theory and clinical reality ○ Positive feedback about training group, for reflection and debriefing (able to talk to someone not directly associated with the wards) ○ Access to supervisors and experienced nurses – increased learning opportunities	Reflection on practice, being challenged, emotional support (enhanced both personal and professional development) communication, sense of belonging, nurse retention
		Delivered by: ○ Not explicitly stated, presumably, coordinators of program ○ Access to experienced nurses and nurse managers	**Mode of delivery** ○ Face-to-face (reflection, skill development) **Program duration** ○ 18 months		

Study, country, setting	Scope, purpose, sample and methods	Clinical support approach	Key findings	Themes
Hussein et al. (2018) Acute care tertiary hospital (single site), location in western Sydney region, New South Wales, Australia	**Aim** To examine new graduate nurses (NGNs') perceptions of clinical supervision and the practice environment and how these influenced their intention to stay in critical and noncritical care areas **Sample** NGNs' (n) = 109 completed the baseline survey and 87 who completed the follow-up survey **Methods** Follow-up findings from a larger pre-test and post-test research study	**Key elements of clinical support approach** ○ Two rotations across two wards/units for a period of 6 months each ○ Orientation days on the wards/unit which ranged from 2 days in general ward areas and 10 days in critical care areas ○ Consisted of supernumerary time with a trained preceptor or clinical nurse educator ○ Attended programmed education sessions covering essential clinical skills relevant to the specialty area **Delivered by:** ○ Preceptors ○ Clinical nurse educator **Program duration** ○ 12 months	○ NGNs' intention to stay in their current ward/unit was directly related to not being placed in clinical situations beyond their capability and working in a critical care specialty ○ NGNs' intention to remain in critical care specialities yielded two independent significant predictors: -High satisfaction with clinical supervision -High satisfaction with unit orientation	Intention to stay, Practice within clinical capability, Job satisfaction
Hussein et al. (2017) Acute care tertiary hospital (single site), location in western Sydney region, New South Wales, Australia	**Aim** To evaluate the impact of transitional support program on new graduate nurses (NGNs') perception of confidence, competence, workplace satisfaction and intention to stay in that specialty **Sample** NGNs (*n)* = 109 at baseline, and 87 at the end of transition program	**Key elements of clinical support approach** ○ Transitional support program: Generic and ward-specific orientation days; Supernumerary days initially, 'buddied-up' with preceptor (experienced registered nurse or a clinical nurse educator) ○ Programmed study days throughout transitional program After-hours and ward-based nurse educators to support NGNs	○ Opportunities to develop their clinical competence; however, access to opportunities for further development and support varied depending on the availability and expertise of the TSP coordinators, the after-hours and ward-based nurse educator and clinical nurse specialists, team leaders and other senior staff	Clinical competence, after-hours support, job satisfaction, structured support

Study, country, setting	Scope, purpose, sample and methods	Clinical support approach		Key findings	Themes
	Methods Mixed methods approach with a pre- and post-test survey design and one-on-one interview with NGNs at the end of transition program.	**Delivered by:** Transitional support program coordinators; clinical nurse educators and preceptors	**Mode of delivery** ○ Face-to-face **Program duration** 12 months	○ Overall satisfaction with TSP but intention to say in current workplace (ward, unit or department) was dependent on satisfaction with unit-based orientation support; those working in critical care specialty were more likely to express an intention to stay in that specialty.	
Owings (2016) (USA) 583-bed community hospital in the South-eastern region of the USA	**Aim** To determine if new graduate nurses (NGNs) benefitted from participation in a 1-year University Health System Consortium/ American Association of Colleges of Nursing (UHC/AACN) nurse residency program in a community hospital. **Sample** Convenience Sample NGNs in five cohorts (*n* = 121) **Methods** Secondary data analysis design. Data was collected from the Casey-Fink Graduate survey completed by participants at the start of program, 6 months into the program, and again at the end of the year-long program	**Key elements of clinical support approach** ○ Two-phase program: Phase 1 (first 6 months) – successful transition into clinical unit; Phase 2 (second 6 months) – professional and scholarly development ○ General orientation; preceptor-guided clinical experience; monthly meeting with resident facilitator ○ Specific clinical coursework related to specialty; monthly group discussions; teaching sessions – complex case studies; simulation; inter-professional exercises		○ Participation in the program did not significantly improve stress levels or professional satisfaction ○ Significant improvement in self-perception of communication, confidence and leadership skills ○ Reduced turnover rates of NGNs	Stress, professional satisfaction, confidence, patient safety, turnover, communication, leadership, improved work environment, interpersonal relationships.
		Delivered by: ○ Preceptors, nurse educators, staff nurses and academic liaison (faculty) member	**Mode of delivery** ○ Face-to-face **Program duration** ○ 12 months		

<table>
<tr><th>Study, country, setting</th><th>Scope, purpose, sample and methods</th><th colspan="2">Clinical support approach</th><th>Key findings</th><th>Themes</th></tr>
<tr><td rowspan="2">Smyth et al. (2018)
(Australia)

Regional health service in North Queensland, Australia</td><td rowspan="2">Aim
To gain feedback from the perspectives of participants in the 2016 and 2017 intakes about the different components of the health service's transition-to-practice program for new graduate nurses (NGNs).
Sample
Convenience Sample: (n = 77, 37% response rate)
Methods
Cross-sectional survey design using an anonymous, paper-based survey which was developed from those referred to in literature and input from clinical experts.</td><td colspan="2">Key elements of clinical support approach
○ Graduate 2017 program developed with the following components: 1) Orientation to the health service; 2) Clinical and professional orientation; 3) Education days; 4) weekly 1-hour reflective sessions; 5) monthly 1 hour educational forums; 6) monthly 1 hour videoconference support sessions; 7) case study</td><td rowspan="2">○ Most (81%) of respondents intended to remain at the health service for the next 12 months
○ High levels of satisfaction with the program
○ 85% felt well-supported by the Graduate Support Team
○ Reflective sessions were valuable as a confidential environment, and for incident debriefing and peer support</td><td rowspan="2">Job satisfaction, structured support, professional development, reflective practice, rural nurse retention</td></tr>
<tr><td>Delivered by:
○ Program coordinated by nurse educator and two clinical nurses to provide clinical support</td><td>Mode of delivery
○ Face-to-face
Program duration
○ 12 months</td></tr>
</table>

2.4 Results

A total of 26 studies met the inclusion criteria for this review. Of these, 14 (54%) used mixed methods designs (Almada et al., 2004; Anderson et al., 2009; Bortolotto, 2015; Chapman, 2013; Halfer, 2007; Henderson et al., 2015; Herdrich & Lindsay, 2006; Jones et al., 2014; Kowalski & Cross, 2010; Leigh et al., 2005; Olson-Sitki et al., 2012; Pine & Tart, 2007; Scott et al., 2008; Weng et al., 2010), eight (31%) used quantitative designs (Bratt & Felzer, 2011; Dear et al., 1982; Dyess & Parker, 2012; K. L. Rush et al., 2013; Spector et al., 2015; Tapping et al., 2013; Ulrich et al., 2010; West et al., 2014), and four (15%) used qualitative approaches (Adamack & Rush, 2014; Fanelli, 1998; Ostini & Bonner, 2012; Spiva et al., 2013). The majority of studies were conducted in the USA (*n*=17), followed by the UK (*n*=5), Australia (*n*=2), Canada (*n*=1) and Taiwan (*n*=1). Of the included studies, the following were sample size ranges for each of the research approaches: a) Mixed (14 to 380); b) quantitative (44 to 6000+); and c) qualitative study (5 to 117).

The term new graduate nurse transition program was used synonymously in the literature with residency, onboarding, orientation and internship (Al-Dossary et al., 2016; Bortolotto, 2015; Dear et al., 1982; Fanelli, 1998; Halfer, 2007; Herdrich & Lindsay, 2006; Kowalski & Cross, 2010; Spector et al., 2015; Spiva et al., 2013). This review identified nine generic new graduate transitional programs (*n*=9), while the remaining programs were based on a specific model: Residency (*n*=9), preceptorship (*n*=2), internship (*n*=3), mentorship (*n*=1), novice nurse leadership institute (NNLI) program (*n*=1) and nurse foundation program (*n*=1). Transitional programmes (*n*=9) ranged from a duration of 3-months to 18-months, with six of these lasting 12-months.

Residency programs (*n*=9) varied in length from 6 months to 12 months. One study used a 'roll on, roll-off' preceptorship pathway accessible to new graduates between 6 months and 12 months. This method allowed NGNs to commence preceptorship as soon as they started their roles and complete this when their managers deemed them competent and confident in practice (Chapman, 2013). Internship programs (*n*=3) were 11 weeks, 6 months or 12 months in duration. While all studies focused on nurse transition programs, some also focused on additional methods of support such as mentorship (Dyess & Parker, 2012; Halfer, 2007) peer support opportunities (Kowalski & Cross, 2010; Spiva et al., 2013; West et al., 2014) and structured education sessions embedded within the TSP (Pine & Tart, 2007; Ulrich et al., 2010).

In relation to the approaches used to support NGNs within TSP, the review identified eight themes that influenced NGN transition to practice. These included: 1) structured learning activities; 2) access to a trained and designated resource person; 3) the learning environment 4) acquisition of knowledge skills and competence; 5) job satisfaction and confidence; 6) socialisation, teamwork and a sense of belongingness; and 7) retention of new graduate nurses.

This review highlights the variability in the TSP approaches that were developed for NGNs, which differed in their aims, content of the program, support approaches, the types of supervision provided and duration of the programs.

2.5 Key elements of clinical support approaches

2.5.1 Structured learning support

Structured learning support referred to the formal or informal educational activities specifically developed to promote NGNs' transition to clinical practice. A review of the

literature indicated that support offered to NGNs during TSP is multi-faceted. These structured learning supports included orientation, preceptorship, mentorship and peer support (Henderson et al., 2015; Ostini & Bonner, 2012; Ulrich et al., 2010). Typically, initial support commenced during the orientation period, usually provided by a preceptor. The duration of orientation to acute care settings varied widely, ranging from 3 days (Tapping et al., 2013) to 6 months (Pine & Tart, 2007). In one study, the supernumerary period for NGNs allocated to critical care areas was 3 months which allowed for added monitoring, guidance and support (Fanelli, 1998).

Learning opportunities occurred during and beyond ward orientation periods. Twenty-four studies included didactic face-to-face education sessions within a classroom (Adamack & Rush, 2014; Almada et al., 2004; Anderson et al., 2009; Bortolotto, 2015; Bratt & Felzer, 2011; Chapman, 2013; Dear et al., 1982; Fanelli, 1998; Halfer, 2007; Henderson et al., 2015; Herdrich & Lindsay, 2006; Kowalski & Cross, 2010; Leigh et al., 2005; Olson-Sitki et al., 2012; Ostini & Bonner, 2012; Pine & Tart, 2007; K. L. Rush et al., 2013; Scott et al., 2008; Spector et al., 2015; Spiva et al., 2013; Tapping et al., 2013; Ulrich et al., 2010; Weng et al., 2010; West et al., 2014). Four studies included online learning as an education component (Bortolotto, 2015; Dyess & Parker, 2012; Spector et al., 2015; West et al., 2014) while four studies used patient simulation in nursing skill laboratories to support NGNs' learning (Bortolotto, 2015; Kowalski & Cross, 2010; Tapping et al., 2013; West et al., 2014).

Only three of 26 papers (Kowalski & Cross, 2010; Pine & Tart, 2007; West et al., 2014) provided a breakdown on the time spent on didactic face-to-face education sessions. In one of these studies, transition program collaborative consisted of: 1) 4 or 8 hours of classroom, simulation, e-learning and skills laboratory training each week; and 2) 16-24 hours of

supervised clinical practice (West et al., 2014). In two studies, additional peer support sessions were offered 4 to 8 hours monthly (Kowalski & Cross, 2010; Pine & Tart, 2007). Other approaches highlighted in the literature to support NGN transition included learning through structured lectures and skills workshops (Fanelli, 1998; West et al., 2014).Overall, these structured learning activities also focused on communication skills with other healthcare practitioner and improving intra-organisational relationships.

2.5.2 Access to a trained and designated resource person

A feature of some TSPs was having an assigned resource person to provide one-on-one clinical support (Fanelli, 1998). This included personnel such as preceptors, mentors and educators within graduate programs who were able to teach and guide NGNs as needed (Adamack & Rush, 2014; Anderson et al., 2009; Bratt & Felzer, 2011). Although preceptors were the most common resource person who provided clinical support to NGNs (*n*=25), other studies reported that this support was provided by a mentor (*n*=10), nurse educator (*n*=5), front-line nurse leader (*n*=3), Nurse Manager or Head Nurse (*n*=8), professional development staff (*n*=1), nurse education specialist (*n*=8) and program co-ordinator (*n*=6).

A range of clinical support types were provided by resource persons. Structured preceptorship in acute care environments fostered 'learning by doing' and enabled the provision of immediate feedback to NGNs (Bortolotto, 2015). Following generic hospital orientation, NGNs were typically introduced to their clinical work environment by a transition support program co-ordinator. In most cases, upon commencement of their first shift, NGNs were buddied with a preceptor who was usually experienced and trained for the role (Henderson et al., 2015; K. L. Rush et al., 2013).

For effective clinical transition, two studies indicated that a targeted preceptor training approach was necessary to ensure that preceptors took on the role effectively and to reduce preceptor variability during transition programs (Henderson et al., 2015; Leigh et al., 2005). Halfer (2007) reported a phased preceptorship model where NGNs were initially orientated by an educator to ward routines including: procedures, equipment and documentation. Following this, NGNs worked with a preceptor to meet basic competency and then a more experienced preceptor to develop clinical judgement skills whilst providing care for complex patients. Training and development of preceptors were also essential for the provision of effective clinical mentoring of NGNs (Kowalski & Cross, 2010). A study by Weng et al. (2010) found that most mentors (62.09%) were trained and had prior experience (83.66%). Because of their training and experience, one NGN in this study commented: “I would discuss my private concerns and problems with my mentor” (Weng et al., 2010).

The review also identified challenges experienced by NGNs when they lacked access to a lack of access to afterhours support from resource persons (Henderson et al., 2015). Afterhours support referred to access to a dedicated resource person outside the business hours of 0700-1700 and on weekends. During these times, some NGNs in the study by (Olson-Sitki et al., 2012) highlighted that: ‘‘There are not many experienced RNs, sometimes none, just new grads”. Nevertheless, one study, reported that nurse educators were rostered to work afternoon shifts Monday-Friday (12:30-2100hrs) and weekends to support NGNs (Ostini & Bonner, 2012). Another study by (Scott et al., 2008) also reported NGNs were supported 24hrs per day.

Overall, having a access to a trained designated resource person built NGNs' confidence and competence during their transition, which in turn assisted them to practise independently (Spiva et al., 2013; Ulrich et al., 2010). As a result, NGNs reported feeling prepared and able to provide timely patient care as well as making changes to care plans (West et al., 2014).

2.5.3 The learning environment

In addition to having access to a trained and designated resource person, several studies also discussed some positive and negative influences of the learning environment on NGNs' transition. Four key factors related to the learning environment were identified in this review: i) teamwork ii) communication; iii) workload; iv) attitudes and behaviours of staff working within the learning environment.

Teamwork and communication were found to be a major influence on NGNs' development of competence. In one study, (Spector et al., 2015) reported overall competency in patient-centred care, use of technology, communication and teamwork in NGNs involved in a transitional program. In another study, NGNs reported their gratitude at having visible and accessible trusted senior staff who could support their learning and guide their professional development (Anderson et al., 2009; Ulrich et al., 2010). They also reported valuing daily rounding by supervisors to check on progress, as this provided emotional support (Scott et al., 2008). This engagement also helped build positive working relationships that fostered scaffolded learning (Henderson et al., 2015) and resulted in NGNs receiving timely feedback (Olson-Sitki et al., 2012).

Providing a supportive work environment is important to support positive intra-organisational relationships (Herdrich & Lindsay, 2006). However, new graduates in one study reported that maintaining a consistent relationship with preceptors was challenging in

light of nurse transfers, closure of wards, differing schedules and resignations (Kowalski & Cross, 2010). This was at times aggravated by increased NGNs' workloads. One NGN commented, ''the patient load can sometimes be stressful because I work evenings, so we get all the admissions'' and another stated, there are "Too many very sick patients to care for" (Olson-Sitki et al., 2012). In another study (Spiva et al., 2013), NGNs were expected to practise independently however, when dealing with stressful situations they reported that they were corrected in a punitive manner in front of peers, patients, and families leading to emotional exhaustion (Spiva et al., 2013). These aspects of negative behaviour in the workplace impacted on NGNs' stress levels; particularly during the first 6 to 9 months where NGN stress levels were reported to peak (Spector et al., 2015).

Many of the studies, many highlighted the importance of building a conducive learning environment to build NGNs' confidence and competence (Almada et al., 2004; Bortolotto, 2015; Pine & Tart, 2007; Tapping et al., 2013; West et al., 2014), especially afterhours when support personnel were limited (Henderson et al., 2015). However, this review also highlighted that the level of support and attitudes towards NGNs varied in different transition programs. In a study by (Ostini & Bonner, 2012), NGNs reported feelings of being challenged during transition; this led to 'doing things yourself', 'learning not to panic' and 'encountering new things for the first time'. Another study by (Anderson et al., 2009) reported that staffing challenges, lack of physician support and teamwork to be the most dissatisfying aspects of the environment. This was characterised by some nurses involved in 'backstabbing' and 'grumbling and gossiping among staff'. Conversely, peer support opportunities for NGNs to meet and collectively discuss their experiences with each other in

a ‘safe’ environment improved their professional comfort with performance progression (Henderson et al., 2015).

2.6 Effectiveness of clinical support

2.6.1 Acquisition of skills and competence

In addition to a range of structured learning, which included face-to-face classroom learning, education seminars and online modules, some transition programs provided ‘hands on’ opportunities to help NGNs consolidate their skills and competence in managing patient care. In a year-long residency program, Kowalski and Cross (2010) found that resident redevelopment days (RRD) provided NGNs with opportunities to: i) freely interact with peers; ii) practise clinical skills and iii) engage in critical thinking through learning activities using simulated patients. K. L. Rush et al. (2013) found that hands-on bedside learning had the highest percentage of ‘very helpful’ responses (57.6%) from NGNs. Furthermore, enabling NGNs ‘hands on’ learning during clinical speciality rotations resulted in less clinical incidents reported post program (Almada et al., 2004) and improved NGNs’ confidence (Bortolotto, 2015).

In a study by West et al. (2014) a total of 188 NGNs completed a 3- month transition to practice program across multiple settings. New graduates were trained using a number of components including: i) 4 or 8 hours of classroom learning; ii) simulation; iii) e-learning and skills laboratory training each week and iv) 16-24 hours of supervised clinical practice. During this period, preceptors also assessed participants’ competency pre- and post-program using the New Graduate RN Transition Program Competency Assessment and found that average scores increased from 1.97 to 2.73, highlighting a shift from high-level beginning competency to high-level developing competency. In a multisite study across

three states in the US, the integration of similar practical learning components including i) patient-centred care; ii) evidence-based practice iii) communication; iv) teamwork and v) quality improvement and informatics also enhanced NGNs competency over time (Spector et al., 2015).

The review showed the effectiveness of clinical support through integrating face-to-face classroom learning with the use of case studies, team preceptoring, structured mentoring, debriefing and rotations which facilitated NGNs' competence during practice (Ulrich et al., 2010). Given the additional challenges encountered by NGNs, Dyess and Parker (2012) found that integrated supervised practice sessions at the bedside and providing opportunities to assume leadership roles also encouraged NGNs to have a shared vision of the institution. Following acquisition of clinical competence, NGNs were often assigned more challenging clinical responsibilities. Such experiences were reported to decrease NGNs' anxiety (Kowalski & Cross, 2010) and improve confidence over time (Olson-Sitki et al., 2012).

2.6.2 Job satisfaction and confidence

Closely linked with skill acquisition and competence is the impact of transitional programs on NGNs' level of job satisfaction and confidence. Job satisfaction was examined in 16 studies and was typically assessed using a self-reported measure (Almada et al., 2004; Anderson et al., 2009; Bortolotto, 2015; Bratt & Felzer, 2011; Chapman, 2013; Dear et al., 1982; Halfer, 2007; Herdrich & Lindsay, 2006; Jones et al., 2014; Kowalski & Cross, 2010; Olson-Sitki et al., 2012; Scott et al., 2008; Spector et al., 2015; Spiva et al., 2013; Ulrich et al., 2010; Weng et al., 2010). This review highlighted varying levels of satisfaction and confidence among NGNs who participated in transition to practice programs. Seven studies

revealed increased levels of NGN satisfaction over the duration of the TSP (Almada et al., 2004; Halfer, 2007; Scott et al., 2008; Spiva et al., 2013; Ulrich et al., 2010; Weng et al., 2010; West et al., 2014). Mentoring in combination with professional development opportunities improved NGN satisfaction (Halfer, 2007; Weng et al., 2010). In a study using outcome data collected from over 6,000 new graduate nurses who completed a RN residency program, Ulrich et al. (2010) found that organizational commitment was positively correlated with satisfaction (r=0.30, p<0.0001). In another study, debriefing during 'protected' time with peers also improved NGNs' job satisfaction and confidence (Henderson et al., 2015). Scott et al. (2008) reported that more than two-thirds of NGNs who participated in a revised transition program (extended from 3 months to 1 year) were very satisfied working at the hospital, with the remainder reported to be satisfied.

Four studies reported no significant change in NGNs level of satisfaction over time (Dear et al., 1982; Herdrich & Lindsay, 2006; Kowalski & Cross, 2010; Olson-Sitki et al., 2012). Specifically, Dear et al. (1982) reported no change in satisfaction over a 6-month period with "no change in attitude toward their role, perceived autonomy or 'caring'. Another study reported no difference between new nurse satisfaction at 6 and 12 months but it was reportedly high at both times, possibly indicating a ceiling effect of the measurement tool (Olson-Sitki et al., 2012). However, in a sample of 1088 NGNs from 84 hospitals participating in a graduate program, NGNs' job satisfaction decreased due to work stress from between baseline to 9 months then increased to the 12-month point, but was still lower than baseline (Spector et al., 2015). In another two studies, the greatest causes of dissatisfaction were unit staffing and supervisor relationships (Anderson et al., 2009; Scott et al., 2008). Ulrich et al. (2010) also found that reflective sessions helped strengthen NGNs' critical

thinking and provided opportunities for appropriate and timely feedback (Ulrich et al., 2010). However, reflective sessions may not be as productive for NGNs with low levels of job satisfaction, as low job satisfaction was reported to have an adverse effect on NGNs critical thinking (Bortolotto, 2015).

2.6.3 Retention of new graduate nurses

Retention of new graduate nurses was only reported in six studies included in this review. Five of these examined NGN retention upon program completion at 12 months (Almada et al., 2004; Bortolotto, 2015; Dyess & Parker, 2012; Herdrich & Lindsay, 2006; Spector et al., 2015) with retention rates ranging from 78% to 95%. The sixth study reported a retention rate of 96% at 24 months (Kowalski & Cross, 2010). One of the goals of transition programs is to promote retention of NGNs and reduce turnover. In this review, a link between NGNs perception of support and their intention to stay with the organisation was shown (Dyess & Parker, 2012; Weng et al., 2010). Having a range of educational opportunities within transition programs contributed to shaping NGNs' positive perceptions about the nursing profession, which in turn, had a long-term impact on retention K. L. Rush et al. (2013). In the study by Scott et al. (2008), the authors found that 62% of NGNs intended to stay in their current workplace, 15% were unsure about their future plans and another 15% expressed intention to leave in order to return to university within three years. In the study by Weng et al. (2010), mentoring was also reported as a useful approach to improve NGNs' retention with one NGN commenting: "even though there are better opportunities outside, I will not leave this hospital" because of their positive experience with mentoring.

A well-designed orientation program positively influences NGN retention. In this review, Anderson et al. (2009) reported that the use of interactive approaches during orientation

such as e-mail communication and simulations embedded into case studies with session briefings resulted in an 85% retention rate. In the study by Kowalski and Cross (2010), NGNs participated in patient simulation experiences every 3 months with retention increasing across a two-year time point from 78% (28/36) in the first-year cohort to 96% in the second-year cohort (19/20). Despite the reported challenges faced by NGNs over the two-year period including i) dealing with higher acuity patient assignments; ii) changes in patient status; iii) time management and iv) communication issues, NGNs retention rate increased by 18%. This may reflect the acquisition of skills and competence or the growing emphasis on clinical support in practice (Spector et al., 2015).

To improve outcomes for NGNs in their first year of practice, Dyess and Parker (2012) emphasised a need to focus on skill acquisition contextualised to the needs of NGNs, including: i) leadership skills ii) professionalism ii) knowledge of the healthcare environment iv) business skills and principles and v) communication and relationship management. Collectively, these helped employment stability and improved retention, with 80% of NGNs remaining within the same institution at the end of the 12-month TSP (Dyess & Parker, 2012).

2.7 Discussion

The purpose of this integrative review was to identify existing evidence on the best practices of new graduate nurses' clinical support within transition programs and examine the elements within these programs that promote a successful transition to practice. New graduate nurses usually commence transitional support programs in fast-paced acute care settings characterised by nursing staff shortages and high patient acuity (Dyess & Parker, 2012), resulting in an increased need for high levels of support (Adamack & Rush, 2014) and

positive safety practices (Spector et al., 2015). Despite the body of evidence on the value of TSPs, variability on the effectiveness of these support programs is reflected in the number of NGNs leaving their positions within the first year of practice with attrition rates ranging from 18% (Unruh & Zhang, 2014) to 60% (Burr et al., 2011).

Overall, this review provided evidence that the most beneficial transition programs were those that included a suite of structured learning approaches and learning opportunities such as didactic face-to-face education sessions with ongoing peer support (Henderson et al., 2015; K. L. Rush et al., 2013). Structured learning support was a consistent theme across all 26 studies. However, variability in the types of clinical support and duration of the program was evident in this review. The disparities in orientation time offered ranged from 3 days (Tapping et al., 2013) to 6 months (Pine & Tart, 2007). This suggests that the level of support and guidance received by NGNs varied widely amongst settings and programs. The orientation period is an opportunity for NGNs to gain clinical exposure to refine and learn new skills. However, the time spent on and diversity in delivery methods was likely to influence NGNs' transition experiences, development of competence and competence and confidence, and overall perceptions of feeling supported (Henderson et al., 2015). As a result, this may have a negative impact on NGNs' adaptation to new clinical environments and routines. The study by Kowalski and Cross (2010) reported that post orientation, new graduates had difficulties with increased workloads due to a high number of patient admissions, discharges and transfers in one shift, closure of wards and differing schedules. It could be argued that the allocation of NGNs to higher acuity patients is not deliberate but due to a shortage of experienced staff, sick leave or poor rostering. This issue is concerning

as it may indicate that NGNs are placed in situations to practice beyond their clinical capability leading to feelings of anxiety about time-management (O'Kane, 2012).

Despite the use of TSPs, this review showed that the needs of NGNs were not always met. For example, although NGNs were generally provided with a mentor, they did not always receive comprehensive support post orientation at a time when needed most (Ostini & Bonner, 2012). When NGNs were allocated mentors, less than half were satisfied with this relationship and one-third were dissatisfied (Parker et al., 2014). Reasons for mentorship not being a success included attitudes of mentors, not being rostered with mentors, or the lack of understanding or experience of mentors regarding their role (Cubit & Ryan, 2011; Figueroa et al., 2016; Henderson et al., 2015). Therefore, despite the increased responsibility, the allocation of NGNs with preceptors or mentors should also be based on learning and teaching styles and personal characteristics of both (Hyrkäs et al., 2006). This may facilitate the building of strong interpersonal, teaching and higher quality relationships. Moreover, careful planning of NGN allocation to mentor by team leaders should ensure that the increased responsibility is scaffolded in accordance with NGNs' capabilities, thereby assisting in developing their confidence (Cubit & Ryan, 2011).

Despite the identified variability in supporting NGNs throughout the program, several studies demonstrated that NGNs' professional growth, satisfaction, competence and confidence levels increased over time (Pine & Tart, 2007; Scott et al., 2008; Spiva et al., 2013). This trend increased over time and occurred across all studies regardless of the types or program duration.

The access to trained and designated resource personnel emerged as an important component in NGN transition programs (Leigh et al., 2005; Spiva et al., 2013). Specifically,

this review highlighted that the success of transition programs is dependent on NGNs' access to skilled and motivated peers or resource persons, particularly preceptors and mentors both during and after the orientation period. Skilled and motivated preceptors were characterised by NGNs as those who provided opportunities for them to ask questions, made them feel comfortable to work towards achieving competence (Almada et al., 2004; Ulrich et al., 2010) and confidence (Pine & Tart, 2007; West et al., 2014). As a result, NGNs and were able to build a strong bond and lasting relationship with preceptors for their continued development and moral support (Henderson et al., 2015; Leigh et al., 2005). These findings are similar to those of (Tastan et al., 2013), who highlighted that success in NGN transition relies on the preceptor-NGN relationship, the preceptors' ability to identify low confidence and use knowledge-acquisition strategies to support NGNs. This may include the introduction to co-workers to help build NGNs' working relationships and confidence to seek clinical support when required, particularly beyond the orientation.

Another well-supported theme was the variability in job satisfaction of new graduate nurses. A number of studies in this review highlighted an increase in NGN satisfaction with TSPs over time (Almada et al., 2004; Bratt & Felzer, 2011; Halfer, 2007) or little to no difference in their satisfaction at completion (Dear et al., 1982; Herdrich & Lindsay, 2006; Kowalski & Cross, 2010; Olson-Sitki et al., 2012). These findings suggest that providing a supportive environment with specific educational strategies allows for NGN autonomy, widens their scope of practice and fosters their integration to practice. Parker et al. (2014) further this discussion suggesting that during clinical immersion new graduates can be dependent on the larger nursing team when assistance from resource personnel is absent. However, there is a continuing need to ensure that given the challenges faced by NGNs,

resource persons need to promote NGNs' socialisation and assist them to cope with stress and negative emotions experienced during transition. It is also equally important for nurse managers to give priority to NGN participation in work-based training and learning opportunities by ensuring that situational variables on wards for example staff shortages, do not compromise attendance (K. L. Rush et al., 2013), particularly in acute care settings were NGNs are expected to 'learn' and 'reflect'-on-action to develop specialty skills and competence within their area.

Of concern is that NGNs continue to struggle for up to 9-months during TSPs with increased stress levels and lower job satisfaction (Spector et al., 2015). Although, this could be due to NGNs working more independently with busier and higher acuity patients, it may be that staff have increased expectations of NGNs' readiness to take on sicker patients in the knowledge that they are nearing the successful completion of their transition program. Given the increased responsibility handed down to NGNs, factors related to their perceptions of instrumental support received, allocation of patient assignments, allocated skill mix and clinical workload warrant further study.

This review highlighted that TSPs have a direct influence on NGNs' retention. There was variability in the measures used such as retention rate and turnover rate. Consistency in the measurement of TSP's would allow for comparison across programs. In this review, the average turnover rate was 11.3% (Halfer, 2007; Olson-Sitki et al., 2012; Pine & Tart, 2007; Spector et al., 2015; Ulrich et al., 2010). In those studies that reported turnover, reasons included voluntary choice and involuntary reasons such as termination, illness and injury (Olson-Sitki et al., 2012; Spector et al., 2015; Ulrich et al., 2010). Retention rates ranged from 78% to 93% (Almada et al., 2004; Kowalski & Cross, 2010). Structured educational

opportunities within transition programs contributed to shaping NGNs' positive perception and had a positive impact on their retention (K. L. Rush et al., 2013). In a study of accelerated second-degree nursing program graduates, Penprase (2012) also found a correlation between graduates' feeling supported and their intention to stay with the organisation. While not new, it is possible that NGNs undertaking a TSP automatically engage in structured support since this is seemingly unavoidable. However, in acute care settings on-the-job 'ad-hoc' peer support could be as favourable for NGNs due to its timeliness in supporting them to manage unexpected clinical situations. Further investigation is also necessary to determine whether this type of support in acute care settings translates into competent practice and improved retention of NGNs.

Finally, many TSPs do not guarantee continued employment following the graduate year. When taking into account the cost of advertising, recruitment, orientation and training leads to a considerable amount of loss in staffing costs within the budget. Halfer (2007) found that by improving NGN's retention fiscal costs associated with their recruitment and training as well as additional costs to fill their vacancies can be reduced. When accounting for the impact of turnover and nursing staff replacement costs over a 12-month period in 15 hospitals, Trepanier et al. (2012) estimated a $8.1 million and $47.1 million total cost benefit of a nursing residency program. Therefore, transition programs not only have implications for the development of a sustainable nursing workforce (Gilmour et al., 2017), but also have a significant impact on organisational costs (Buchan et al., 2018).

2.8 Limitations

Only articles published in English were included. This integrative review focused on clinical support approaches offered to new graduate nurses working in acute care settings during

their transition to practice period, therefore generalisability to other settings may be limited.

2.9 Research Gap

Although the results from this review indicate that TSPs were effective in increasing NGNs' proficiency, job satisfaction and retention, many transition programs lacked transparency in their content and the type of support provided. These inconsistencies have resulted in a lack of clarity on their effectiveness when compared to one another. Specific issues identified included:

- A lack of standardisation in clinical support approaches across transitional support programs.
- A lack of research regarding orientation duration, support structures post orientation and NGNs' accessibility to support, particularly when caring for higher acuity patients that are beyond their clinical capability (i.e. sudden deterioration of their patients) would be beneficial.
- The role of ad hoc support for NGNs.

The results of this review have important implications for new graduate nurse education, management and research in the area of NGN transition. The results presented in this review suggest that transitional support programs provided targeted content that address NGNs' professional growth including perceived acquisition of a variety of skills, leadership development and retention.

2.10 Conclusion

This integrative review examined literature related to NGNs' clinical support approaches and how these experiences facilitated learning, skill acquisition and satisfaction during their transition. Although the quality of existing evidence was variable, new graduate nurses continue to report that transition programs ease their move through improved experiences in their first year of practice, including a sense of support, skill competence, and job satisfaction. Of significance is the variability in content included within TSPs. The inclusion of preceptorship and mentorship is strongly advocated in most programs however, their roles remain mostly ambiguous, short term and with limited accessibility for NGNs post orientation. Finally, clinical support strategies of NGNs should be inclusive of accessible supervision strategies at certain stages within NGNs' transition. Future research should build on NGNs' outcomes that track their development over time with their transition. This will help build a foundation for evidence-based components to address NGNs' needs at various periods within their TSP.

2.11 Updated literature review

This section will provide an updated review of the literature published since 2016. The updated review of the literature will follow the aims, search strategy, inclusion criteria and outcomes of the integrative review. This search was re-run on the 13th July 2020.

The search strategy previously employed in the integrative review was utilised to search databases for studies published since 2016. The reference list of included studies and conference abstracts were also searched in an attempt to locate additional studies.

The updated review identified seven articles that met the inclusion criteria. These comprised of two mixed methods conducted by Forde-Johnston (2017) in the UK and

Hussein et al. (2018) in Australia, four quantitative studies conducted by Al-Dossary et al. (2016) in Saudi Arabia, Owings (2016) in the US Smyth et al. (2018) and Hussein et al. (2017) in Australia and one qualitative study by Gellerstedt et al. (2019) in Sweden. A summary of the scope, purpose, sample and clinical support approach used or findings of each of the studies can be found in Table 2.3.

Table 2.3: Updated literature review of the Clinical Support for New Graduate Nurses in Acute Care Settings (CLASSIC) Project

Study, country, setting	Scope, purpose, sample and methods	Clinical support approach		Key findings
Al-Dossary et al. (2016) (Saudi Arabia) Three hospitals in Saudi Arabia (Two with residency programs and one with no residency program)	**Aim** To examine the impact of residency programs on clinical decision-making among new graduate nurses (NGNs) who completed a residency program compared to those who did not participate in residency programs **Sample** Convenience Sample; Comparative study between 2 hospitals with a residency program and one with no residency program NGNs in a residency program (n = 43); NGNs with no residency program (n = 55). **Methods** Descriptive study using a self-administered questionnaire and the Clinical Decision Making in Nursing Scale	**Key elements of clinical support approach** ○ Department and hospital orientation (2 weeks) ○ Content (e.g. mission, vision, rules and regulations, infection control, hospital computer systems, etc.) ○ Clinical and technical skills (nursing-related) ○ Preceptorship		○ NGNs in the residency programs had significantly higher levels of clinical decision-making skills than non-residents (t = 23.25, p < 0.001) ○ Enrolment in a residency program explained 86.9% of the variance in total clinical decision making controlling for age and overall grade point average
		Delivered by: ○ Preceptors ○ Head nurses	**Mode of delivery** ○ Face-to-face **Program duration** 6-12 months	
Forde-Johnston (2017) (UK) Oxford University Hospitals NHS Foundation Trust	**Aim** To evaluate the Oxford University Hospitals NHS Foundation Trust foundation preceptorship programme for newly qualified nurses commencing Band 5 posts in the trust **Sample**	**Key elements of clinical support approach** ○ Labelled as 'Foundation preceptorship programme' ▪ 16 study days; 1:1 support with preceptor-preceptee clinical supervision time (minimum, 2 clinical shifts per week) ▪ Monthly clinical supervision and monthly review meetings with preceptor		○ Overall favourable responses regarding program content, structure, organisation and management ○ High level of intellectual challenge but perceived as being necessary ○ Positive feedback about preceptor-preceptee supervision time

Study, country, setting	Scope, purpose, sample and methods	Clinical support approach		Key findings
	NGNs (*n* = 37) **Methods** Mixed methods using 2 questionnaires and 3-monthly focus groups with NGNs and nurse managers in the trust	**Delivered by:** ○ Practice development nurses, educators, advanced nurse practitioners, ward and specialist nurses, preceptors	**Mode of delivery** ○ Face-to-face **Program duration** ○ 12 months	○ Increased new graduate nurses (NGNs') confidence in practice
Gellerstedt et al. (2019) (Sweden) 1,600-bed University Hospital with 1,609,000 patient visits and 105,600 inpatient care days per year	**Aim** To describe newly graduated nurses' (NGNs') experiences of introduction processes and leadership within a hospital trainee programme. **Sample** NGNs (*n* = 19) **Methods** Qualitative design with an inductive approach using 60-minute focus group interviews (FGIs) with questions based on a pre-developed topic guide.	**Key elements of clinical support approach** ○ Traineeship program: study visits, reflection, training days, skills development including at simulation centre ○ Rotation through different clinics, e.g. surgical and medical wards **Delivered by:** ○ Not explicitly stated, presumably, coordinators of program ○ Access to experienced nurses and nurse managers	**Mode of delivery** ○ Face-to-face (reflection, skill development) **Program duration** ○ 18 months	○ Bridging gap between theory and clinical reality ○ Positive feedback about training group, for reflection and debriefing (able to talk to someone not directly associated with the wards) ○ Access to supervisors and experienced nurses – increased learning opportunities
Hussein et al. (2018) Acute care tertiary hospital (single site), location in western Sydney region, New South Wales, Australia	**Aim** To examine new graduate nurses (NGNs') perceptions of clinical supervision and the practice environment and how these influenced their intention to stay in critical and noncritical care areas **Sample**	**Key elements of clinical support approach** ○ Two rotations across two wards/units for a period of 6 months each ○ Orientation days on the wards/unit which ranged from 2 days in general ward areas and 10 days in critical care areas ○ Consisted of supernumerary time with a trained preceptor or clinical nurse educator		○ NGNs' intention to stay in their current ward/unit was directly related to not being placed in clinical situations beyond their capability and working in a critical care specialty ○ NGNs' intention to remain in critical care specialities yielded two independent significant predictors:

Study, country, setting	Scope, purpose, sample and methods	Clinical support approach		Key findings
	NGNs' (n) = 109 completed the baseline survey and 87 who completed the follow-up survey **Methods** Follow-up findings from a larger pre-test and post-test research study	○ Attended programmed education sessions covering essential clinical skills relevant to the specialty		-High satisfaction with clinical supervision -High satisfaction with unit orientation
		Delivered by: ○ Preceptors ○ Clinical nurse educator	**Program duration** ○ 12 months	
Hussein et al. (2017) Acute care tertiary hospital (single site), location in western Sydney region, New South Wales, Australia	**Aim** To evaluate the impact of transitional support program on new graduate nurses (NGNs') perception of confidence, competence, workplace satisfaction and intention to stay in that specialty **Sample** NGNs (*n)* = 109 at baseline, and 87 at the end of transition program **Methods** Mixed methods approach with a pre- and post-test survey design and one-on-one interview with NGNs at the end of transition program.	**Key elements of clinical support approach** ○ Transitional support program: Generic and ward-specific orientation days; Supernumerary days initially, 'buddied-up' with preceptor (experienced registered nurse or a clinical nurse educator) ○ Programmed study days throughout transitional program After-hours and ward-based nurse educators to support NGNs		○ Opportunities to develop their clinical competence; however, access to opportunities for further development and support varied depending on the availability and expertise of the TSP coordinators, the after-hours and ward-based nurse educator and clinical nurse specialists, team leaders and other senior staff ○ Overall satisfaction with TSP but intention to say in current workplace (ward, unit or department) was dependent on satisfaction with unit-based orientation support; those working in critical care specialty were more likely to express an intention to stay in that specialty.
		Delivered by: Transitional support program coordinators; clinical nurse educators and preceptors	**Mode of delivery** ○ Face-to-face **Program duration** 12 months	
Owings (2016) (USA) 583-bed community hospital in the South-	**Aim** To determine if new graduate nurses (NGNs) benefitted from participation in a 1-year University Health System Consortium/ American Association of Colleges of Nursing (UHC/AACN) nurse residency program in a community hospital.	**Key elements of clinical support approach** ○ Two-phase program: Phase 1 (first 6 months) – successful transition into clinical unit; Phase 2 (second 6 months) – professional and scholarly development		○ Participation in the program did not significantly improve stress levels or professional satisfaction

Study, country, setting	Scope, purpose, sample and methods	Clinical support approach		Key findings
eastern region of the USA	**Sample** Convenience Sample NGNs in five cohorts (*n* = 121) **Methods** Secondary data analysis design. Data was collected from the Casey-Fink Graduate survey completed by participants at the start of program, 6 months into the program, and again at the end of the year-long program	○ General orientation; preceptor-guided clinical experience; monthly meeting with resident facilitator ○ Specific clinical coursework related to specialty; monthly group discussions; teaching sessions – complex case studies; simulation; inter-professional exercises		○ Significant improvement in self-perception of communication, confidence and leadership skills ○ Reduced turnover rates of NGNs
		Delivered by: ○ Preceptors, nurse educators, staff nurses and academic liaison (faculty) member	**Mode of delivery** ○ Face-to-face **Program duration** ○ 12 months	
Smyth et al. (2018) (Australia) Regional health service in North Queensland, Australia	**Aim** To gain feedback from the perspectives of participants in the 2016 and 2017 intakes about the different components of the health service's transition-to-practice program for new graduate nurses (NGNs). **Sample** Convenience Sample: (n = 77, 37% response rate) **Methods** Cross-sectional survey design using an anonymous, paper-based survey which was developed from those referred to in literature and input from clinical experts.	**Key elements of clinical support approach** ○ Graduate 2017 program developed with the following components: 1) Orientation to the health service; 2) Clinical and professional orientation; 3) Education days; 4) weekly 1-hour reflective sessions; 5) monthly 1 hour educational forums; 6) monthly 1 hour videoconference support sessions; 7) case study		○ Most (81%) of respondents intended to remain at the health service for the next 12 months ○ High levels of satisfaction with the program ○ 85% felt well-supported by the Graduate Support Team ○ Reflective sessions were valuable as a confidential environment, and for incident debriefing and peer support
		Delivered by: ○ Program coordinated by nurse educator and two clinical nurses to provide clinical support	**Mode of delivery** ○ Face-to-face **Program duration** ○ 12 months	

2.11.1 Contribution of additional literature to review

An updated review of the literature since the commencement of the Clinical Support for Clinical Support for New Graduate Nurses in Acute Care Settings (CLASSIC) Project highlights that there has been further evidence supporting the relationship between good clinical support and NGNs' satisfaction with their TSP (Hussein et al., 2017; Hussein et al., 2018; Owings, 2016; Smyth et al., 2018).

New graduate nurses' satisfaction with transition support programs and experiences of clinical support were measured using validated standardised scales and questionnaire surveys to enable a greater insight into their perceptions. Key elements of clinical support approaches identified in the literature to assist transition related to either formal or informal support strategies. The formal support approaches included program coordinators and clinical nurse educators to initiate support and oversee the transition process (Forde-Johnston, 2017; Gellerstedt et al., 2019; Hussein et al., 2018), deliver structured orientation and education sessions (Hussein et al., 2019; Owings, 2016) and provide informal clinical support to further develop new graduate nurse competence and confidence (Gellerstedt et al., 2019; Hussein et al., 2017).

Overall, additional literature from the updated search did not offer any new insights on the experiences of NGNs working in acute care settings but did confirm the findings of the original literature review, and also confirmed the need for the CLASSIC Project that will be described in the following chapters.

CHAPTER THREE
Methods

3.1 Introduction

This chapter provides an overview and rationale for the methodological approaches used in the Clinical Support for New Graduate Nurses in Acute Care Settings (CLASSIC) Project. This chapter will present the research questions, research design, study setting and sampling, data collection and measures, and data analysis. The CLASSIC Project was guided by the following research questions:

1. What are the personal and situational factors, and elements of clinical supervision that influence new graduate nurses' workplace satisfaction during their transitional support program?
2. What are the changes in new graduate nurses' perceptions and experiences during the transitional period?
3. What are the clinical support experiences of new graduate nurses throughout their transition period, and how do these experiences impact on their learning, job satisfaction and skill development?
4. What are new graduate nurses' perceptions of clinical supervision and the practice environment, and how do these influence their intention to stay in their clinical specialty following their TSP?

3.2 Rationale for using a mixed methods approach

In order to answer the aforementioned research questions, a mixed methods approach, guided by Creswell and Plano Clark (2011) definition was adopted. Defined as "research in which the investigator collects and analyses data, integrates the findings, and draws

inferences using both qualitative and quantitative approaches or methods in a single study or program of inquiry" (p.4), a mixed methods approach was used for the CLASSIC Project because it allowed for both breadth—by surveying a larger number of participants, and depth—by undertaking individual interviews with a smaller number of participants (DeCuir-Gunby & Schutz, 2016). Mixed methods research is also commonly used in health services where quantitative methodologies allow researchers to address questions about causality, generalisability or magnitude of effects, while qualitative methodologies can be applied to explore why or how a phenomenon occurs, or to describe an individual's experiences (Fetters et al., 2013).

A pragmatic framework was used to underpin the CLASSIC Project. Pragmatism is a problem-centred, pluralistic approach where both inductive and deductive thinking are embraced within a social science framework to address specific research questions (Creswell & Plano Clark, 2011). Tashakkori and Teddlie (2010) also refer to this approach as a process of 'methodological eclecticism', where the researcher is not grounded to one particular paradigm but rather allowed to select the most appropriate methods from a range of methodological tools. The adoption of this approach enables researchers to select the most appropriate methods and provide the best opportunity for answering the research questions (Trahan & Stewart, 2013).

Carroll and Rothe (2010) suggest that observations, whether subjective or objective, are influenced by interpretations and reconstruction. The opposing approaches of inductive and deductive thinking are located within a continuum of reconstructed meaning termed 'complementarity'. Hence, adopting methodologies in this study that straddle alternative

worldviews can lead to a more comprehensive understanding of both breadth and depth of the transitional support experiences of new graduate nurses (Aarons et al., 2012).

The use of mixed methods approaches has also been adopted in recent decades in a wide range of disciplines due to its utility (Tashakkori & Teddlie, 2010). Mixed methods research represents a paradigm shift from either exclusively positivism or exclusively constructivism approaches to a complementary position (Creswell & Plano Clark, 2011). The dramatic increase in journal articles and books in recent years on mixed methods designs is a reflection of the popularity and acceptance of this research approach (Reed, 2021).

3.3 Study design

A sequential embedded mixed methods design was selected for the CLASSIC Project. In sequential designs, the intent is to have one phase of the mixed methods study build on the other (Fetters et al., 2013), requiring data to be analysed in a particular sequence to inform the following phase. The design of the current study allowed for baseline data (quantitative and qualitative) to form the basis of the qualitative interviews used as part of follow up data collection.

Embedded designs—typically applied to intervention studies, mix quantitative and qualitative data at the design level by embedding one data type within a methodology framed by the other data type (Zhang, 2011). The embedded design assumes that a single data set is not sufficient, that different questions need to be answered and that each type of question requires different types of data (Creswell & Plano Clark, 2011). The current study was designed around a 12-month Transitional Support Program offered to new graduate nurses at a large, tertiary referral hospital in Sydney, Australia. Although the program could not be considered a study intervention per se, it was a standardised program with a high

degree of structure designed to support new graduate nurses in the transitional phase of their career. The program included both hospital and ward/unit orientations, preceptorship, formal and informal clinical supervision/support and mandatory study days. In the context of the current study, the TSP was considered the 'intervention' around which the sequential embedded design was developed. The design is illustrated in Figure 3.1.

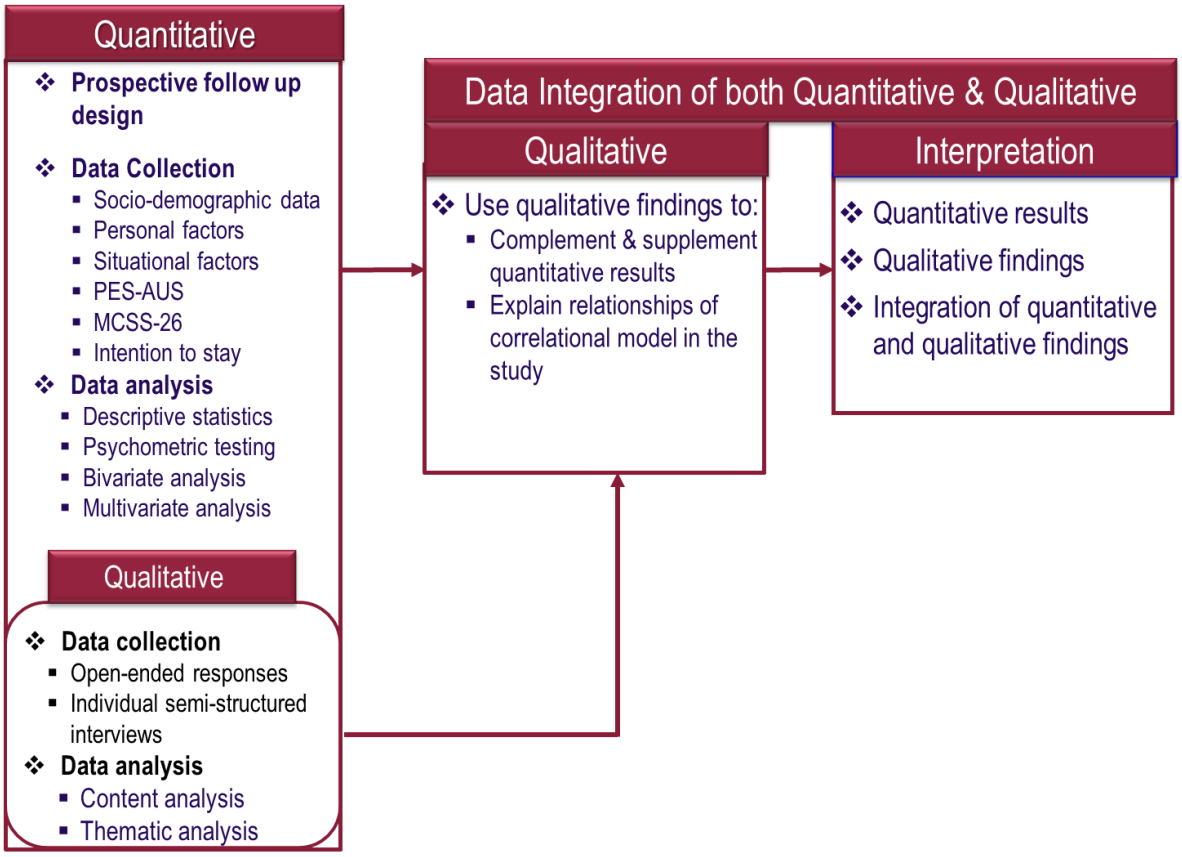


Figure 3.1: Sequential Embedded Design

3.4 Study setting

The project was conducted in an 877-bed tertiary referral and teaching hospital in South Western Sydney, Australia. The facility employs over 1500 nurses across a range of clinical streams and specialities, including a state-wide critical care and trauma service.

3.4.1 Transitional Support Program

In 2011 a transitional support program (TSP) was implemented in the setting where this project was undertaken, with clinical supervision and a range of other forms of support embedded within the program. These compromised facility, nursing and unit-based orientation. Additional support included tailored in-service education forums that cover relevant clinical knowledge, group clinical supervision and preceptorship. It was also an expectation that new graduates complete the requirements of the curriculum of the TSP which included mandatory E-learning and face-to-face courses covering various topics including manual handling, infection control and hand hygiene. Trained TSP facilitators offered support to NGNs across the hospital. Clinical facilitators and supervisors including department CNEs enabled nurses to reflect on ward experiences, discuss relevant clinical issues encountered during the TSP and aim to find best practice outcomes in a confidential environment during set study days.

During the 12-month TSP offered in the study setting, NGNs rotate through two specialty wards or units taking into consideration their allocation preferences made prior to commencement of the TSP. These are included in Table 3.1. In the study setting NGNs undertake a separate TSP for mental health specialties.

Clinical supervision/support is provided by the NGNs' immediate clinical nurse educator (CNE), clinical nurse specialist (CNS), team leader (TL) or senior member of nursing staff

accessible to them on a given shift in the work environment. Clinical supervision in this study consisted of both formal and informal support offered to NGNs.

Table 3.1: New graduate nurse speciality wards and unit allocations

Critical-care specialties	Non-critical care specialties
Intensive Care Unit (includes both general and cardiothoracic ICU)	Medical-Surgical wards (including surgical trauma, head & neck)
Emergency Department	Medical Assessment Unit
Coronary Care (including acute coronary care)	Orthopaedics
Operating Theatres	Neurology
Anaesthetics	Aged Care
Recovery	Vascular
Neonatal Intensive Care	Haematology
Cardiac Catheterisation Laboratory	Oncology
	Stroke and Rehabilitation
	Paediatrics
	Renal & Dialysis
	Gastroenterology

3.5 Participants

Using convenience sampling, 140 full-time newly-graduated registered nurses who participated in the 2012-2013 transitional support program offered by the hospital were eligible to participate in the study.

3.6 Sample size calculation

Sample size calculation was based on the mean scores reported by the developers of the Manchester Clinical Supervision Scale (MCSS-26), one of the standardised instruments used in this study (Winstanley & White, 2011). Using a mean total MCSS-26 score of 76.5 *(SD: 12.5)* and working on a conservative estimate of a 5-point mean score change in MCSS-26 scores over the 12-month period of the TSP, an a priori analysis of statistical power calculation was conducted using G*Power 3.1.5 (Faul et al., 2009). To detect a 5-point

change in MCSS-26 mean score with an alpha of 0.05 (two-tailed) and power of 80%, a sample size of 54 participants with complete data at follow-up was required. However, as it is common to encounter incomplete or missing data in self-report surveys, to allow for 20% invalid or incomplete data, a total of 68 participants was required at follow-up. Working on an attrition rate of 30% at follow-up, this project needed to recruit a total of 89 participants at baseline.

3.7 Recruitment

New graduate nurses were invited to participate in the project during pre-allocated TSP study days. A brief presentation was provided by the Principal Investigator to the NGNs, who were also provided with a Participant Information Statement (Appendix C) and Consent Form (Appendix D). Prospective participants were able to ask questions during the presentation and those who indicated interest were provided with the questionnaire (Appendix E), which was either completed on the day or returned later to the Principal Investigator in a sealed opaque envelope using the hospital's internal mail system.

New graduate nurses who completed the questionnaire at baseline (Phase I) were invited to complete the follow-up questionnaire (Appendix F) during their final TSP study days between 10-12months (Phase II). New graduate nurses could also indicate interest in participating in individual, semi-structured interviews on the questionnaire. Those who indicated interest in being interviewed were contacted via telephone or text message to arrange for a face-to-face interview at a mutually convenient time.

3.8 Quantitative data collection

Data collection was conducted between May 2012 and August 2013 during group TSP study days, shift overlap times in the wards and at other times that were mutually convenient to participants and the researcher.

In addition to sociodemographic data, quantitative data were collected through seven single-item, Likert-response questions, and three standardised measures. Two of the single-item questions were used to assess NGN's overall satisfaction with the hospital TSP and the number of education days provided (0 = extremely dissatisfied; 10 = extremely satisfied). Two items were used to measure satisfaction with ward or unit-specific orientation (0 = extremely dissatisfied; 10 = extremely satisfied), and NGN's perceptions of the amount of time spent on them during their ward/unit orientation (0 = too little time; 10 = too much time).

Two items were used to measure ward or unit-specific clinical expectations: being placed in charge of ward and being placed in a clinical situation where they felt the expectations of the workload were beyond their personal clinical capability (both items 0 = never; 10 = always). Finally, one item measured how often NGNs had been placed in a clinical situation where they did not feel confident about handling the scenario at hand (0 = never; 10 = always). For all single-item questions, an open-ended response option was provided to allow participants to elaborate on their response.

3.9 Standardised instruments

In addition to sociodemographic data and open-ended questions included in the survey, three validated instruments were used: i) the Manchester Clinical Supervision Scale (MCSS-

26), (ii) the Practice Environment Scale (PES-AUS), and (iii) The Intention to Stay in Clinical Specialty Scale (follow-up only). These are briefly described below.

3.9.1 The Manchester Clinical Supervision Scale (MCSS-26)

The Manchester Clinical Supervision Scale (MCSS-26) is a 26-item standardised measure used to assess nurses' satisfaction and experiences of clinical supervision received. The original scale was developed by Winstanley in 2000 (Winstanley & Edward, 2003) following what was considered to be the most useful scale evaluation of CS in the UK, namely, the Clinical Supervision Evaluation Project (Butterworth et al., 1996). The MCSS-26 has six subscales including: (i) trust/rapport, (ii) supervisor advice/support, (iii) improved care/skills, (iv) importance/value of clinical supervision, (v) finding time, (vi) reflection (Winstanley & Edward, 2003). The tool uses a 5-point responses format with scores ranging from 0 = 'Strongly disagree' to 5 = 'strongly agree'. The MCSS-26 scale has a cumulative score potentially ranging from 0 to 104 and Cronbach's alpha ranging from 0.66-0.87 (Winstanley & White, 2011). Cronbach's alpha in the current study was 0.90. The MCSS-26 was administered at baseline and follow-up.

3.9.2 The Practice Environment Scale, Australia (PES-AUS)

The Practice Environment Scale, Australia (PES-AUS) is a validated instrument used to assess nurses' satisfaction with their practice environment (Middleton et al., 2008). The PES-AUS is based on the original Practice Environment Scale (PES-NWI) developed by Lake (Lake, 2002) using data collected from Magnet hospitals in the United States of America (USA). The PES-AUS comprises of 30-items in five subscales. Subscales are (i) Nurse Participation in Hospital Affairs, (ii) Nursing Foundations for Quality of Care, (iii) Nurse Manager Ability, Leadership and Support of Nurses, (iv) Staff and Resource Adequacy and (v) Collegial Nurse-Doctor

Relations. The PES-AUS uses a 4-point Likert-scale format ranging from 1 = 'Strongly Disagree' to 4 = 'Strongly Agree' (Middleton et al., 2008). In this project, a five-point Likert Scale was used to assess NGNs' satisfaction with their work environment by adding a midpoint of 3 = 'Unsure'. The decision to revise the scale was made as it was anticipated that NGNs may not have been familiar with some of the items due to their level of nursing experience and time worked in a new work environment at baseline.

The original PES-NWI has been reported to be reliable with Cronbach alpha of the total scale of 0.948, and each subscale ranging between 0.705 and 0.892 (Parker et al., 2010). Cronbach's alpha of the 30-item (PES-AUS) used in this project was 0.91. The PES-AUS was administered both at baseline and at the 10 to 12-month follow up.

3.9.3 The Intention to Stay in a Clinical Specialty Survey

The Intention to Stay in a Clinical Specialty survey was adapted by the investigator from Cowin and Jacobsson (2003) Nurse Retention Index (NRI) The original NRI is a six-item scale used to measure nurses' intention to stay in nursing and was found to be reliable with Cronbach alphas ranging from 0.85 to 0.94 (Cowin & Jacobsson, 2003; Poudel et al., 2018)

In this project, the survey was administered in Phase II at the 10 to 12-month follow up to measure participants' intention to stay in their current clinical specialty following the TSP, or whether they intended to leave nursing. The original six-items and sequence in the scale was retained. However, modifications made to the scale were the inclusion of "following my graduate program" at the beginning of each item and the inclusion of "my selected specialty" in the middle or end of each item. Of the six-items, two items (3 and 6) were also reverse scored. The response format was also increased to an 11-point Likert scale, with the addition of 0 = 'definitely false' to 10 = 'definitely true' to reduce skewness and confer

higher sensitivity to discriminate between varying levels of intention to stay in nursing (Leung, 2011). Cronbach's alpha of the scale used in this project was 0.88.

3.10 Qualitative data collection

New graduate nurses who completed the questionnaire at follow-up were invited to participate in individual interviews to further explore their experiences during their transition to practice period. A semi-structured interview guide was used (Appendix G). The interview questions focused on: i) the ward orientation, study days and the overall ward experiences; ii) challenges during the transition period; iii) clinical support received, and the impact of these on their clinical practice; and iv) barriers to receiving clinical support (if any) and suggested improvements. Towards the end of their TSP, clinical supervisors of all wards/units were asked to assist in participant follow-up by referring NGNs to the Principal Investigator in this project. Those who consented to be participate were interviewed by the Principal Investigator or a research assistant. Interviews were brief, taking place during the handover period and ranged from 10 to 15 minutes. Ongoing researcher discussion continued during data collection and until data saturation, when no new emerging information was obtained. Hence, recruitment was terminated at the 26th interview.

3.11 Ethical considerations

Ethical considerations are addressed in the separate chapters for each of the four published studies, and again at the end of this thesis in the section on limitations. This section will focus on the processes and considerations arising from the doctoral candidate's employment and supervisory relationships within the organisation where the study was conducted.

A primary consideration in this study was ensuring the voluntary nature of consent was not compromised by the doctoral candidate's position as a manager in the organisation. Despite this position, participants were assured that their decision whether or not to participate will not prejudice their relationship with the doctoral candidate, as a NUM or the South Western Sydney Local Health District. The transitional support program in this study was overlooked by TSP coordinators and only those participants who rotated into the intensive care unit would have worked with the doctoral candidate. Further, while the doctoral candidate was also the NUM responsible for the unit, NGNs rotating within the intensive care unit had the option to access other managers also working within the department.

The majority of participant interviews were conducted by researchers who were not in a relationship with the participant. However, a number of interviews were also conducted by the doctoral candidate. The doctoral candidate acknowledges that managing existing relationships between researchers and participants who may be in an unequal or dependent relationships is challenging. Hence, the candidates' supervisory panel ensured to address the research candidate's positionality during regular meetings.

Ethics approval was obtained from the South Western Sydney Local Health District Human Research Ethics Committee (HREC) (LNR/11/LPOOL/510) and the Western Sydney University HREC (Western Sydney University H10055) (Appendix H). Participants were assured verbally and also in the written Participant Information Statement (PIS) that any information obtained in connection with the CLASSIC Project would remain confidential and disclosed only with their permission (Appendices B and C). They were also informed of their right to withdraw their consent and discontinue their participation from the project at any time before data analysis without prejudice.

3.12 Data analysis

3.12.1 Quantitative data

Details for all analyses are presented in the four papers arising from the CLASSIC Project. To summarise, quantitative data were entered into IBM SPSS Version 22.0 (IBM, 2013) and data checked for accuracy and completeness prior to analysis. Descriptive statistics were used to summarise the sample characteristics. Categorical variables were summarised in terms of frequencies and percentages. Continuous data were checked for normality using the Kolmogorov-Smirnov test and expressed in terms of mean and standard deviation (*SD*), or median and interquartile range (IQR). Skewed data were dichotomised at the median where required.

To examine for changes between baseline and follow-up data, Pearson's chi-square was used for categorical variables, and paired *t*-test or Wilcoxon signed rank test for continuous variables. Independent *t*-test was used to compare distributions of scale scores in different groups.

Multivariate logistic regression was used to identify predictors of NGN's intention to stay in a clinical specialty and reported as adjusted odds ratios with 95% confidence intervals (CIs). A *p*-value of < 0.05 was considered statistically significant for all analyses.

Factorial validity of the standardised scales used in this study was undertaken using principal component analysis with Varimax rotation and reliability computed using Cronbach's alpha.

3.12.2 Qualitative data

Qualitative data from the open-ended responses was subject to a Conventional Content Analysis technique where coding categories were derived directly from the text data (Hsieh

& Shannon, 2005). A conventional approach was selected in order to generate knowledge based on the participants' unique experiences without imposing preconceived categories (Hsieh & Shannon, 2005). A detailed explanation of the process is provided in Paper 2.

Qualitative data from the semi-structured interviews was thematically analysed using Braun and Clarke's six step approach (Braun & Clarke, 2006). This approach was selected due to its flexibility—described by Braun and Clarke (2006) as an approach "independent of theory and epistemology [yet] can still be applied across a range of theoretical and epistemological approaches" (p.5). Thematic analysis can produce insightful analysis that answers specific research questions, can be useful in highlighting similarities and differences across the data, generating unanticipated insights and providing a rich and detailed, yet complex account of data (Braun & Clarke, 2006). Further details of the qualitative data analysis process are provided in Paper 3.

3.13 Study rigour

3.13.1 Reflexivity

Reflexivity is the process of recognising individual actions, attitudes and behaviour during the research process (Johnston et al., 2016). This requires the researcher to consciously acknowledge how these factors interplay with the research process, in order to avoid jumping to quick conclusions and allows for transparency throughout the study (Pezalla et al., 2012). As the instrument of research in this study, the doctoral candidate needed to consciously make an effort to understand how his previous experiences as both a new graduate nurse (albeit over 20 years ago) and his experience as a clinical nurse educator who had supported NGNs during their transition to practice may have shaped his perspectives.

Reflexivity is critical for the rigour and transparency of qualitative research (Johnston et al., 2016). The doctoral candidate exercised rigour in all aspects of the research process. Measures that supported reflexivity included recording notes, including researcher thoughts following all interviews. These notes were included in all discussions with the research supervisors. The doctoral candidate also consciously reflected on his own values as a registered nurse. For example, when engaging with NGNs who expressed feeling unsupported in the critical care setting where the doctoral candidate was a nurse unit manager, he felt a degree of protectiveness towards the nurse educators and senior RNs and yet, he could see that at times these NGNs were allocated to care for patients who were beyond their level of experience. Another example was my frustration when senior nurses would complain to me about an issue with a new graduate's practice and would spend a considerable amount of time talking to other staff about the issue. In my mind, I was thinking "if you had spent this time supporting the new graduate to address the issue, as opposed to just complaining about it, there probably wouldn't have been an issue in the first place". Importantly, the new graduate would likely have had a positive learning experience rather than a negative experience. These types of dilemmas informed discussions with the research supervisors.

3.13.2 Trustworthiness

To enhance the rigour of qualitative analyses, measures of credibility, transferability, dependability and confirmability were addressed (Shenton, 2004). Participant codes (open-ended responses) or pseudonyms (interviews) were assigned to replace participants' names during the data analysis. Although the interview transcripts were not returned to the

participants for further comment, the checking of transcripts against audio recordings by the doctoral candidate ensured accuracy and enhanced credibility (Shenton, 2004 230).

Ongoing engagement to maintain credibility was provided by the doctoral candidate and a registered nurse working in the study setting as a clinician. As a result, the researcher maintained a good understanding of the complexity of the study setting and experiences of NGNs. Credibility was also achieved through peer debriefing. Briefings with supervisors were undertaken to facilitate discussions and develop insights and understanding of the research process. This process assisted the doctoral candidate to critically review information and provide feedback on the appropriateness of the study design, methodology used, data collection process, data analysis techniques and trustworthiness of findings (Frels & Onwuegbuzie, 2012).

For confirmability of all findings' several strategies were used including checking of data, keeping an audit trail of methodological approaches used and being aware of any potential researcher bias. Extracts of participant transcripts were published in peer-reviewed journals to support the confirmability of the CLASSIC Project.

Transferability in the CLASSIC Project was enhanced by clearly describing the context and methodology used. The descriptions of the study settings, characteristics of participants, timeframes and approaches to data collection are clearly outlined in this thesis and publications of this study. Sufficient contextual information is presented allowing the reader to determine transferability. The research approach and findings from this study have been presented at both local and international conferences and published in peer-review journals. Dependability ensured that the "overlapping methods" and analysis used are well described and findings of the study are consistent to allow the study to be repeated

(Shenton, 2004). In this project, dependability was ensured through the provision of a detailed description of all aspects of the project including the process, methods, data collection and analyses. This detail allows further researchers to repeat the study in a similar or different context.

3.14 Integration of the quantitative and qualitative data

Integration of data in mixed methods research occurs at three levels—through the design, through the methods and through the interpretation and reporting (Fetters et al., 2013). In the CLASSIC Project, integration occurred through mixing quantitative and qualitative approaches in the sequential embedded design with qualitative data primarily collected to understand the contextual factors that could influence NGNs' satisfaction with their TSP, and their intention to remain in nursing (their clinical specialty at the time). Integration at the methods level occurred through connecting, building, merging and embedding. Connecting is when one type of data links to the other through the sampling (Fetters et al., 2013). In the current study, quantitative and qualitative data were connected both *within* and *between* each phase (baseline and follow-up). Building occurs when data collection from one phase informs the data collection in another phase. Both quantitative and qualitative data from Phase One (baseline) were used to inform the interviews conducted in Phase Two (follow-up).

Integration through merging of data occurs when two databases are brought together for analysis and comparison (Fetters et al., 2013) and in the current study, this occurred when using standardised instruments to examine for changes between Phase One (baseline) and Phase Two (follow-up). Using Conventional Content Analysis, where the qualitative

responses to the open-ended responses were transformed by 'quantitising' them into numerical format also allowed for comparison between the two phases of the study.

Integration through embedding takes place when data collection and analysis are linked at multiple points. Fetters et al. (2013) describe the hallmark of embedding as recurrent linking of qualitative data collection to quantitative data collection to clarify outcomes, understand contextual factors or provide detailed information about the nature of participants' experiences. In the CLASSIC Project, embedding occurred with concurrent collection of qualitative data as both open-ended responses and interviews whilst collecting quantitative data through the responses to the questionnaire.

Finally, integration at the interpretation and reporting level occurs through narrative, data transformation and through joint displays. In this thesis, Chapter Five (Paper 2) provides an example of integration through narrative, using a contiguous approach to presentation of the qualitative and quantitative findings with different sections of the paper. Integration through data transformation is also demonstrated in this paper, where qualitative responses to the open-ended responses were transformed into quantitative data.

3.15 Conclusion

This chapter has provided detail about the study design, participants and recruitment, the study setting, data collection and analysis. The following chapter will present the first findings paper using data from Phase 1, entitled "Predictors of new graduate nurses' satisfaction with their transitional support programme".

CHAPTER FOUR
Paper 1

4.1 Publication

Hussein, R., Everett, B., Hu, W., Smith, A., Thornton, A., Chang, S., & Salamonson, Y. (2015). Predictors of new graduate nurses' satisfaction with their transitional support programme. *Journal of Nursing Management, 24*(3), 319-326. https://doi.org/10.1111/jonm.12321.

4.2 Introduction and relevance to thesis

Developing an understanding of the personal and environmental factors that influence NGNs' satisfaction with their transitional support programme may provide knowledge needed to address some of these factors. The first published paper presented in this thesis, which is based on findings from Phase 1 (baseline), identifies personal and situational factors that influenced NGNs' satisfaction with their transitional support programme and in particular, the practice environment. This paper also highlights NGNs' need for ongoing support during their transition to practice, particularly within the early months and when allocated to critical care areas on their first rotation.

The specific research question this paper addressed was 'What are the personal and situational factors, and elements of clinical supervision that influenced new graduate nurses' workplace satisfaction during their transitional support program?'

Predictors of new graduate nurses' satisfaction with their transitional support program

ABSTRACT

Aim: To examine the influence of new graduate nurses' (NGNs) personal and situational factors on their satisfaction with the practice environment. **Background:** Transitional support programs are widely used to provide professional support for NGNs' transitioning-to-practice. However, little is known about whether personal characteristics and situational factors influence NGNs' satisfaction with the practice environment. **Design:** Cross-sectional survey. **Methods**: NGNs were surveyed approximately eight weeks after support program commencement. In addition to socio demographic and situational data, two validated, standardised instruments were administered: the Manchester Clinical Supervision Scale (MCSS-26) and the Practice Environment Scale Australia (PES-AUS). **Results**: A total of 109 NGNs completed the survey. Three independent and significant predictors of NGNs' satisfaction were: a) unit satisfaction (β=0.41); b) satisfaction with the clinical supervision (β=0.31); and c) assigned unit: critical care areas (β=-0.17), explaining 32.5% of the variance. **Conclusion**: This study demonstrates the importance of clinical supervision and unit level support on satisfaction, and the need for additional support for NGNs assigned to critical care areas. **Implications for nursing management**: Findings of this study suggest there are modifiable situational factors which influence NGNs' satisfaction with the practice environment, and allocating NGNs to critical care areas on their first rotation should be avoided.

Keywords:

Nurse practice environment, clinical supervision, new graduate nurse, professional support, transition.

Introduction

In Australia (Parker et al. 2014) and internationally (Rush et al. 2012, Whitehead et al. 2013), many new graduate nurses experience significant challenges making the transition from a student-to-registered nurse, a problem commonly attributed to what has been termed the 'theory-practice gap' (Rush et al. 2012). While the reasons are complex and often multifactorial (Parker et al. 2014), these can include staff shortages (Twibell et al. 2012), increasing acuity of patients (Cowin 2002, Peterson et al. 2011) and limited clinical support from experienced registered nurses (Peterson et al. 2011, Rickard et al. 2012), a factor likely to be exacerbated by the anticipated shortage of this group of nurses as they transition to retirement (Australian Institute of Health and Welfare 2012).

In addition, the difficulties in providing quality clinical learning opportunities in pre-registration nursing programs (Courtney-Pratt et al. 2012), demanding workloads (Twibell et al. 2012), and increasingly complex clinical environments (Unruh and Zhang 2013) have added to the challenges faced by newly graduated nurses. Many of these factors have been shown to result in low levels of job satisfaction, particularly within the early months of the transition to practice (Missen et al. 2014), contributing to new graduate turnover rates varying between 10.5% (Rush et al. 2012) and 65% (Beecroft et al. 2008) in the first year of employment.

Less clear however, is the role personal characteristics of new graduates (for example, age, previous nursing employment, confidence in handling clinical situations) and situational factors (for example, the assigned ward or unit, orientation, and clinical supervision) play in determining new graduate nurses' (NGN's) satisfaction with their work environment during

their transition to practice, a period generally accepted as the first 12 months of employment as a registered nurse (Missen et al. 2014). Given NGNs remain a significant source of workforce recruitment (Cowin & Hengstberger-Sims 2006), it is important that nursing managers consider these factors when structuring support to ensure a positive experience for, and promote retention of NGNs within acute care settings.

Background

Four decades ago, Kramer (1974) first coined the term “reality shock” to describe the discrepancies between new graduates' expectations and the ‘real-life’ of clinical practice. More recently, Duchscher (2009, p.1111) proposed the term 'transition shock' to capture the "acute and dramatic process of professional role adaptation for the new nurse". In an attempt to help support new graduates during this transition period, many healthcare facilities offer programs of varying length and structure (Missen et al. 2014, Rush et al. 2012).

Among NGNs, the learning process of transferring knowledge into nursing practice needs to occur in a supportive manner that integrates NGNs into organisational systems and processes (Johnstone et al. 2008). Failure to smoothly transition into the practice environment is likely to negatively affect the quality of nursing (Duchscher 2001), resulting in preventable clinical incidents. These problems, in addition to stressful and unsatisfying experiences, negative workplace cultures and excessive workloads are commonly reported (Beecroft et al. 2008, Cowin 2002, Laschinger et al. 2010). For NGNs, any negative experience in their first year has been shown to significantly impact on their future career intentions (Parker et al. 2014). Accordingly, a better understanding of the determinants of

NGN satisfaction when working in acute care settings is needed to design effective support strategies.

Nevertheless, supporting a smooth transition experience for NGNs into the practice environment is unlikely to be a 'one-size fit all' approach as individual and contextual factors need to be considered. With the advent of widening participation in higher education, there is increased diversity of pathways into undergraduate nursing studies, including the enrolment of students who have previous nursing experience, for example, Enrolled Nurses (ENs). In Australia, ENs work under the direction and supervision of a registered nurse to provide nursing care (Nursing & Midwifery Board of Australia 2010). Consequently, factors such as age, gender, previous nursing experience and confidence levels in the practice environment setting will need to be considered, as well as potentially modifiable contextual or situational factors. Examples of the latter include rostering to particular types of working environments and the nature of induction programs. It is likely that not all nurses are 'suited' for all specialties of nursing; so a better understanding of how best to support NGNs in different specialty environments when they choose their future field, whether palliative care, critical care or the operating theatres, is needed.

The Study

Aim

The aim of this study was to identify personal and situational factors influencing the satisfaction of NGNs during the first year of transitional support program in a large tertiary facility.

Design

This cross-sectional survey study is part of a larger prospective follow-up project which aims to evaluate the effectiveness of clinical supervision practice for NGNs in an acute care setting. In this paper, we examine NGNs' satisfaction with the practice environment at baseline, which is approximately two months after commencing their Transitional Support Program (TSP).

Study setting and participants

This study was conducted in a large tertiary level acute care facility with a major trauma centre, located in New South Wales, Australia. The facility employs over 1500 nursing staff across a range of clinical streams and specialties. During the period of this study, over 100 new nursing graduates were recruited into the TSP, a 12-month program. Over this period, NGNs experience two rotations across a variety of clinical specialities including medical, surgical, emergency, intensive care, oncology, mental health, women's health and new born services. These NGNs were allocated to a rotation, taking into consideration their allocation preferences. In addition to five TSP orientation days and one-to-ten unit orientation days, the NGNs also received a further five education days throughout the 12-months. They also received other forms of transition support, including: a) Point of Care (e.g. clinical teaching, buddying); b) facilitated professional development (e.g. coaching and mentoring scenario); and c) formalised clinical supervision (Health Education and Training Institute 2013). Data for this study was collected between May 2012 and August 2013 during allocated TSP study days, shift overlap times on the ward, and at other times convenient to participants.

Measures

Four personal factors that may influence NGNs' satisfaction with the practice environment were assessed in this study: i) age; ii) gender; iii) history of previous paid employment, and iv) level of confidence in handling clinical situations. A single-item scale with 0 "Always confident" to 10 "Never confident" Likert scale was used to assess NGNs' levels of confidence in handling different clinical situations. In addition, three situational factors that may influence the NGNs' satisfaction with the practice environment were included: i) assigned unit (critical care or non-critical care area); ii) level of satisfaction with unit-based orientation using a single-item question and; iii) satisfaction with the clinical supervision offered within the TSP. The 26-item Manchester Clinical Supervision Scale (MCSS-26) to assess new graduate nurses' evaluation of clinical supervision, and the PES-AUS were used to assess NGNs' satisfaction with their clinical practice environment.

Manchester Clinical Supervision (MCSS-26) scale

This MCSS-26 is a 26-item scale used to measure nurses level of satisfaction and experiences with clinical supervision (Winstanley & White 2011). MCSS-26 responses are provided in a 5-point Likert response format, ranging from 0="Strongly disagree" to 4="Strongly agree". Originally developed using a sample of nurses, this scale has also been demonstrated to be valid and reliable when administered with other health professionals (Winstanley & White 2011). The MCSS is also used to measure three (normative, restorative and formative) dimensions of clinical supervision utilising six subscales: i) trust/rapport; ii) supervisor advice/support; iii) improved care/skills; iv) importance/value of CS; v) finding time; and vi) reflection (Winstanley 2000). The MCSS-26 has been reported to be reliable with a Cronbach's alpha coefficient range from 0.658 to 0.868, which indicates average-good

internal consistency of the items in each subscale. In this study, Cronbach's alpha of the overall 26-item scale was 0.90.

Practice Environment Scale Australia (PES-AUS)

The PES-AUS is used to measure nurses' satisfaction with their practice environment and is based on the original Practice Environment Scale (PES-NWI) developed by Lake (Lake 2002) through factor analysis from magnet hospitals in the United States of America. The PES-AUS is comprised of 30 items in five subscales. Subscales are 1) Nurse Participation in Hospital Affairs 2) Nursing Foundations for Quality of Care 3) Nurse Unit Manager Ability, Leadership and Support of Nurses 4) Staff and Resource Adequacy and 5) Collegial Nurse-Doctor Relations. In contrast to the original PES-AUS which uses a 4-point Likert scale ranging from 1='Strongly Disagree' to 4='Strongly Agree' (Middleton et al. 2008), this study used a 5-point Likert scale to assess NGNs' satisfaction with the current work environment, as it was anticipated that NGNs may not be familiar with some items of the scale due to their level of experience and time worked in a new work environment at baseline. Hence, a midpoint of 3='unsure' was added to the revised 5-point likert scale.

In this study, four (4) components from the PES-AUS were extracted using principal component analysis. These included component 1- "Valuing staff and supportive work environment", component 2- "Resource and structure that facilitate quality care", component 3- "Structure that promotes nursing Professional identity" and 4- "Positive medical- nursing teamwork". Collectively, these four (4) components which included the 30-item PES-AUS accounted for 48.9% of cumulative variance and revealed a Cronbach's alpha of 0.91, indicating a high internal consistency.

Ethical considerations

The study was approved by the relevant University and Local Health District Human Research Ethics Committees. Both written and verbal information about the study were provided to all prospective participants, including the types of information to be collected in this study, timing of data collection, and their right to withdraw at any time from the study.

Data analysis

The Statistical Package for the Social Sciences (SPSS®) version 22.0 was used to conduct all analysis. To determine the psychometric structure of both the MCSS-26 and the PES-AUS, factorial validity was undertaken using principal component analysis using scree plot with varimax rotation, and reliability was computed using Cronbach's alpha. Descriptive statistics were used to summarise personal and situational characteristics of the participants. Although the outcome variable (PES-AUS) was normally distributed, none of the other continuous variables were, hence, to examine for group differences, these continuous variables were dichotomised at the median. Independent t-test was used to compare distributions of PES-AUS scores in different groups. Only personal and situational characteristics that were significantly different ($p<0.05$) were included in a linear multiple regression analysis (stepwise entry) to explain the variance in participants' levels of satisfaction as assessed by the PES-AUS scores. A p value of < 0.05 was considered as an indication of statistical significance.

Results

Sample characteristics

The study participants (n=109) ranged in age from 20 to 53 years (median: 23, interquartile range: 21-29) and over three quarters (77%) of the sample were female (Table 1). Just over

half of the new graduate nurses reported previous experience in nursing-related work prior to being accepted into the TSP, with most of these having worked as Assistants in Nursing.

Approximately two-thirds (64%) of the participants in this study were allocated to work in a non-critical care area, with the remaining allocated to critical care areas in their first rotation, taking NGNs' preferences into consideration (Table 1). The overall satisfaction with ward or unit-satisfaction orientation ranged from 5-8 (median 7). In relation to their levels of confidence in handling clinical situations, the ratings ranged from 2-5 (median: 4). The mean MCSS-26 score was 73.4 (*SD*: 11.4, Range: 41-100) and the PES-AUS score was 112.3 (*SD*: 16.2, Range: 55-149).

Bivariate analysis of NGNs' personal and situational factors with mean PES-AUS scores

Figure 1 displays a comparison of personal and situation factors with mean PES-AUS scores. NGNs who were younger (< 23 years) were more satisfied with the practice environment when compared with those who were older (p=0.024). Compared with those who worked in non-critical care areas, NGNs assigned to work in critical care areas were less satisfied with the practice environment (p=0.037). Further, when NGNs were satisfied with their unit orientation (p<0.001) or more confident (p=0.043) during clinical practice they were more satisfied with their practice environment during that time. Similarly, those who were more satisfied with clinical supervision support (MCSS-26: ≥ 74) were more satisfied with the practice environment (p<0.001) as shown in Figure 1.

Predictors of satisfaction with the professional practice environment

To identify predictors of new graduates' satisfaction with the practice environment as measured by the PES-AUS scores, a stepwise multiple regression model was used. As shown

in Table 2, only three variables—unit satisfaction (standardised beta=0.41), satisfaction with clinical supervision received (standardised beta=0.31), as measured by MCSS-26, and being assigned to critical care areas (beta=-0.17) emerged as independent and statistically significant predictors, explaining 32.5% of the variance in PES-AUS scores (Table 2).

Discussion

This study set out to examine the personal and situational factors that may influence NGNs' satisfaction with the clinical practice environment while undertaking a transitional support program in a large tertiary facility. Results of the study showed that participants who were more satisfied with both their unit orientation and clinical supervision were more likely to be satisfied with their practice environment. These findings were not surprising, as a predominant finding in the literature is that NGN transition support programs improve satisfaction and confidence, decrease reality shock, and improve retention (Whitehead et al. 2013, Rush et al. 2012).

A new finding in this study is that older new graduate nurses were less satisfied with their practice environment compared to their younger counterparts. This is similar to findings by Phillips, Kenny, Esterman and Smith (2014) who noted older registered nurses in their first year of practice were less likely to report successful transition than their younger peers. There are several possible explanations for this result. Firstly, it could be that older new graduate nurses face greater family-work conflict as a result of carer commitments which, combined with the challenges associated with their full-time new graduate role affect their satisfaction with their practice environment (Keepnews et al. 2010). Although the current study did not seek information from NGNs if nursing was their first career choice, it is known that many new graduates enter nursing as a second or third career choice (Morrow 2009),

so by virtue of life experience older new graduate nurses may have been more confident and perhaps more critical, with higher expectations of their new role. Beecroft, Dory and Wenten (2008) suggest older NGNs are more likely to have fixed career goals which may impact on their satisfaction with the practice environment. Finally, while research has shown that previous nursing-related work experience during nurses' undergraduate program may be advantageous in terms of confidence (Phillips et al. 2014), it may also increase expectations of new graduates who have previously trained as ENs - a group likely to be older, perhaps with higher expectations of the new graduate program, who therefore may experience a less satisfying transition (Gallagher 2012).

New graduate nurses assigned to work in critical care areas were also less satisfied with their transitional support program, a finding consistent with Messmer, Gracia and Taylor (2004), who noted new graduates placed in specialty unit areas such as intensive care on their first rotation were more dissatisfied with their transition as these settings are often characterised by high levels of complexity, uncertainty and variability (St-Pierre et al. 2011).

The current study was undertaken at one of the largest and busiest teaching hospitals in Australia, which may have resulted in additional stress for these NGNs. One third of the NGNs in this study were placed in a critical care area for their first rotation, which may have contributed to the overall lower satisfaction scores associated with critical care areas, compared with general wards. Given the shortage of undergraduate clinical placements in specialty areas (Halcomb et al. 2012), it is also possible that many NGNs had not undertaken a critical care clinical placement during their undergraduate training, further increasing the stress and 'culture shock' experienced when commencing work in such a challenging environment, an issue that warrants further research.

Implications for nursing management

Findings of this study suggest there are modifiable situational factors that influence NGNs' satisfaction with the practice environment. The study highlights the importance for nurse managers to support NGNs by providing a well-structured unit- or ward-based orientation program tailored to their needs. This study also highlights the need for additional transitional support during their 'first' clinical allocation, including providing on-shift clinical supervisors, to ensure these NGNs are off to a 'good start'. In this study NGNs worked in departments with staff numbers ranging from 4-26 nurses per shift, and it is imperative for nursing management to create opportunities for NGNs and more experienced staff to develop closer working relationships, through team projects and other department 'bonding' activities as these engender a sense of belongingness among the NGNs.

The overall approach of clinical supervision in this study was a key factor in influencing NGNs' satisfaction. The mean MCSS-26 score of 73.4 in this study was lower than the mean scores reported in two recent studies that used this scale to predict drug and alcohol nurses' satisfaction with clinical supervision (Best et al. 2014) and an intervention study developed to motivate mental health nurses to participate in ongoing clinical supervision (Gonge & Buus 2014). These studies that used the MCSS-26 assessed the more orthodox form of 'reflective' supervision for nurses working in mental health and aged care settings (Brunero & Stein-Parbury 2008), which is not usually the case for NGNs working in the acute care setting. Nevertheless, this study underscores the importance of resource allocation at the institutional level to provide continuous supervisory support to promote NGNs' satisfaction.

NGNs who are transitioning from being a new graduate into the nursing workforce require a substantial amount of instrumental support, particularly during their first rotation in critical

care settings (Beecroft et al. 2008). Hence, it is crucial for nurse managers in critical care areas to provide tailored support for NGNs allocated to critical care settings, particularly during their first rotation. This includes providing accessible "around the clock" clinical support including rostering experienced clinical staff who are ready and willing to provide instrumental support to the NGNs who are working side-by-side with them.

Limitations

This study has limitations that need to be considered when interpreting the results. First, all NGN participants were recruited at a single site over one specific period of time (2012 to 2013). It is possible that participants recruited at other times and other settings may differ, in terms of personal characteristics and their perception of their clinical practice environment. Second, although most NGNs employed during the period of participant recruitment completed the questionnaire, a sample size of 109 is small for a study that utilised standardised scales with 26 to 30 items. Nevertheless, it is noteworthy that statistical significance was achieved with this sample size, suggesting the effect is likely to be real and meaningful. Third, the questionnaire was administered by institutional employees hence, it is difficult to establish the candidness of the responses that were provided by participants. This could be explored in future studies.

Conclusion

Findings from this study revealed that both clinical support at the unit level and overall clinical supervision were key factors influencing NGNs' satisfaction with the practice environment. The study also showed that NGNs assigned to critical-care areas were less satisfied compared to those assigned to non-critical care areas. Given healthcare settings are increasingly characterised by nursing shortages, high acuity of patients, and complexity

of care, these are important findings which suggest consideration should be given to not allocating new graduate nurses to these areas on their first rotation. If new graduate nurses are allocated to critical care areas on their first rotation, it is likely additional support and clinical supervision will be needed to ensure a positive experience during their transition to practice.

References

Australian Institute of Health and Welfare (2012) Nursing and midwifery workforce 2011. In *National health workforce series no. 2. Cat. no. HWL 48.*AIHW, Canberra.

Beecroft, P.C., Dorey, F. & Wenten, M. (2008) Turnover intention in new graduate nurses: A multivariate analysis. *Journal of Advanced Nursing,***62**(1), 41-52.

Best, D., White, E., Cameron, J., Guthrie, A., Hunter, B., Hall, K., Leicester, S. & Lubman D.I. (2014) A model for predicting clinican satisfaction with clinical supervision. *Alcoholism Treatmement Quarterly,* **32**(1), 67-78.

Brunero, S. & Stein-Parbury, J. (2008) The effectiveness of clinical supervision in nursing: An evidenced based literature review. *Australian Journal of Advanced Nursing,* **25**(3), 86-94.

Courtney-Pratt, H., FitzGerald, M., Ford, K., Marsden, K. & Marlow, A. (2012) Quality clinical placements for undergraduate nursing students: a cross-sectional survey of undergraduates and supervising nurses. *Journal of Advanced Nursing,***68**(6), 1380-1390.

Cowin, L. (2002) The effects of nurses' job satisfaction on retention: an Australian perspective. *Journal of Nursing Administration,***32**(5), 283-291.

Cowin, L.S. & Hengstberger-Sims, C. (2006) New graduate nurse self-concept and retention: a longitudinal survey. *International Journal of Nursing Studies,***43**(1), 59-70.

Duchscher, J.E. (2001) Out in the real world: Newly graduated nurses in acute care speak out. *Journal of Nursing Administration,***31**(9), 426-439.

Duchscher, J.E.B. (2009) Transition shock: The initial stage of role adaptation for newly graduated Registered Nurses. *Journal of Advanced Nursing,***65**(5), 1103-1113.

Gallagher, L. (2012) The transitional journey of enrolled nurse to registered nurse: a review of the literature. *HNE Handover: For Nurses and Midwives,***5**(1), 21-23.

Gonge, H. & Buus, N. (2014) Is it possible to strengthen psychiatric nursing staff's clinical supervision? RCT of a meta-supervision intervention. *Journal of Advanced Nursing,***00**(0), 000-000. doi: 10.1111/jan.12569

Halcomb, E.J., Salamonson, Y., Raymond, D. & Knox, N. (2012) Graduating nursing students' perceived preparedness for working in critical care areas. *Journal of Advanced Nursing,***68**(10), 2229-2236.

Health Education and Training Institute (2013) The Superguide: a supervision continuum for nurses and midwives. pp. 1-92.
http://www.heti.nsw.gov.au/resources-library/nursing-midwifery-superguide/

Johnstone, M.J., Kanitsaki, O. & Currie, T. (2008) The nature and implications of support in graduate nurse transition programs: an Australian study. *Journal of Professional Nursing,* **24**(1), 46-53.

Keepnews, D.M., Brewer, C.S., Kovner, C.T. & Shin, J.H. (2010) Generational differences among newly licensed registered nurses [corrected] [published erratum appears in NURS OUTLOOK Sep-Oct;58(5):225]. *Nursing Outlook,* **58**(3), 155-163.

Kramer, M. (1974) *Reality shock* C. V. Mosby, St Louis.

Lake, E.T. (2002) Development of the practice environment scale of the nursing work index. *Research in Nursing & Health,* **25**(3), 176-188.

Laschinger, H.K.S., Grau, A.L., Finegan, J. & Wilk, P. (2010) New graduate nurses' experiences of bullying and burnout in hospital settings. *Journal of Advanced Nursing,* **66**(12), 2732-2742.

Messmer, P.R., Sande Gracia, J. & Taylor, B.A. (2004) Enhancing knowledge and self-confidence of novice nurses: the "Shadow-a-nurse" ICU Program. *Nursing Education Perspectives,* **25**(3), 131-6.

Middleton, S., Griffiths, R., Fernandez, R. & Smith, B. (2008) Nursing practice environment: how does one Australian hospital compare with magnet hospitals? *International Journal of Nursing Practice,* **14**(5), 366-372.

Missen, K., McKenna, L. & Beauchamp, A. (2014) Satisfaction of newly graduated nurses enrolled in transition-to-practice programmes in their first year of employment: a systematic review. *Journal of Advanced Nursing*00(0), 000–000. doi: 10.1111/jan.12464.

Morrow, S. (2009) New graduate transitions: Leaving the nest, joining the flight. *Journal of Nursing Management,* **17**(3), 278-287.

Nursing and Midwifery Board of Australia. (2010) *National competency standards for the registered nurse.* Melbourne, Victoria. http://www.nursingmidwiferyboard.gov.au/documents/default.aspx?record=WD10%2F1342&dbid=AP&chksum=N5ws04xdBlZijTTSdKnSTQ%3D%3D.

Parker, V., Giles, M., Lantry, G. & McMillan, M. (2014) New graduate nurses' experiences in their first year of practice. *Nurse Education Today,* **34**(1), 150-156.

Peterson, J., Hall, L.M., O'Brien-Pallas, L. & Cockerill, R. (2011) Job satisfaction and intentions to leave of new nurses. *Journal of Research in Nursing,* **16**(6), 536-548.

Phillips, C., Kenny, A., Esterman, A. & Smith, C. (2014) Does the choice of pre-registration paid employment impact on graduate nurse transition: an Australian study. *Nurse Education Today,* **34**(4), 532-537.

Rickard, G., Lenthall, S., Dollard, M., Opie, T., Knight, S., Dunn, S., Wakerman, J., MacLeod, M., Seiler, J. & Brewster-Webb, D. (2012) Organisational intervention to reduce occupational stress and turnover in hospital nurses in the Northern Territory, Australia. *Collegian,* **19**(4), 211-221.

Rush, K.L., Adamack, M., Gordon, J., Lilly, M. & Janke, R. (2012) Best practices of formal new graduate nurse transition programs: an integrative review. *International Journal of Nursing Studies*,**50**(3),345-56.

St-Pierre, L., Alderson, M. & Saint-Jean, M. (2011) Challenges and issues in adult intensive care nursing. *Journal of Nursing & Care,* **1**(1).

Twibell, R., St. Pierre, J., Johnson, D., Barton, D., Davis, C., Kidd, M. & Rook, G. (2012) Why new nurses don't stay and what the evidence says we can do about it. *American Nurse Today,* **7**(6).

Unruh, L. & Zhang, N.J. (2013) The role of work environment in keeping newly licensed RNs in nursing: a questionnaire survey. *International journal of nursing studies,* **50**(12), 1678-1688.

Whitehead, B., Owen, P., Holmes, D., Beddingham, E., Simmons, M., Henshaw, L., Barton, M. & Walker, C. (2013) Supporting newly qualified nurses in the UK: a systematic literature review. *Nurse Education Today,* **33**(4), 370-377.

Winstanley, J. (2000) Manchester Clinical Supervision Scale. *Nursing Standard,* **14**(19), 31.

Winstanley, J. & White, E. (2011) The MCSS-26: Revision of the Manchester clinical supervision scale using the Rasch measurement model. *Journal of Nursing Measurement,* **19**(3), 160-178.

Table 1 Characteristics of new graduate nurses working in an acute care setting (n = 109)

Variable	
Age, median (interquartile range) years (Range: 20 to 53 years)	23 (21-29)
Sex, *n* (%)	
Male	25 (22.9)
Female	84 (77.1)
Previous nursing experience, *n* (%)	
No	48 (44.0)
Yes	61 (56.0)
Type of previous nursing employment, *n* (%)	
No previous nursing employment	48 (44.1)
Assistant nurse	53 (48.6)
Enrolled nurse	8 (7.3)
First clinical placement at commencement, *n* (%)	
Non-critical care areas	70 (64.2)
Critical care areas	39 (35.8)
Overall satisfaction with Ward- or Unit-specific Orientation median (interquartile range) (Range: 0 to 10)	7 (5-8)
Experienced a lack in confidence in handling clinical situation median (interquartile range) (Range: 0 'never' to 10 'always')	4 (2-5)
Evaluation of clinical supervision – Manchester Clinical Supervision Scale (MCSS) score, mean (*SD*) (Range: 41 to 100)	73.4 (11.4)
Evaluation of nursing practice environment – Australian Practice Environment Scale (PES-AUS) score, mean (*SD*) (Range: 55 to 149)	112.3 (16.2)

Table 2 Stepwise multiple regression model: Predictors of new graduates' satisfaction with practice environment

Variable	β	*t*	*P*
Satisfaction with practice environment of new graduates: PES-AUS scores			
• Unit satisfaction: Rating of 7 or more	0.41	5.12	<0.001
• Clinical supervision satisfaction: MCSS-26 score (74 or more)	0.31	3.86	<0.001
• Assigned unit: Critical care areas	-0.17	-2.15	0.034

Overall model: R^2= 0.343, *F(df)* = 18.30 (3, 105), *P*< 0.001, adjusted R^2 = 0.325

4.3 Conclusion

This chapter has presented the first published paper of the CLASSIC Project, which examined the influence of NGNs' personal and situational factors on their satisfaction with their transitional support program. The findings reinforce the need for substantial clinical support during the early stages of NGN's transition, including access to support outside of 'business hours'.

CHAPTER FIVE
Paper 2

5.1 Publication

Hussein, R., Everett, B., Ramjan, L. M., Hu, W., & Salamonson, Y. (2017). New graduate nurses' experiences in a clinical specialty: A follow up study of newcomer perceptions of transitional support. *BMC Nursing, 16*(1), 42. https://doi.org/10.1186/s12912-017-0236-0.

5.2 Introduction and relevance to thesis

Situational, in particular organisational factors and the quality of clinical supervision, have been reported to influence new graduate nurses (NGNs') confidence as a novice clinician and their satisfaction with their clinical practice environment (Hussein et al., 2015). This chapter reports the findings for Phase 2 (follow-up) of the CLASSIC Project, which sought to examine change in NGNs' satisfaction with and perceptions of transitional support over the course of the 12-month program. This paper also identifies how organisational factors and elements of clinical supervision influenced NGNs' experiences.

The specific research question this paper addressed was 'What are the changes in new graduate nurses' perceptions and experiences during the transitional period?'

Hussein et al. BMC Nursing (2017) 16:42
DOI 10.1186/s12912-017-0236-0

BMC Nursing

RESEARCH ARTICLE Open Access

New graduate nurses' experiences in a clinical specialty: a follow up study of newcomer perceptions of transitional support

Rafic Hussein[1,2*], Bronwyn Everett[1,2], Lucie M. Ramjan[1,2], Wendy Hu[1] and Yenna Salamonson[1,2]

Abstract

Background: Given the increasing complexity of acute care settings, high patient acuity and demanding workloads, new graduate nurses continue to require greater levels of support to manage rising patient clinical care needs. Little is known about how change in new graduate nurses' satisfaction with clinical supervision and the practice environment impacts on their transitioning experience and expectations during first year of practice. This study aimed to examine change in new graduate nurses' perceptions over the 12-month Transitional Support Program, and identify how organizational factors and elements of clinical supervision influenced their experiences.

Methods: Using a convergent mixed methods design, a prospective survey with open-ended questions was administered to new graduate nurses' working in a tertiary level teaching hospital in Sydney, Australia. Nurses were surveyed at baseline (8–10 weeks) and follow-up (10–12 months) between May 2012 and August 2013. Two standardised instruments: the Manchester Clinical Supervision Scale (MCSS-26) and the Practice Environment Scale Australia (PES-AUS) were used. In addition to socio-demographic data, single –item measures were used to rate new graduate nurses' confidence, clinical capability and support received. Participants were also able to provide open-ended comments explaining their responses. Free-text responses to the open-ended questions were initially reviewed for emergent themes, then coded as either positive or negative aspects of these preliminary themes. Descriptive and inferential statistics were used to analyse the quantitative data and the qualitative data was analysed using conventional content analysis (CCA). The study was approved by the relevant Human Research Ethics Committees.

Results: Eighty seven new graduate nurses completed the follow-up surveys, representing a 76% response rate. The median age was 23 years (Range: 20 to 53). No change was seen in new graduate nurses' satisfaction with clinical supervision (mean MCSS-26 scores: 73.2 versus 72.2, $p = 0.503$), satisfaction with the clinical practice environment (mean PES-AUS scores: 112.4 versus 110.7, $p = 0.298$), overall satisfaction with the transitional support program (mean: 7.6 versus 7.8, $p = 0.337$), satisfaction with the number of study days received, orientation days received (mean: 6.4 versus 6.6, $p = 0.541$), unit orientation (mean: 4.4 versus 4.8, $p = 0.081$), confidence levels (mean: 3.6 versus 3.5, $p = 0.933$) and not practising beyond personal clinical capability (mean: 3.9 versus 4.0, $p = 0.629$).
Negative responses to the open-ended questions were associated with increasing workload, mismatch in the level of support against clinical demands and expectations. Emergent themes from qualitative data included i) orientation and Transitional Support Program as a foundation for success; and ii) developing clinical competence.
(Continued on next page)

* Correspondence: rafic.hussein@sswahs.nsw.gov.au
[1]Western Sydney University, School of Nursing and Midwifery, Locked Bag 1797, Penrith, NSW 2751, Australia
[2]Centre for Applied Nursing Research (CANR), Ingham Institute for Applied Medical Research, Liverpool, NSW 2170, Australia

(Continued from previous page)

Conclusions: While transitional support programs are helpful in supporting new graduate nurses in their first year of practice, there are unmet needs for clinical, social and emotional support. Understanding new graduate nurses' experiences and their unmet needs during their first year of practice will enable nurse managers, educators and nurses to better support new graduate nurses' and promote confidence and competence to practice within their scope.

Keywords: Nurses, Newcomer nurses, New graduate nurse, Newly qualified nurses, Newly licensed nurses, Professional support, Nurse practice environment, Clinical supervision, Transition, Retention, Mixed methods

Background

Acute healthcare settings in Australia and developed countries are rapidly evolving [1] and becoming increasingly complex [2]. For newly graduated registered nurses (NGNs), transitioning from university to practice in acute settings remains challenging, stressful and emotionally exhausting [3] as they strive to deliver safe nursing care amidst heavy workloads, increased accountability and responsibility for their patient care [4]. Concerns about new graduate nurses' ability to cope and deliver safe nursing care have contributed to the development of transitional support programs alongside various forms of clinical supervision to promote the development of clinical proficiency, support professional development and improve new graduate nurse retention [5].

To fully comprehend the transitional experience of new graduates it is important to understand their clinical environment and workplace conditions. New graduate nurses continue to enter a work environment characterised by nursing staff shortages, increasing patient acuity [6] and at times limited access to clinical support [7]. Although a positive workplace environment facilitates more effective transition of graduate nurses and significantly influences their job satisfaction [6], negative experiences have been found to result in feelings of heightened work stress for up to one year after graduation, with contributory factors including poor work environments, poor clinical supervisors and poor nurse-doctor relations [8]. Not only do these early experiences impact on new graduate nurses' levels of satisfaction but they can influence long term career intentions [5]. Of concern is that current research on the experiences of first year nurses still reflects the findings of the research on their counterparts a decade earlier; that is, they still struggle to meet expectations placed on them, face difficulties to manage unreasonable workloads, high levels of stress, burnout and feeling at times unsafe [9].

New graduate nurses' experiences in the first year of practice are often described as overwhelming and stressful as they strive to apply newly acquired skills, deliver quality patient care and 'fit in' [10]. Importantly, the first year of practice is also a time of high attrition with rates of up to 27% reported in the literature [11]. These concerns have contributed internationally to the development of new graduate programs [12], often referred to as transitional programs, to promote clinical proficiency, support NGNs' professional development and improve retention.

Numerous studies have reported the impact of workplace stress, uncivil behavior and burnout on the retention of new graduate nurses [9, 11, 13]. However, how best to facilitate newcomer transition in acute care settings remains a subject of ongoing research. Although there is consensus in the literature that a supportive organizational environment (both at the ward and organizational level) is needed for the safe and successful integration of novice nurses, few authors have detailed the experiences and perceptions of new graduate nurses and how these change over time. Bauer, Bodner, Erdogan, Truxillo and Tucker [14] describe the process of newcomer nurses being socialized into organizations, sometimes referred to as 'onboarding', during which time they acquire the knowledge, attitudes and behaviors to perform effectively and adjust to their work surroundings [15]. However, this process has been shown to be negatively impacted by rising patient acuity and understaffing and in some cases, exacerbated by fear of failure [16].

Transitional programs are one intervention to address these challenges; the format varies, but they are designed to assist new graduate nurses' transition into the nursing workforce and profession within an institutional context. Over 12 months, the program offers new graduates exposure to a variety of clinical settings including facility and ward orientation, 2–3 ward rotations, 4–5 preplanned study days, formal and informal clinical supervision. Such programs aim to assist novice nurses with facility and ward orientation to consolidate theoretical learning, critical skills and judgement in their new professional role [11]. To ensure a successful transition from a novice nurse to competent registered nurse (RN), it is argued that structured professional development programs are provided [17] in a supportive manner to help newly graduated nurses integrate into organizational systems and processes [7].

Given the implications for nursing workforce retention, it is thus important to examine the effectiveness of transitional support programs and the factors associated with positive and negative new graduate experiences. The overall aim of this study was to examine change in new graduate nurses' perceptions over a 12-month transitional support

program (TSP), also commonly known as nurse residency program. Specifically, this study sought to (i) identify elements of clinical supervision that influenced new graduates' experiences during the program; (ii) to examine changes in new graduate nurses' perceptions and clinical supervision, confidence levels, satisfaction with the orientation program and their practice environment over the 12-month transitional period and (iii) explore their experiences during the transitional period and identify change between baseline and follow-up.

Methods

This convergent mixed methods study was part of a larger project [18] which evaluated the effectiveness of clinical supervision practice for new graduate nurses in an acute care setting (Fig. 1). The value of mixed methods research can be dramatically enhanced through the integration of quantitative and qualitative data [3, 19].

In this paper, we integrate an analysis of quantitative data with a separate analysis of the qualitative open-ended responses from a survey completed by new graduate nurses enrolled in a transitional support program. The survey was initially administered 8–10 weeks after the commencement of the transitional support program and again to the same participants 10–12 months after commencement. These data collection points were selected for pragmatic reasons; that is they coincided with programmed study days and ensured participants had sufficient time in each of their rotations to report their transitioning experience and clinical competence.

Study setting and participants

The study was conducted in a principal referral and teaching hospital in Sydney, Australia. The hospital has 855 beds and employs over 1500 nursing staff across a range of clinical streams and specialities, including statewide services in critical care and trauma. All new graduate nurses (n = 140) enrolled in the 12-month transitional support program were invited to participate in this study at facility orientation, study days and by emailed invitations. Programmed study days are pre-allocated study days for new graduates throughout the transitional support programme. 'Orientation days' refers to the number of days new graduate nurses were given as supernumerary on the ward. This means they were 'buddied up' for the shift or preceptored by another registered nurse or clinical nurse educator. Data collection for this study was conducted between May 2012 and August 2013 during group TSP study days, shift overlap times on the ward and other times convenient to participants. Participants completed the self-report instruments independently.

Data collection

Participant characteristics assessed in this study included i) age; ii) gender; iii) history of previous paid employment, and iv) previous nursing experience. Single-item Likert scale measures were used to assess how frequently (0 = never, 10 = always) NGNs were placed in clinical situations where they did not feel confident or which were beyond their clinical capability. In addition, three practice environment factors were included: i) assigned unit (critical care or non-critical care area); ii) level of satisfaction with unit-based orientation using a single-item question and; iii) satisfaction with the clinical supervision offered within the TSP. Participants were asked to give a reason for their rating or elaborate by providing an example for the single-item measures. Also administered at baseline and follow up were two validated instruments, the 26-

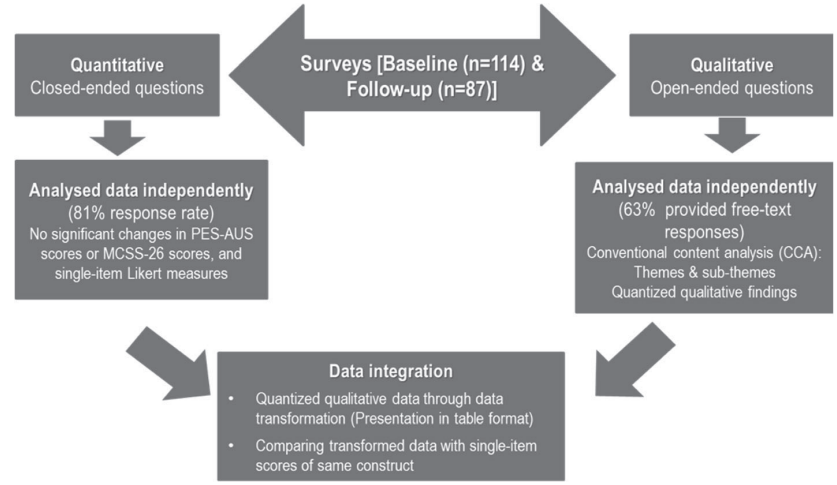


Fig. 1 Overview of Convergent Mixed Methods Design [3, 19]

item Manchester Clinical Supervision Scale (MCSS-26) used to assess NGN perception of the quality of clinical supervision [20], and the Practice Environment Scale - Australia (PES-AUS) used to assess satisfaction with their clinical practice environment [21]. The PES-AUS was modified with a midpoint of 3 = 'unsure', as it was anticipated that some new graduates may not be familiar with some items of the scale. In this study, Cronbach's alpha for both instruments were 0.90 and 0.91 respectively, indicating high internal consistency.

Ethics approval was granted by Western Sydney University and South Western Sydney Local Health District Human Research Ethics Committees (H10055, LNR/11/LPOOL/510). Written informed consent was obtained from all participants. Permission to use the MCSS-26 and PES-AUS was obtained by the authors.

Data analysis

Quantitative data were analyzed using the statistical software package, IBM SPSS Statistics Version 22 [4]. Continuous variables were assessed for normality using the Kolmogorov-Smirnov test, and expressed as median and range. Categorical variables were summarized as frequencies and percentages. To examine for change in the study cohorts' responses between baseline and follow-up, we used Pearson's chi-square for categorical variables, paired *t*-test or Wilcoxon signed rank test for changes between baseline and follow-up. A p-value of <0.05 was considered as statistically significant.

A Conventional Content Analysis (CCA) technique was used to analyze the open-ended responses. This approach allows the analysis (themes and names for the themes) to be derived from the open-ended responses, rather than being preconceived [22]. The open-ended responses were read multiple times by the first author (RH) to achieve immersion [22]. Responses were then read for frequently repeated words (e.g. support, workload, skills), denoting main views on experiences and transition were highlighted within an excel spreadsheet. First impressions of open-ended responses were noted and formed the basis of development of categories or 'sub-themes' for grouping under main 'themes'.

Open-ended responses to the single item measures were reviewed for emergent themes by two researchers (RH and LR). Initially 20% of the free text responses were coded independently by two researchers (RH & YS), categorizing the text as either positive or negative aspects of these preliminary themes. Any differences in coding were then discussed to achieve consensus before the continuation of further text coding. RH completed the remainder of the coding. Data integration was achieved by transforming ('quantitizing') the qualitative data into numerical form [19].

Using the six subthemes as categories, the frequencies of the free-text responses were grouped into positive and negative dimensions, based on the number of times a code referring to a sub-theme was found in a participants' survey. A numerical value of "1" was given for each positive comment and a score of "0" if the comment was negative. An aggregate score for each subtheme was thus computed (Table 1). The qualitative responses were then 'transformed' into quantitative data, then integrated with illustrative examples from the original dataset [23].

Results

Quantitative findings

Sample characteristics

A total of 140 new graduate nurses enrolled in the transitional program. One hundred and fourteen new graduates (81%) completed the baseline survey, and of these, 87 (76%) completed follow-up surveys. There were no statistically significant differences in age, MCSS-26 or PES-AUS scores between responders and non-follow-up responders.

The median age was 23 years (Range: 20 to 53) and over three-quarters of the sample were female (78%). Over half of the new graduates had previous nursing experience, with most previously employed as Assistants in Nursing (AINs) (unlicensed workers). During the two clinical rotations within the transitional support program, approximately two-thirds (63%) of new graduates worked in non-critical care areas with the remainder (37%) allocated to work in critical care areas.

Experiences over time: Baseline vs follow up

There was no change in the new graduate nurses' satisfaction with clinical supervision over the two time periods (mean MCSS-26 scores: 73.2 versus 72.2, $p = 0.503$). Similarly, there were no significant differences in: i) satisfaction with the clinical practice environment (mean PES-AUS scores: 112.4 versus 110.7, $p = 0.298$); ii) the overall satisfaction with the transitional support program (mean: 7.6 versus 7.8, $p = 0.337$); iii) satisfaction with the number of study days received (mean: 4.4 versus 4.7, $p = 0.72$); iv) orientation days received (mean: 6.4 versus 6.6, $p = 0.541$); v) unit orientation (mean: 4.4 versus 4.8, $p = 0.081$); vi) confidence levels (mean: 3.6 versus 3.5, $p = 0.933$) and vii) not practising beyond personal clinical capability (mean: 3.9 versus 4.0, $p = 0.629$), over the two time periods.

Qualitative findings

Almost two-thirds $n = 72$ (63%) of participants provided free text responses to either the open-ended questions at baseline and/or follow-up. Two themes, each with three subthemes encapsulated their experiences during this period. These are listed in Table 1, and presented below with illustrative quotes.

Table 1 Positive and negative comments of new graduate nurses at baseline and follow-up

Theme	No.	Category	Frequency of comments					
			Baseline			Follow-up		
			Positive	Negative	Balance	Positive	Negative	Balance
1. Orientation and Transitional Support Program as foundation for success	1.1	Instrumental support during transition	33 (43%)	36 (22%)	−3	22 (51%)	31 (30%)	−9
	1.2	Understanding the clinical capabilities of the new graduate	14 (18%)	31 (19%)	−17	4 (9%)	9 (8%)	−5
	1.3	Becoming one of the team or part of the team	3 (4%)	3 (2%)	0	2 (5%)	2 (2%)	0
2. Developing clinical competence	2.1	Appropriate workload and working within scope of practice	8 (10%)	47 (28%)	−39	2 (5%)	36 (34%)	−34
	2.2	Adequate skill mix	9 (12%)	11 (6%)	−2	5 (12%)	5 (5%)	0
	2.3	Building clinical confidence and competence	10 (13%)	39 (23%)	−29	8 (18%)	22 (21%)	−14
		Subtotal	77 (100%)	167 (100%)	−90	43 (100%)	105 (100%)	−62
			Baseline Balance			Follow-up Balance		

Theme 1: Orientation and TSP as a foundation for success

The majority of participants who responded commented that the transitional support program and orientation was essential for successful transition. Those who indicated they received good supernumerary support and orientation felt they were *"formally introduced to the team which was satisfying and welcoming for new staff".*

> *Overall the TSP team have provided a great deal of clinical and emotional support throughout the year. The program has been useful in transitioning into the hospital setting (Participant 2.35).*

Sub-theme 1: Instrumental support during transition

In addition to a comprehensive orientation program to ward or unit, continuing support from clinical nurse educators (CNEs), nurse unit managers (NUMs), clinical nurse specialists and registered nurses was identified as crucial during this period as it fostered acceptance and learning.

> *The support was exceptional. CNE was very thorough and supportive alongside the NUM (Participant 3.6).*

> *Good experiences, worked in a supportive environment, also got continual support after formal orientation (Participant 4.22).*

Sub-theme 2: Understanding the clinical capabilities of the new graduate

Some ward staff though had unrealistic expectations of the clinical capabilities of the new graduates, and others spent minimal time orientating them to the ward which was unhelpful; as newcomers they required sufficient time to familiarise with ward, layout, equipment and policies.

> *I found that I didn't have very much time to get orientated and was pushed into the deep end (Participant 3.9).*

> *Three Cardiothoracic patients at one given time, 1 pt. on inotropes, noradrenaline and dobutamine. Another post coronary artery bypass graft [CABG], another tracheostomy. Plus there was a met call that day (participant 2.32).*

Sub-theme 3: Becoming one of the team

Surprisingly, new graduates were not always formally introduced to other staff members in the ward or unit. One participant suggested the following:

> *Have a day to introduce me to ward (staff) (Participant 4.17).*

Despite this, being an integral member of the team was also evident, as illustrated by this comment:

> *The ward staff have been very supportive and often give tips/input on what can be done on a particular situation. (Participant 2.9).*

Theme 2: Developing clinical competence

Many of the NGNs felt that the transitional support program provided them with opportunities to develop their clinical competence. However, access to opportunities for further development and support varied, depending on the availability and expertise of the TSP coordinators, the after-hours nurse educator, the ward-based clinical nurse educators and clinical nurse specialists, team leaders and other senior staff. The variability in opportunities

influenced the capacity of novice nurses to develop their clinical competence, which was further compounded by increasing workloads, and nursing skill mix. Being confronted by unexpected clinical situations such as the Medical Emergency Team (MET) calls, deteriorating patients, dealing with aggressive patients and challenging families were some of the examples cited by participants as illustrated by the comment below:

I've found that I have been put in situations I have had little exposure to with minimal help at hand. Although some senior staff may help, it may take some convincing. (Participant 3.9).

Nevertheless, other novice nurses were able to continue to develop their clinical competence, albeit with some difficulty:

Two months was enough for me to positively develop skills and knowledge. However, emotionally it was very hard and draining (Participant 4.15).

Sub-theme 1: Appropriate workload and working within scope of practice

Not surprisingly, some new graduates felt that the expectations and workload were unrealistic due to high patient acuity and staff shortages. They lamented that at times, they were working outside their scope of practice with heavy patient loads.

Ten patients, multiple admissions and discharges, time consuming procedures e.g. *dressings, blood transfusions and post-op patients with only an undergraduate nurse (Participant 3.41).*

All 5 patients were total nursing care. Had never seen or used the drains, dressings or TPN. No help or not much help available. Ward assumes I know and seem cranky if I say I don't know… (Participant 3.32).

Sub-theme 2: Inadequate skill mix

The participants also mentioned that they were often expected to deliver quality care despite ineffective skill mix. This was further complicated by high patient acuity, MET calls and rapid turnover of patients. At times new graduate nurses were paired with assistants in nursing, having little capacity to support their work partner, while at the same time, working beyond their own capabilities. To illustrate this, one new graduate highlighted:

I felt as though it was often new graduate nurses on the ward were allocated unfairly by senior staff members … on numerous occasions new graduates were allocated to the heaviest teams with the casual AINs …while senior staff allocated themselves with ENs and RNs (Participant 2.35).

Sub-theme 3: Building clinical confidence and competence

Despite the many difficulties, most new graduates had sufficient confidence in handling emergent situations because of the adjunct support around them. One participant remarked:

Had patients needing MET calls for various conditions (VT, VF, desaturation). I did not feel confident taking care of these patients on my own but had help around me at these times (Participant 4.17).

Nevertheless, others at times lacked confidence and struggled to manage patients:

I felt insecure.... and I was not sure what to do, such as when discharging a patient and what to do when facing an emergency situation although I have been told what to do (Participant 3.16).

A patient (HDU) clinically deteriorated and felt very uncomfortable, useless, dumb as I did not know what to do and the team took over (Participant 4.15).

Quantized qualitative findings

There were numerous comments about 'Instrumental Support during Transition' [Subtheme 1.1] at both baseline (Total: 69) and follow-up (Total: 53) with most comments about this category being more negative at follow-up. In the second subtheme 'Understanding the Clinical Capabilities of the New Graduate' [Subtheme 1.2], most comments at baseline and follow-up were negative, however, the proportion of these responses at follow-up were less (9) compared to baseline (31). A few comments were made about, 'Becoming one of the team [subtheme 1.3]; at both at baseline and follow-up.

In the second theme, most comments from new graduate nurses about 'Appropriate workload and working within scope of practice' [subtheme 2.1.] were overwhelmingly negative. At baseline 47 of 55 responses about workload were negative (85%) and at follow-up 36 of 38 were also negative (95%). In relation to 'Adequate skill mix' [subtheme 2.2], new graduates made fewer comments and the overall frequencies of positive and negative responses at both baseline and follow-up were equal. The majority of new graduates commented on their feelings of a lack of 'Clinical confidence and competence' at baseline [subtheme 2.3], but overall there were less negative comments about this at follow-up. Overall, the

free text responses to the open-ended questions at follow-up were less negative (Table 1).

Integrated findings

Although no statistically significant changes in new graduate nurses' satisfaction with clinical supervision, orientation days received, overall experience with the transitional support program, and the clinical practice environment were detected in the quantitative data, a count of the frequency of coded comments suggested new graduates were in fact more satisfied at follow-up. For example, when new graduates were asked about their satisfaction with their orientation and transitional support program, the number of negative responses provided at follow-up (42) was less than at baseline (70). Similarly, the number of negative comments related to the sub-theme, 'building clinical confidence and competence' decreased from 39 at baseline to 22 at follow-up while the number of negative comments related to the sub-theme 'Appropriate workload and working within scope of practice', decreased from 47 at baseline to 36 at follow-up (Table 1).

Discussion

This study sought to examine new graduate nurses' perceptions and experiences of clinical supervision during a 12-month transitional support program and the changes experienced over this period.

Although it was anticipated that new graduate nurses' satisfaction with their transitional support program would increase over time, this was not reflected in their MCSS (clinical supervision) or PES-AUS (practice environment) scores which were similar at baseline and follow-up. This could reflect the timing of the initial data collection which occurred 8–10 weeks after participants commenced their TSP. It may be that the most difficult transition period had already passed given participants had already completed a minimum of 2 months of their first rotation. Duchscher [24] identified the most intense adjustments occurred during the first 1–4 months of the TSP which coincides with the initial data collection. Thus, it may be that 'the worst of it was over' and participants' initial clinical supervision and practice environment scores reflected this.

However, new graduates did make less negative responses to the open-ended questions at follow-up than baseline, suggesting that overall new graduate nurses were more satisfied at the completion of their TSP. It is not clear why an increase in satisfaction was not identified using the PES-AUS and MCSS but it could be that while validated in mixed groups of nurses, the instruments were not sensitive enough to detect change over time in a smaller group of newly graduated nurses. It might also be that negative experiences stemming from lack of support, transition shock [25], practice readiness [26], lack of confidence in clinical practice [5, 18, 27] and at times the high levels of stress experienced in the acute care setting impacted on the low follow-up scores. Interestingly, [28] reported a V-shaped pattern in new graduates' satisfaction scores in a residency program; that is, a decline from baseline to 6-months, then returning to baseline scores at 12-months suggesting that new graduates adjust after the initial period of the support program. In the current study, it may be that the transition to a different clinical specialty after the first rotation resulted in new graduates once again feeling out of their depth, which was reflected in their satisfaction scores.

Overall, new graduate nurses were satisfied with the number of study days they received throughout the program however, it was concerning that they reported low satisfaction scores for unit orientation at both baseline (reflecting their first rotation) and follow-up (reflecting their second rotation). While new graduates were generally satisfied with orientation to specialty areas such as the intensive care unit (ICU), paediatric intensive care (PICU) and coronary care unit (CCU), Recovery/Anaesthetics or areas such as aged care where orientation was provided over a longer period of time, many new graduates felt that the time allocated to orientation was insufficient. In particular, additional time to become familiar with ward routines, layout, equipment and policies was needed. It is possible that staff expectations of new graduate nurses' readiness to take on a patient load were higher in the knowledge that this was a second rotation. This is consistent with studies where clinicians have questioned the need for transition programs, arguing that new graduates should be 'practice-ready' [29] for the workplace [27].

These findings are reflected in the qualitative data with nurses commenting that they were "thrown in the deep end" (Participant 3.6) and "put in a room and told to read policies" (Participant 3.45). It is unclear if the low satisfaction scores with ward orientation were the result of inadequate support from the ward educators or educators working different schedules to the new graduates. Other factors such as staff shortages, a mismatch between patient acuity and skill mix could also possibly explain the low satisfaction scores. These findings have important implications for developing well-structured ward based orientation programmes to support new graduate nurses' needs.

Interestingly, those participants who reported receiving satisfactory supernumerary support and orientation also reported they felt welcomed and part of the team and were able to "find their feet". This highlights the need for ward staff to understand the clinical capabilities of new graduate nurses and not to have unrealistic expectations of them.

Two single-item measures asked graduate nurses how often they had been placed in a clinical situation where they felt the clinical workload was beyond their level of clinical capability, and where they did not feel confident about handling the clinical situation. While it was reassuring to find overall low scores indicating these situations occurred rarely, the qualitative findings suggested staffing ratios, adequate skill mix, patient acuity, lack of instrumental support and clinical workload were common reasons for new graduates being placed in a situation which they felt was beyond their clinical capability. This is consistent with previous research on new graduate nurses experiences during transition which highlighted the inconsistency between support given and required [9].

It also appeared some new graduates were allocated patients or required to perform skills that were beyond their scope of practice as reflected by the large number of negative responses related to appropriate workload and working within scope of practice [Subtheme 2.1]. For many new graduates in this study, the workload seemed to be stressful and beyond their abilities, particularly on transition from areas which had a reduced patient load, such as ICU, to an area that required them to care for 8–10 patients. This finding suggests senior staff who allocate workloads to NGNs need to consider the NGN's previous rotation and take this into account when allocating patient loads or requesting them to perform skills they may not yet have encountered. The assumption that nurses on their second rotation have developed proficiency in time management and managing increased patient loads may not be true for graduates who have been working in specialty areas such as emergency departments or intensive care units. In an integrative review to identify best practices of formal new graduate transition to practice programs, Rush et al. [27] identified the need for formal support in the 6–9 month period. Similarly, Duchscher's [25] work on female graduates from a 4-year Canadian baccalaureate program also identified the 5–7 month time point as one where new graduates experienced a 'crisis of confidence'. In the current study, this time point coincides with the beginning of the new graduates' second rotation and may help explain the high number of negative comments about workload and working within scope of practice.

Encouragingly, in this study participants reported they were rarely placed in situations where they did not feel confident about handling clinical situations and if this did occur, there was good support from seniors who helped them to manage the situation. Situations which were likely to cause new graduates to feel they were not confident most commonly related to workload and skill-mix issues [Subtheme 2.1].

Consistent with previous findings new graduate nurses volunteered that they were occasionally placed in stressful situations [30]. Deflated by the lack of clinical support, some new graduates felt they were being "set up to fail" (Participant 4.8). Scott et al. [5] highlight that critical to providing a supportive work environment for new graduate nurses is the need to ensure that initial orientation to the clinical environment is accompanied with an affirmative experience into the organization. This may include an introduction to managers and co-workers, outlining and building graduate nurses' understanding of organizational policy, process, mission, vision, values, and making clear to NGNs their role in achieving quality care and patient safety [6]. The early dissemination of workplace resources to new graduate nurses such as access to information, necessary resources to getting the job performed and opportunity for growth and development are essential for their empowerment [30]. Laschinger et al. [13] found that new graduate nurses who felt empowered in the work environment and supported to accomplish their workload reduced the likelihood of burnout. Overall, findings from this study support contemporary evidence from the United States suggesting that nurse residency programs assist newly licensed nurses in facing the challenges in applying recently learnt knowledge and skills in acute care settings [31].

Limitations

This study was undertaken at a large, tertiary referral hospital which provides services for more than 800,000 residents in the District, including many with high levels of illness severity and therefore the findings may not be generalizable to other study settings. Although the MCSS and PES-AUS are standardised measures, and have been shown to be reliable, the PES-AUS was modified for this study from a 4-point Likert scale to a 5-point Likert Scale to include the mid-point anchor point of 'Unsure' as graduate nurses indicated at baseline that they were unsure about some of the items on the PES-AUS tool related to their practice environment. Therefore, the aggregated score of the modified scale used in this study is not comparable to the aggregate score reported in the study by Middleton et al. [21]. Finally, self-report measures are prone to social desirability bias and this may have influenced these findings [32]. Notwithstanding these limitations, participation rates were high, with more than three-quarters of the sample completing the follow-up survey and the use of a mixed methods design enabled a more complete understanding of the experiences of new graduate nurses during their transitional support program.

Conclusion

Ensuring the successful transition of new graduate nurses in busy acute care settings is critical to ensure a safe and competent workforce. This study has shown that while

transitional support programs are helpful in supporting new graduate nurses in their first year of practice, qualitative data suggests there are still unmet needs for clinical, social and emotional support. In particular, the level of concern expressed by participants about appropriate workload and skill-mix at both baseline and follow-up suggest future research should focus on interventions to ensure effective skill-mix to better support new graduates. Understanding new graduate nurses' experiences and their unmet needs during their first year of practice will enable nurse managers, educators and nurses to better support new graduate nurses and promote confidence and competence to practice within their scope.

Abbreviations

AINs: Assistants in Nursing; CNEs: Clinical nurse educators; MCSS-26: Manchester Clinical Supervision Scale; MET: Medical Emergency Team; NGNs: Newly graduated registered nurses; NUMs: Nurse unit managers; PES-AUS: Practice Environment Scale – Australia; RN: Registered Nurse; SPSS: The Statistical Package for the Social Sciences; TSP: Transitional Support Program

Acknowledgements

The authors wish to acknowledge Ms. Ghada El Ayoubi for assistance with data collection, Sandy Middleton for the permission given for using the PES-AUS and Dr. Edward White and Dr. Julie Winstanley for the permission given to using the MCSS-26.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Availability of data and materials

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.

Authors' contributions

RH was the principle investigator in this study and contributed to the conception and design. Study design: RH, YS. Data collection: RH. Data analysis: RH, YS, LR. Manuscript writing: RH, BE, LR, WH, YS. Authors read and approved the final manuscript.

Ethics approval and consent to participate

Ethics approval was granted by Western Sydney University and South Western Sydney Local Health District Human Research Ethics Committees (H10055, LNR/11/LPOOL/510). Written informed consent was obtained from all participants.

Consent for publication

Not applicable.

Competing interests

The authors declare that they have no competing interests.

Publisher's Note

Received: 21 December 2016 Accepted: 13 July 2017
Published online: 28 July 2017

References

1. Saghafi F, Hardy J, Hillege S. New graduate nurses' experiences of interactions in the critical care unit. Contemp Nurse. 2012;42(1):20–7.
2. National Health and Hospitals Reform Commission. A healthier future for all Australians: Final report; 2009. p. 1–299.
3. Creswell JW, Plano Clark VL. Designing and conducting mixed methods research. Thousand Oaks, CA: Sage Publications, Inc; 2011.
4. Andre K, Barnes L. Creating a 21st century nursing work force: designing a bachelor of nursing program in response to the health reform agenda. Nurse Educ Today. 2010;30(3):258–63.
5. Scott ES, Keehner Engelke M, Swanson M. New graduate nurse transitioning: necessary or nice? Appl Nurs Res. 2008;21(2):75–83.
6. Twibell R, St. Pierre J, Johnson D, Barton D, Davis C, Kidd M, Rook G. Why new nurses don't stay and what the evidence says we can do about it. Am Nurse Today. 2012:7(6).
7. Johnstone MJ, Kanitsaki O, Currie T. The nature and implications of support in graduate nurse transition programs: an Australian study. J Prof Nurs. 2008;24(1):46–53.
8. Casey K, Fink RR, Krugman AM, Propst FJ. The graduate nurse experience. J Nurs Adm. 2004;34(6):303–11.
9. Parker V, Giles M, Lantry G, McMillan M. New graduate nurses' experiences in their first year of practice. Nurse Educ Today. 2014;34(1):150–6.
10. Buchan J, Aiken L. Solving nursing shortages: a common priority. J Clin Nurs. 2008;17(24):3262–8.
11. Missen K, McKenna L, Beauchamp A. Satisfaction of newly graduated nurses enrolled in transition-to-practice programmes in their first year of employment: a systematic review. J Adv Nurs. 2014;70(11):2419–33.
12. Schoessler M, Waldo M. Organizational infrastructure to support development of newly graduated nurses. J Nurses Prof Dev. 2006;22(6):286–93.
13. Laschinger HKS, Grau AL, Finegan J, Wilk P. New graduate nurses' experiences of bullying and burnout in hospital settings. J Adv Nurs. 2010;66(12):2732–42.
14. Bauer TN, Bodner T, Erdogan B, Truxillo DM, Tucker JS. Newcomer adjustment during organizational socialization: a meta-analytic review of antecedents, outcomes, and methods. J Appl Psychol. 2007;92(3):707–21.
15. Van Maanen JE, Schein EH. Toward a theory of organizational socialization. Cambridge: Massachusetts Institute of Technology; 1977.
16. Krozek C. The new graduate RN residency: win/win/win for nurses, hospitals, and patients. Nurse Leader. 2008;6(5):41–4.
17. Glynn P, Silva S. Meeting the needs of new graduates in the emergency department: a qualitative study evaluating a new graduate internship program. J Emerg Nurs. 2013;39(2):173–8.
18. Hussein R, Everett B, Hu W, Smith A, Thornton A, Chang S, Salamonson Y. Predictors of new graduate nurses' satisfaction with their transitional support programme. J Nurs Manag. 2015;24(3):319–26.
19. Bryman A. Integrating quantitative and qualitative research: how is it done? Qual Res. 2006;6(1):97–113.
20. Winstanley J, White E. The MCSS-26: revision of the Manchester clinical supervision scale using the Rasch measurement model. J Nurs Meas. 2011;19(3):160–78.
21. Middleton S, Griffiths R, Fernandez R, Smith B. Nursing practice environment: how does one Australian hospital compare with magnet hospitals? Int J Nurs Pract. 2008;14(5):366–72.
22. Hsieh H-F, Shannon SE. Three approaches to qualitative content analysis. Qual Health Res. 2005;15(9):1277–88.
23. Fetters MD, Curry LA, Creswell JW. Achieving Integration in Mixed Methods Designs—Principles and Practices. Health Serv Res. 2013;48(6pt2):2134–56.
24. Duchscher JEB. Transition shock: the initial stage of role adaptation for newly graduated registered nurses. J Adv Nurs. 2009;65(5):1103–13.
25. Duchscher BJ. A process of becoming: The stages of new nursing graduate professional role transition. J Contin Educ Nursing. 2008;39(10):441–50. quiz 451–442, 480
26. Bull R, Shearer T, Phillips M, Fallon A. Supporting graduate nurse transition: collaboration between practice and university. J Contin Educ Nursing. 2015;46(9):409–15.
27. Rush KL, Adamack M, Gordon J, Lilly M, Janke R. Best practices of formal new graduate nurse transition programs: an integrative review. Int J Nurs Stud. 2012;
28. Williams CA, Goode CJ, Krsek C, Bednash G, Lynn M. Post-baccalaureate nurse residency one-year outcomes. J Nurs Admin. 2007; 37(7): 357–65.
29. Romyn DM, Linton N, Giblin C, Hendrickson B, Limacher LH, Murray C, Nordstrom P, Thauberger G, Vosburgh D, Vye-Rogers L, et al. Successful transition of the new graduate nurse. Int J Nurs Educ Scholarsh. 2009;6(1):1–17.
30. Pineau Stam LM, Spence Laschinger HK, Regan S, Wong CA. The influence of personal and workplace resources on new graduate nurses' job satisfaction. J Nurs Manag. 2015;23(2):190–9.
31. Pittman P, Bass E, Hargraves J, Herrera C, Thompson P. The future of nursing: monitoring the progress of recommended change in hospitals, nurse-led clinics, and home health and hospice agencies. J Nurs Adm. 2015;45(2):93–9.
32. Van de Mortel TF. Faking it: social desirability response bias in self-report research. Aust J Adv Nursing. 2008;25(4):40.

5.3 Conclusion

This chapter presented the second published paper which examined changes in new graduate nurses' satisfaction with clinical supervision and the practice environment, and how this impacted on their transitioning experience and expectations. Findings highlighted the need for nurse managers, educators and senior nurses to better support NGNs' clinical needs by ensuring they were not placed in situations where they did not have the confidence or competence to work within their scope. This study also highlighted the importance of social and emotional support for NGNs during their transition year.

CHAPTER SIX
Paper 3

6.1 Publication

Hussein, R., Salamonson, Y., Everett, B., Hu, W., & Ramjan, L. M. (2019). Good clinical support transforms the experience of new graduates and promotes quality care: A qualitative study. *Journal of Nursing Management, 27*(8), 1809-1817. https://doi.org/10.1111/jonm.12880

6.2 Introduction and relevance to thesis

Clinical support is crucial for the successful transition to practice of NGNs, yet little is known about what elements of clinical support are viewed by NGNs as supportive of their learning, promote job satisfaction and skill development. The third paper in the thesis draws on data collected in Phase 2identifies specific strategies NGNs reported were helpful during their new graduate transition.

The specific research question this paper addressed was 'What are the clinical support experiences of NGNs during the transition period, and how have these experiences impacted on their learning, job satisfaction and skill development?'

Good clinical support transforms the experience of new graduates and promotes quality care: A qualitative study

Rafic HUSSEIN MPH, MHM, BN, RN (Corresponding Author)
PhD Candidate & Nursing Unit Manager
Western Sydney University, School of Nursing and Midwifery |Locked Bag 1797, Penrith NSW 2751
Intensive Care Unit, Liverpool Hospital |South Western Sydney Local Health District
Locked Bag 7017, Liverpool BC, NSW 1871
T: 61 2 8738 3619| E: rafic.hussein@health.nsw.gov.au

Yenna SALAMONSON PhD, RN
Professor
Western Sydney University, School of Nursing and Midwifery | Locked Bag 1797, Penrith NSW 2751
T: 61 24620 3322 | E: y.salamonson@westernsydney.edu.au

Bronwyn EVERETT PhD, RN
Associate Professor
Western Sydney University, School of Nursing and Midwifery |Locked Bag 1797, Penrith NSW 2751
T: 61 2 8738 9388 | E: b.everett@westernsydney.edu.au

Wendy HU PhD MHA MBBS
Professor of Medical Education
Western Sydney University, School of Medicine |Locked Bag 1797, Penrith NSW 2751
T: 61 438 407 971 | E: w.hu@westernsydney.edu.au

Lucie M. RAMJAN RN, BN (Hons), PhD
Associate Professor
University of Western Sydney, School of Nursing and Midwifery |Locked Bag 1797, Penrith NSW 2751
T: 61 2 9685 9032| F: 61 2 9685 9023 |E: l.ramjan@westernsydney.edu.au

This article has been accepted for publication and undergone full peer review but has not been through the copyediting, typesetting, pagination and proofreading process, which may lead to differences between this version and the Version of Record. Please cite this article as doi: 10.1111/JONM.12880

Author contribution

RH, WH & YS were responsible for the study conception and design, RH organised the data collection, RH, LR and YS performed the data analysis. RH, LR, BE & YS were responsible for drafting the manuscript. RH, LR, BE, WH& YS made critical revisions to the paper for important intellectual content.

Acknowledgements

The authors would like to acknowledge Ms Ghada El Ayoubi for assistance with data collection and thank the transitional support program coordinators Andrew Smith and Olivia Mulligan for their support. The authors would also like to thank all new graduate nurses who participated in this study.

Conflict of interest

No conflict of interest has been declared by the authors.

Funding or sources

No funding was required or sought in this study.

Ethical considerations

Ethics approval was granted by South Western Sydney Local Health District and Western Sydney University (LNR/11/LPOOL/510; H10055).

MR RAFIC HUSSEIN (Orcid ID : 0000-0001-7094-358X)

PROFESSOR YENNA SALAMONSON (Orcid ID : 0000-0002-7429-4086)

Article type : Original Article

Good clinical support transforms the experience of new graduates and promotes quality care: A qualitative study

ABSTRACT

Aim: To explore the clinical support experiences of new graduate nurses' (NGNs) and how these experiences influenced their learning, job satisfaction and skill development during their new graduate transition.

Background: As supervising NGNs is different to other groups, nurse managers must be aware of NGNs' unique needs to successfully transition to practice. Clinical support is crucial, but little is known about what is effective in supporting the learning and development of clinical capability in this critical period.

Methods: Using a qualitative exploratory design, semi-structured interviews were conducted with NGNs working in a tertiary level teaching hospital in Sydney, Australia. Nurses were interviewed upon completing their 12-month transitional support program (TSP) in late 2013-2014. Data were thematically analysed.

Results: Twenty-six NGNs were interviewed. Three major themes identified were: i) clinical support facilitates learning; ii) conditions required for good clinical support and; iii) transforming me.

Conclusion: Themes identified specific supportive strategies, including informal and formal clinical support to nurture confidence, competence, professional growth and increase satisfaction of NGNs.

Implications for nursing management: Findings describe essential clinical support practices for fostering successful NGN transition.

Good clinical support transforms the experience of new graduates and promotes quality care: A qualitative study

Introduction

Internationally, attrition of new graduate nurses (NGNs) given shortfalls in nursing workforce is a global concern. In Australia, 110,000 nurse shortages by 2025 are anticipated (Health Workforce Australia, 2014). In the US, 1.1 million additional registered nurses are needed by 2022 to replace retirees (Haddad & Toney-Butler, 2019). In UK, the National Health Service (NHS) faces a deficit between 5000-10,000 nurses by 2021; additional to the nursing vacancy rate of > 41,000 in 2018 (Dolton et al., 2018). While healthcare planners have recognised and planned for the need to replace exiting nurses with new graduates (Gilmour et al., 2017), there is less attention on strategies to support NGNs and prevent increasing numbers from leaving the profession (Hussein et al., 2018). Up to two-thirds, (18% to 60%) of NGNs leave in their first year of practice (Unruh & Zhang, 2014).

There are complex reasons for NGN attrition. Rapidly changing clinical environments result in repeated experiences of steep learning curves, high patient acuity (Figueroa et al., 2016; Hussein et al., 2017) and struggling amidst poor nursing skill-mix (Parker et al., 2012),

exacerbated by staff shortages and lack of clinical support (Gellasch, 2015; Hussein, et al., 2017; Roche et al., 2015). These concerns are not new, but such challenges can have negative impacts on transition, retention and the quality of patient care.

Background

Newly registered nurses commonly commence their careers in hospital graduate nurse programs (GNP) (Walker et al., 2016), also known as transitional support programs (TSP) (Bloomfield et al., 2015). These non-compulsory programs support transition into the workforce through preceptorship, mentorship and clinical supervision (Hussein, et al., 2017) and are recommended as a means of skill acquisition and credentialing (Missen et al., 2016). Despite wide use, NGN perceptions of their first practice year highlight continuing challenges for NGNs and the workplace environment at the point of care (Figueroa, et al., 2016). For NGNs, these include caring for patients with greater acuity, managing technological advancement and increasing workloads (Gilmour, et al., 2017; Hussein et al., 2015; Parker, et al., 2012). In acute care settings, reduced staff to patient ratios is an increasingly common experience (Hussein, et al., 2017; Twibell et al., 2012). Despite TSPs, NGNs experience high levels of stress (Pineau Stam et al., 2015; Unruh & Zhang, 2014), leading to lack of confidence, feelings of inadequate preparedness (Hussein, et al., 2017; Parker, et al., 2012) and for some, a decision to leave nursing (Chachula et al., 2015).

For the workplace environment, NGNs are a transient workforce requiring rotation through specialties to widen clinical experiences but result in multiple mini-transitions. Additionally, NGNs require generic professional development; for example supernumerary study days, orientation and preceptorship. These structured support strategies are crucial for NGNs' confidence and competence, to ensure patient safety, reduce stress, and promote NGN retention (Dawson et al., 2014; Figueroa, et al., 2016; Hussein, et al., 2018).

For this study, clinical support refers to the 'informal' or 'formal' clinical learning encounter between a bedside nurse and their immediate supervisor (Cleary et al., 2010). The level of clinical support received by NGNs in TSPs' varies widely, but all share features such as preceptorship, mentorship and a defined resource person such as transition program

coordinator and clinical educator (Henderson et al., 2015; Hussein, et al., 2017; Rush et al., 2019).

With these persistent challenges, there is continued need to better understand NGN learning and support needs, ensure safe patient care (Lea & Cruickshank, 2017) maintain opportunities for professional growth (Haggerty et al., 2013) and satisfaction (Hussein, et al., 2015). The qualitative interview study reported here adds to this body of research by examining NGN experiences of clinical support received during transition to practice and their implications for nursing management.

Methods

Aim

In exploring NGN clinical support experiences relevant to nursing management, this study focused on the impact of these experiences on job satisfaction, clinical learning and skill acquisition.

Research design

This study is part of a larger research project designed to evaluate the effectiveness of clinical support in an acute care setting within a year-long NGN transition support program. Using a qualitative exploratory design to understand the clinical support experiences of NGNs, we report findings here using the consolidated criteria for reporting qualitative research (COREQ) 32-item checklist (Tong et al., 2007).

Study setting and clinical support approach

Data collection occurred between 2013 and 2014 at an 800-bed tertiary level teaching hospital in Sydney, Australia. The hospital employs over 1500 nursing staff across a range of specialties. NGNs commenced in 4-staged intakes over the 12-month study period.

In the clinical support program, NGNs typically receive both hospital (two days) and ward (two to five days) orientation upon commencement of employment, with five pre-allocated study days. Over the year, each NGN rotates through two specialty wards or units.

During ward orientation, NGNs work as supernumeraries alongside a preceptor while also having access to TSP coordinators and other senior nursing staff. Following orientation, NGNs provide nursing care to patients under supervision and receive point-of-care support from a clinical nurse educator, clinical nurse specialist, the team leader in-charge of shift or another senior clinical nurse. Collectively, these staff are referred to as 'clinical supervisors' in this paper. This model of clinical support includes informal and formal supervision of NGNs, aligning with the supervision framework for nurses and midwives (Health Education and Training Institute, 2013).

Semi-structured interviews explored NGN experiences during the transition period. Questions focused on: i) ward orientation, study days and overall ward experiences; e.g. Describe your ward orientation and TSP study days"? ii) challenges experienced during the transition period; e.g. What kind of clinical experiences have you had on your rotations? Have you had any challenging experiences? iii) Clinical support received, and their impact on clinical practice; e.g. Describe your clinical support (both formal and informal)? Did they help you? e.g. learn clinical skills? Develop as a nurse? Handle clinical situations better? iv) barriers to receiving clinical support e.g. What worked well and not so well? What feedback did you receive from your clinical supervisors? Was it useful to you? e.g. professional growth, job satisfaction, confidence and suggested improvements.

Data collection

All 140 NGNs who commenced in 2013 were invited to participate by the TSP coordinators who were not associated with the study. Of these, 109 (78%) completed the baseline survey and consented to be interviewed. Towards the end of their 12-month TSP, those who had consented to interview were approached by one of the researchers (RH, BE) or research assistant (GE). All NGNs who were approached for an interview participated. Interviews were conducted by three researchers (two females: BE, GE and one male: RH) with nursing and publication experience. Two had teaching experience in a nursing school. All were briefed and an observational training session provided.

Potential participants were contacted by telephone or text message. The interviews were conducted at a mutually convenient time and private venue within the hospital setting.

These interviews often occurred during the participants' study days or at shift overlap times when the wards were fully staffed. Ongoing discussion with the project team continued during the data collection periods, and recruitment was terminated following the 26th interview when thematic data saturation was achieved. Interviews ranged from 10 to 15 minutes, were digitally recorded and transcribed verbatim by a transcription agency. During interviews, researchers paraphrased and summarised their interpretation of the participants' responses to confirm interpretations of what was said. Although interview transcripts and themes were not returned to participants, trustworthiness was maintained though this rigorous interview technique (Shenton, 2004) and iterative critique from the interdisciplinary research team as findings emerged.

Data analysis

Interview transcripts were read repeatedly by the first author to achieve immersion (Hsieh & Shannon, 2005); key words and phrases highlighted emergent themes (RH) and discussed with the researchers. Following Clarke and Braun (2013), each of the researchers (RH, YS, LR) subsequently read transcripts repeatedly for familiarity, labelling text segments independently to generate initial codes. All three then searched for broader patterns (themes), refined specific sub-themes and grouped responses within subthemes. Responses were colour coded as positive, negative or neutral. They then compared findings and discussed their classification of responses under each sub-theme until consensus was reached (Van de Mortel, 2008).

Findings

Interview participants ranged from 20 to 53 years (n=26, mean 26.19) Table 1. Three themes identified were: a) Clinical support facilitates learning; b) Conditions required for good clinical support; and c) Transforming me. These are described below with additional illustrative quotes in Table 2.

Theme 1: Clinical support facilitates learning

Clinical support was described by NGNs as a formal and sometimes informal teaching or coaching encounters, that facilitated their learning and reflective practice. Many

participants identified clinical support as professional and skill development essential to becoming safe and competent clinicians. For most, this met their specific learning needs, but were adamant it should be provided in a timely manner.

Sub-theme 1.1: Learning 'on the run'

Participants reported encountering a range of new and quite challenging experiences throughout the TSP. Learning that was timely and relevant to these new experiences was at times more difficult due to workload, staff shortages and the clinical acuity of patients in these acute care settings.

> I did a MET call, I was by myself and I had no idea what to do. Then the team turned up and then they told me, 'okay, has this *been done, has this been done'* I was like, 'no', I didn*'t know*...and then talking to these nurses... I found out what I was supposed to do ....(Samantha).

For some, "learning on the run" was based on immediate needs such as when a particular task was needed for a patient in their care; this could be unanticipated so the "first" attempt at completing the skill.

> My first [tracheostomy] because I had never even seen a trachey in my life so the educators were able to show me how to suction and how to look after one and I found that quite challenging, but then you get used to it and it becomes very easy (Cassia).

Or, there was little time to assimilate before they were required to apply it; for example the first time using equipment they had only received education on the "same day".

> ...you are educated on a machine or equipment, you had to start using that equipment straight away and you're still fresh and still trying to figure out things on that product (Blair).

Sub-theme 1.2: Learning 'on the spot'

Participants further described clinical support facilitating learning occurring "on the spot". This learning varied; semi-formal and initiated by the NGN, for example "paged the

educator" or formal, with time allocated by clinical nurse educators. For many, despite patient care-mix complexity, timely support meant they could develop the necessary skills to provide safe patient care.

> Well with the informal ones it's just mainly bedside learning, whether it be me paging the educators to come and show me a certain thing like cardiac stuff, PA sheaths and stuff that I don't know how to deal with; they'll just teach me at a bedside (Cassia).

Participants reported the professional support and "hands on" learning "on the spot" particularly helpful for consolidating understanding, more than passively being told and shown.

> I found [my experience] in ED, it was very supportive and educational, so if we got *things in resus, where there was an opportunity for me to jump in, even though I'm* not resus trained yet, they would grab me for [fit guards and] certain things that was appropriate which was excellent (Mimi).

> ...you learn so much quicker than sort of sitting in a tearoom and someone explaining it to you in an in-service (Morgan).

Sub-theme 1.3: Reflecting on learning

Participants reported opportunities for reflection on learning during clinical support sessions on study days. For many, these were formal sessions, located separately from clinical settings in a safe group environment with peers. Participants could share their experiences and challenges with other novice nurses, analyse and debrief concerns and learn more deeply from their experiences.

> *...we encouraged to share the experience so we can understand how other new grads* feel. Maybe I feel I'm not alone for feeling that way. I think it is very good (Fay).

Reflection was recognised as an effective tool for recognising learning needs, deficits and developing new insights.

> It was a lot of reflection time and how to deal with things and how to get the best out *of all your educators*...(Niamh).

> *Formal…catch up sessions…with the other new grads…it's a good time to reflect,* we just sort of talk about issues we've come across, challenges. (Cassia)

Theme 2: Conditions required for good clinical support

We described below elements which participants regarded as integral for good clinical support, further enabling confident transition into clinical practice.

Sub-theme 2.1: Know my capabilities

The relationship between clinical supervisors and NGNs was important for feeling supported, encouraged and comfortable as a "new member" of the team. Many stated they did not want to be "treated like a student", but wanted clinical supervisor to be aware of their capabilities as NGNs and to build their repertoire of skills by including them in learning opportunities (e.g. calling them over to "come and watch this").

> At times you don't want to be treated like a student and other times because we don't have that clinical experience you wish you could hide away, because you're like this is very intimidating and tough (Lillian).

Good clinical support was when senior staff recognised NGN capabilities by not "putting us in a clinical situation that they know we [do] not have expertise yet" (Jane). However, one felt strongly that his development, growth and learning during the period of transition was not recognised by others.

> They still think 'oh he's a new grad, can't do this, can't do that'. They don't realise what I have learnt and what I can do (Adrian).

Sub-theme 2.2: Be there for me

Opportunities for participants to develop specific skills was contingent on availability of clinical support from senior members of staff and specific patient needs. But clinical supervisors were not always available, due to staff shortages and senior staff needed "on the floor" to provide patient care; attitude of some staff towards NGNs; and absence of after-hours clinical support.

> ...[in] *a fairytale land* ...the work envir*onment would change,*...the senior staff would somehow magically become more approachable ... (Lillian).

> *I was 'left in the dark' for a little while because sometimes 'after hours'*..., I was left alone with my four patients not really knowing what to do (Samantha).

"Being there for me" was particularly important for some, acknowledging the added reassurance when clinical nurse educators were visible and present.

> She makes sure she comes every single day on the floor. Go through our cases and our patients and if we don't know something she will go through with us and make sure that we understand our cases and our patients, she was wonderful (Jane).

Sub-theme 2.3: Support me around the clock

Certain clinical areas, such as ICU and Emergency, resulted in perceptions of better clinical supervisors, with more access to an educator and in-service time. When this "around the clock" and after-hours was received, learning was more intensive and efficient, by continually identifying learning needs and developing new skills, knowledge and confidence in a safe and supportive environment.

> You have after-hours clinical supervisors, ...So overall that's a very positive experience I had so far (Jane).

> Definitely here in ICU ... nearly an in service everyday, educators on the floor every day, the two weekssupernumerary and the workbooks that you have to do (Taylor).

Theme 3: Transforming me

The period of transition and growth was transformational for some, building leaders of the future. Role-modelling the highest standards and expectations, compassionate care and nurturing could lead to NGNs feeling welcomed and supported, increasing job satisfaction and likely retention; further developing confidence and competence in becoming autonomous clinicians.

Sub-theme 3.1: Confidence levels and job satisfaction

The relationship and support from clinical supervisors can transform NGN learning experiences, from being "a shy caterpillar to a confident butterfly", building confidence, feeling appreciated and a sense of belonging within the team.

> *…it's improved my job satisfaction because you get that positive feedback so you feel appreciated, but at the same time you know what you need to focus on…I cope a lot* better now, as opposed to eight months ago because of the clinical support*… and it's* encouraging, I just want to continue to learn and grow (Mimi).

Generally, participants were satisfied with clinical supervision received, but a few described ineffective relationships with clinical supervisors and support, leading to poorer job satisfaction and confidence levels.

> Depending on who you were placed with as your senior for that day. It was either a *good shift or a really …* shift (Lillian).

> Definitely maybe training staff to preceptor a bit more because I don't think everybody knows. Some people were really good at it whereas others just left you alone and would only help if you asked them something specific (Taylor).

Sub-theme 3.2: Delivering the highest standard of care

Good clinical support was intimately related to learning how to deliver optimal patient care, its impact on behaviours and practices, triggering reflections on how to "pay it forward" by becoming leaders and educating other NGNs. One stated, "I just don't want it to end…Yeah. I think clinical support is … really, in our work, important in developing your own practice" (Vanessa).

> *…you'*ll be able to not only provide safer patient care but you'll be able to educate others as well (Sam).

> CS helps teach you how to do things the correct way-and basically teaches you where to start (Cassia).

Discussion

This study explored the clinical support experiences of NGNs during a 12-month transitional support program. Our findings highlight that a culture of clinical support creates learning environments that improve confidence levels, and increases standards of care able to be provided by new graduates, particularly where "on the run" and "around the clock" immediate clinical support was needed and provided. Participants reported that this 'informal' clinical support was essential, given the carriage of high workloads and care for high acuity patients, often compounded by staff shortages. Furthermore, participants needed 'impromptu' clinical support during less busy periods from senior clinical staff, as described (King et al., 2017). This legitimises the NGN role of being involved in work that promotes learning in the clinical environment.

More formal or structured clinical support, which took place away from the clinical arena on scheduled study days was also cited. In this protected learning space, NGNs could express concerns in a safe environment, reflect with peers and learn vicariously through shared experiences. This opportunity to reflect and debrief optimises learning from experiences, fosters critical thinking ability, promotes the development of nursing competence (Chang et al., 2011), increases NGN confidence (Ortiz, 2016) and improves job satisfaction (Hussein, et al., 2015).

It is clear that new graduates need more than one type of clinical support to facilitate smooth transition to practice, particularly when facing complex patient care needs throughout the TSP and across different ward specialities. Where new graduates are comfortable in approaching senior colleagues to seek assistance or ask questions, there is a positive impact on NGN relationships with clinical supervisors and the team (Ortiz, 2016). In contrast, some NGNs may experience a "hands-off" clinical support approach; some preceptors only assisting NGNs when asked. It may be that they believed that these NGNs were competent and practice-ready or that preceptors were poorly prepared to support NGNs. Either are of concern, as good preceptor support is a determinant of NGN success in the acute care environment (Haggerty, et al., 2013).

Following orientation when NGNs are no longer assigned a preceptor, some participants reported this transition phase as stressful at times; feeling "left in the dark" with patients and "not really knowing what to do". This could be due to inappropriate NGN-patient allocation, assigning NGNs to practise beyond their clinical capability and mismatch to level of clinical support. While not new, that these findings persist is concerning, highlighting the need for managers to carefully consider, assess and monitor NGNs' clinical capability during patient allocation, and to ensure that NGNs can access a resource person at all times.

New graduate nurses who have developed a working relationship with senior staff are more likely to be valued and potentially receive more support (Schroyer et al., 2016). In our study, although some identified negative experiences of the support they received from clinical supervisors, informal clinical support structures provided a safety net, enabling them to continue learning, despite encountering multiple challenges. Some also valued the social exchange with senior staff, promoting a sense of belongingness (King, et al., 2017). Clinical supervisors who make NGNs "feel welcomed", may be better positioned to provide 'individualised' and 'timely' support, further strengthening learning.

Our findings also show that NGNs recognise that learning psychomotor skills alone will not deliver quality patient care, but requires "critical thinking" and "learning from the wisdom of others". Both deficits are identified in the literature on NGNs (Missen, et al., 2016). While recommendations to achieve better clinical support is relevant to all nurses, NGNs are a unique group requiring structured support. This is recognised widely (Edwards et al., 2015) as poor transition to practice can have detrimental effects on patient safety and the well-being of NGNs, leading to NGNs attrition within the first practice year (Spence Laschinger et al., 2016). A range of supports is needed; first, nurse managers should ensure that NGNs are assessed and deemed competent prior to patient allocation. Second, support persons can then monitor clinical capability and provide tailored support interventions based on the new graduates' specific learning needs and the specialty area of practice. Third, TSP interventions must be aligned to ward or unit circumstances rather than being standardised. Further research should explore the opportunities for tailored NGN support within specialties.

Limitations

Although 26 NGNs were interviewed for this study and data saturation was achieved, the interviews were conducted during shift overlap and hence, relatively brief. Findings from this study may thus not be transferable other contexts. Two interviewers were employees at the study site, but did not have direct supervisory roles for participants. Nevertheless, NGNs may have refrained from expressing their full views about their experiences of clinical supervision and the TSP. Finally, as the interviews were conducted in the participants' workplace and NGNs were also yet to be offered permanent positions, it is possible that they abstained from articulating particularly negative experiences or opinions.

Conclusion

This study has provided additional insights on clinical support experiences from a NGN perspective. Mobilising both informal and formal clinical support opportunities, provided "around the clock" throughout NGNs' transition, will enable nursing stakeholders to better support NGNs during the first 12 critical months of transition. Informal support helps NGNs develop practice competence, especially in environments that foster positive transition and professional growth, improving retention rates.

Implications for nursing management

Our findings show the critical role of employers and nurse managers in enabling both informal and formal support arrangements, such as peer support from experienced nurses in addition to pre-structured or formal sessions; that promote supportive learning environments. Such environments enable NGNs to manage patient load commitments, and develop emergent responsibilities through ongoing facilitated learning and support.

New models of clinical support should explore tailored clinical support processes within communities of practice for different specialities, thus promoting continual professional development of junior nurses through these mini transitions, particularly in new unfamiliar clinical rotations where skill mix and support may be limited.

Reference List

Bloomfield, J. G., Gordon, C. J., Williams, A. M., & Aggar, C. (2015). Nursing students' intentions to enter primary health care as a career option: Findings from a national survey. *Collegian, 22*(2), 161-167. doi: 10.1016/j.colegn.2015.02.001

Chachula, K., Myrick, F., & Yonge, O. (2015). Letting go: How newly-graduated registered nurses in western Canada decide to exit the nursing profession. *Nurse Education Today, 35*(7), 912-918. doi: 10.1016/j.nedt.2015.02.024

Chang, M. J., Chang, Y. J., Kuo, S. H., Yang, Y. H., & Chou, F. H. (2011). Relationships between critical thinking ability and nursing competence in clinical nurses. *Journal of Clinical Nursing, 20*(21-22), 3224-3232. doi: 10.1111/j.1365-2702.2010.03593.x

Clarke, V., & Braun, V. (2013). Teaching thematic analysis: Overcoming challenges and developing strategies for effective learning. *The Psychologist, 26*(2), 120-123. doi: http://eprints.uwe.ac.uk/21155

Cleary, M., Horsfall, J., & Happell, B. (2010). Establishing clinical supervision in acute mental health inpatient units: acknowledging the challenges. *Issues in Mental Health Nursing, 31*(8), 525-531. doi: 10.3109/01612841003650546

Dawson, A., Stasa, H., Roche, M., Homer, C., & Duffield, C. (2014). Nursing churn and turnover in Australian hospitals: nurses perceptions and suggestions for supportive strategies. *BMC Nursing, 13*, 11. doi: 10.1186/1472-6955-13-11

Dolton, P., Nguyen, D., Castellanos, M., & Rolfe, H. (2018). Brexit and the health & social care workforce in the UK. *Report to the Cavendish Coalition, NIESR (forthcoming)*, from https://www.niesr.ac.uk/publications/brexit-and-health-social-care-workforce-uk

Edwards, D., Hawker, C., Carrier, J., & Rees, C. (2015). A systematic review of the effectiveness of strategies and interventions to improve the transition from student to newly qualified nurse. *International Journal of Nursing Studies, 52*(7), 1254-1268.

Figueroa, S., Gardner, J., Irizarry, J., & Cohn, T. (2016). Married state preceptorship model: Crossing the state line in new graduate nurse transition to practice. *Journal of Continuing Education in Nursing, 47*(11), 511-517. doi: 10.3928/00220124-20161017-10

Gellasch, P. (2015). The driving forces behind nurses leaving the profession. *Nurse Leader, 13*(5), 63-68. doi: 10.1016/j.mnl.2015.01.001

Gilmour, J., Huntington, A., Slark, J., & Turner, C. (2017). Newly graduated nurses and employment: A dynamic landscape. *Collegian, 24*(3), 247-253. doi: 10.1016/j.colegn.2016.02.004

Haddad, L. M., & Toney-Butler, T. J. (2019, 19 January). Nursing shortage Retrieved 23 May, 2019, from https://www.ncbi.nlm.nih.gov/books/NBK493175/

Haggerty, C., Holloway, K., & Wilson, D. (2013). How to grow our own: An evaluation of preceptorship in New Zealand graduate nurse programmes. *Contemporary Nurse, 43*(2), 162-171. doi: 10.5172/conu.2013.43.2.162

Health Education and Training Institute. (2013). The superguide: A supervision continuum for nurses and midwives (1 ed., pp. 1-92).

Health Workforce Australia. (2014). Australia's future health workforce – Nurses detailed, from http://www.health.gov.au/internet/main/publishing.nsf/content/34AA7E6FDB8C16AACA257D9500112F25/$File/AFHW%20-%20Nurses%20detailed%20report.pdf

Henderson, A., Ossenberg, C., & Tyler, S. (2015). 'What matters to graduates': An evaluation of a structured clinical support program for newly graduated nurses. *Nurse Education in Practice, 15*(3), 225-231.

Hsieh, H.-F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research, 15*(9), 1277-1288. doi: doi:10.1177/1049732305276687

Hussein, R., Everett, B., Hu, W., Smith, A., Thornton, A., Chang, S., & Salamonson, Y. (2015). Predictors of new graduate nurses' satisfaction with their transitional support programme. *Journal of Nursing Management, 24*(3), 319-326. doi: 10.1111/jonm.12321

Hussein, R., Everett, B., Ramjan, L. M., Hu, W., & Salamonson, Y. (2017). New graduate nurses' experiences in a clinical specialty: A follow up study of newcomer perceptions of transitional support. *BMC Nursing, 16*(1), 42. doi: 10.1186/s12912-017-0236-0

Hussein, R., Salamonson, Y., Hu, W., & Everett, B. (2018). Clinical supervision and ward orientation predict new graduate nurses' intention to work in critical care: Findings from a prospective observational study. *Australian Critical Care, Available online 22 November 2018*. doi: 10.1016/j.aucc.2018.09.003

King, C., Russell, K., & Bulsara, C. (2017). Promoting student belongingness:'WANTED'-the development, implementation and evaluation of a toolkit for nurses. *Australian Journal of Advanced Nursing, 34*(3), 48.

Missen, K., McKenna, L., Beauchamp, A., & Larkins, J. A. (2016). Qualified nurses' rate new nursing graduates as lacking skills in key clinical areas. *Journal of Clinical Nursing, 25*(15-16), 2134-2143. doi: 10.1111/jocn.13316

Ortiz, J. (2016). New graduate nurses' experiences about lack of professional confidence. *Nurse Education in Practice, 19*, 19-24. doi: 10.1016/j.nepr.2016.04.001

Parker, V., Giles, M., Lantry, G., & McMillan, M. (2012). New graduate nurses' experiences in their first year of practice. *Nurse Education Today, In press*(0). doi: 10.1016/j.nedt.2012.07.003

Pineau Stam, L. M., Spence Laschinger, H. K., Regan, S., & Wong, C. A. (2015). The influence of personal and workplace resources on new graduate nurses' job satisfaction. *Journal of Nursing Management, 23*(2), 190-199. doi: 10.1111/jonm.12113

Roche, M. A., Duffield, C. M., Homer, C., Buchan, J., & Dimitrelis, S. (2015). The rate and cost of nurse turnover in Australia. *Collegian, 22*(4), 353-358. doi: 10.1016/j.colegn.2014.05.002

Rush, K. L., Janke, R., Duchscher, J., Phillips, R., & Kaur, S. (2019). Best practices of formal new graduate transition programs: An integrative review. *International journal of nursing studies*.

Schroyer, C. C., Zellers, R., & Abraham, S. (2016). Increasing registered nurse retention using mentors in critical care services. *The Health Care Manager, 35*(3), 251-265. doi: 10.1097/HCM.0000000000000118

Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for information*, *22*(2), 63-75.

Spence Laschinger, H. K., Zhu, J., & Read, E. (2016). New nurses' perceptions of professional practice behaviours, quality of care, job satisfaction and career retention. *Journal of Nursing Management, 24*(5), 656-665.

Tong, A., Sainsbury, P., & Craig, J. (2007). Consolidated criteria for reporting qualitative research (COREQ): a 32-item checklist for interviews and focus groups. *International Journal for Quality in Health Care, 19*(6), 349-357. doi: 10.1093/intqhc/mzm042

Twibell, R., St. Pierre, J., Johnson, D., Barton, D., Davis, C., Kidd, M., & Rook, G. (2012). Tripping over the welcome mat: Why new nurses don't stay and what the evidence says we can do about it. *American Nurse Today, 7*(6).

Unruh, L., & Zhang, N. J. (2014). Newly licensed registered nurse job turnover and turnover intent *Journal for Nurses in Professional Development 5*(30), 1678-1688. doi: 10.1097/NND.0000000000000079

Van de Mortel, T. F. (2008). Faking it: Social desirability response bias in self-report research. *Australian Journal of Advanced Nursing, 25*(4), 40-48.

Walker, A., Costa, B., Foster, A., & de Bruin, R. (2016). Transition and integration experiences of Australian graduate nurses: A qualitative systematic review. *Collegian, 24*(5), 505-512. doi: 10.1016/j.colegn.2016.10.004

Table 1: Characteristics of participants

Pseudonym	Previous nursing experience	Current workplace setting: Clinical specialty
Taylor	Yes	Intensive Care Unit
Cassia	No	Intensive Care Unit
Charlene	Yes	Intensive Care Unit
Donna	Yes	Medical Assessment Unit
Fay	Yes	Surgical, Head & Neck
Leslie	Yes	Surgical Short Stay
Jane	Yes	Intensive Care Unit
Kamila	No	Aged Care
Karina	Yes	Operating Theatres, Recovery
Kate	Yes	Intensive Care Unit
Lillian	Yes	Intensive Care Unit
Mandy	Yes	Operating Theatres, Endoscopy
Joe	Yes	Intensive Care Unit
Morgan	No	Paediatrics
Mimi	No	Emergency Department
Niamh	Yes	Intensive Care Unit
Blair	Yes	Neurology
Nola	No	Surgical, Head & Neck
Adrian	Yes	Stroke & Rehabilitation
Penny	Yes	Medical Assessment Unit
Sabah	Yes	Intensive Care Unit
Samantha	No	Haematology
Sam	No	Aged Care
Andy	No	Emergency Department
Vanessa	No	Surgical, Head & Neck
Alex	No	Orthopaedics
	Y: 16 N 10	

Table 2: Themes and additional support quotes for Sub-themes

Clinical support facilitates learning	
Learning 'on the run'	*…the best way to learn is from them showing you how to do it while you're on the job* (**Morgan**). *But I had to remove another one (Chest Drain) yesterday but I wasn't really confident. But it's not a one person job anyway. So I had to ask senior nurse to supervise me. Yeah.* (**Charlene**).
Learning 'on the spot'	*I can always call someone and they are always willing to help and accredit me or educate me or show me how to use stuff, do things.* (**Niamh**). *Nearly every day there'd be an educator walking around and asking if we needed help with anything, if we had any questions…* **(Taylor).**
Reflecting on learning	*The formal ones were good because we got to hear everyone's rotation. So everyone who had difficulties, we could be sharing the same things* (**Karina**).
Conditions required for good clinical support	
Know my capabilities	*Even if someone just stops and goes hey, come and watch this or that sort of thing, I found that – so I think getting the educators and the CNCs more aware that, if they're doing something, just to call us and – because everyone's willing – a lot of people are willing to learn...* (**Leslie**). *People's attitude towards me. Even towards the end of the six months they always thought of me as a new grad. Even now they still think of me as a new grad and I'm leaving in two days* (**Adrian**).
Be there for me	*I think clinical supervision really depends on the person that is supervising you... it depends on the person's attitude towards you and really their mood on the day* (**Adrian**). *We just ask if we actually need help and they just come and help us* (**Kamila**). *Like the other time I was with Claudia and them trachy's almost came out. Their eating tube almost came out so it was like a MET call and in a situation like that what you need to do to have ready your forceps just to re-insert the [trachy] and get all the team there so that was also – I was right there with Claudia so that was a good thing* (**Jane**).
Support me around the clock	*I think clinical supervision in emergency, at least in this department is really well done. Everyone wants everyone to know what's going on* (**Andy**). *They'd come in with me and we'd do it together. They were always on the floor. Even without having to ask they'd say oh, [X], we're going to do this bag change or do you want to come watch? I think that gave me a little bit more confidence to do it on my own the next time. So we did that together* (**Leslie**).
Transforming me	
Confidence levels and job satisfaction	*…my ability to nurse in this environment has increased dramatically with this feedback and this education and with that my confidence has risen* (Timothy). *Now I know what I'm doing and I'm confident enough to be in the clinical setting* (**Sabah**). *I am more confident. I think without their support I can't be here now [laughs]* (**Fay**).
Delivering the highest standard of care	*Collaborating with other staff and I have to say here the doctors have excellent communication with the nursing staff, maintaining professional standards* (**Jane**).

6.3 Conclusion

This chapter presented the third published paper in this thesis which explored NGNs' experiences of good clinical support. The findings shed additional light on the need for both formal and informal forms of clinical support and the need for both forms of support 'around the clock'.

CHAPTER SEVEN
Paper 4

7.1 Publication

Hussein, R., Salamonson, Y., Hu, W., & Everett, B. (2018). Clinical supervision and ward orientation predict new graduate nurses' intention to work in critical care: Findings from a prospective observational study. *Australian Critical Care, 32*(5), 397-402. https://doi.org/10.1016/j.aucc.2018.09.003.

7.2 Introduction and relevance to thesis

One of the issues impacting on high turnover rates of new graduate nurses in their first year of practice is a lack of clinical support, often amplified by the demands of intense working environments. The relevance of the final published paper is its examination of the specific elements of clinical support that influenced NGNs' intention to remain in their current specialty.

The specific research question this paper addressed was 'What are NGNs perceptions of clinical supervision and the practice environment, and how have these influenced their intention to stay in critical care and non-critical care areas following their TSP?'

Australian Critical Care 32 (2019) 397–402

Contents lists available at ScienceDirect

Australian Critical Care

journal homepage: www.elsevier.com/locate/aucc

Research paper

Clinical supervision and ward orientation predict new graduate nurses' intention to work in critical care: Findings from a prospective observational study

Rafic Hussein, MPH, MHM, BN, RN, PhD [a, b, c, *]
Yenna Salamonson, PhD, RN [c]
Wendy Hu, PhD, MHA, MBBS [d]
Bronwyn Everett, PhD, RN [c]

[a] Western Sydney University, School of Nursing and Midwifery, Locked Bag 1797, Penrith NSW 2751, Australia
[b] Intensive Care Unit, Liverpool Hospital, South Western Sydney Local Health District, Locked Bag 7017, Liverpool BC, NSW 1871, Australia
[c] Western Sydney University, School of Nursing and Midwifery, Centre for Applied Nursing Research (CANR), Ingham Institute for Applied Medical Research, Locked Bag 1797, Penrith NSW 2751, Australia
[d] Western Sydney University, School of Medicine, Locked Bag 1797, Penrith NSW 2751, Australia

ARTICLE INFORMATION

Article history:
Received 9 March 2018
Received in revised form
21 September 2018
Accepted 24 September 2018

Keywords:
Clinical supervision
New graduate nurses
Critical care
Job satisfaction

ABSTRACT

Introduction: Clinical supervision and transitional support programs are important in supporting the successful transition and retention of new graduate nurses and their intention to work in specialty settings. However, little is known about which elements of support programs influence this intention. This study aimed to examine new graduate nurses' perceptions of clinical supervision and the practice environment, and how these influenced their intention to stay in critical and non-critical care areas following their transitional support program.

Methods: Between May 2012 and August 2013, new graduate nurses ($n = 87$) were surveyed towards the end of their 12-month transitional support program. In addition to demographic and ward details, participants completed the Manchester Clinical Supervision Scale (MCSS) and the Practice Environment Scale Australia (PES-AUS). The 'Intention to Stay in a Clinical Specialty' survey was used to measure new graduate nurses' intention to remain working in their current ward or unit.

Results: Predictors of new graduate nurses' intention to stay in their current ward/unit were not having to practise beyond personal clinical capability (AOR: 4.215, 95% CI: 1.099−16.167) and working in a critical care specialty (AOR: 6.530, 95% CI: 1.911-22.314). Further analysis of those nurses who indicated an intention to remain in critical care revealed that high satisfaction with clinical supervision (AOR: 3.861, 95% CI: 1.320−11.293) and high satisfaction with unit orientation (AOR: 3.629, 95% CI: 1.236 −10.659) were significant predictors.

Conclusion: While this study identified that new graduates who worked within their scope of practice were more likely to report their intention to remain in their current ward, new graduates assigned to critical care were six times more likely to indicate their intention to remain than new graduates in other wards/units. Ensuring new graduate nurses assigned to critical care areas receive good unit orientation and clinical supervision increases their intention to remain in this setting.

1. Introduction

Internationally, new graduate nurses' (NGNs) intention to stay in nursing continues to be an ongoing concern, particularly in light of the predicted nursing shortage and potential negative impact on patient care.[1,2] In the United States of America (USA), the Bureau of

Yenna Salamonson-Tel.: +61 24620 3322.
Wendy Hu-Tel.: +61 438 407 971.
Bronwyn Everett-Tel.: +61 2 8738 9388.
* Corresponding author at: Western Sydney University, School of Nursing and Midwifery, Locked Bag 1797, Penrith NSW 2751, Australia.
E-mail addresses: rafic.hussein@health.nsw.gov.au (R. Hussein), y.salamonson@westernsydney.edu.au (Y. Salamonson), w.hu@westernsydney.edu.au (W. Hu), b.everett@westernsydney.edu.au (B. Everett).

https://doi.org/10.1016/j.aucc.2018.09.003
1036-7314/

Labour Statistics[3] predicts a shortage of more than 525,000 nurses by 2022. Similar figures have been reported for other developed countries; in the United Kingdom (UK), the nursing workforce between 2011 and 2016 was expected to decrease from 560,000–570,000 to 510,000–560,000, whereas in Australia, a deficit of 110,000 nurses by 2025 has been identified.[4] Recent modelling has revised these figures, and unless recruitment and retention strategies are put in place, the shortfall is predicted to increase.[5]

While these shortages are partly due to 'baby boomer' nurses approaching retirement,[6] attrition of NGNs—registered nurses within their first year of practice—is also a contributory factor. The term 'new graduate nurses' is commonly used in the literature[7–9] alongside 'newly licensed nurses'[10] 'novice nurses'[11] or 'newcomer nurses'[12] to identify this cohort of nurses. Studies indicate that between 18%[13] to 60%[14] of NGNs leave their positions within the first year of practice.

Many NGNs have selected clinical specialty settings such as intensive care units, emergency departments, and coronary care units as their first preference, with studies of final year nursing students indicating that more than half are interested in seeking employment in these areas.[15] While these settings are seen as challenging and exciting areas to work,[16] they are also seen as areas where professional development opportunities are good.[15] However, despite nursing shortages in these specialty areas[17] and NGNs comprising the largest pool of available nurses in the job market,[18] the capacity of these settings to provide rotations during an NGN's first year of practice is limited. Critical care settings are commonly unfamiliar and demanding environments, requiring NGNs to face for the first time the reality and complexity of caring for high acuity patients as registered nurses and, at the same time, grappling with the transition into the nursing workforce. These challenges alongside a shorter patient length of stay,[19] technological developments,[20] and high performance expectations have led to ongoing difficulties in role transition for new nurses in general,[21] resulting in increased burnout and turnover.[22] In an integrative review of the elements needed to support transition of nurses to critical care, Innes and Calleja[23] identified that a structured orientation period and feeling supported were correlated with the intention to stay.

NGNs are often required to rotate between departments—including specialty areas during the first year of transition—[7,24] and are sometimes placed in departments where there is a staffing shortfall or were asked to work beyond their clinical capability, with potential impact on patient safety and quality care. They have also reported to be working in high acuity environments with high performance expectations.[25] These expectations are often amplified when NGNs transition into a critical care environment.[26] This is often not conducive to their transition experience; hence, identifying elements of clinical supervision and environmental factors that influence NGNs' intention to stay is important to inform strategies that help retain and support NGNs in specialty areas such as critical care.

Given the increasing and unmet nursing workforce needs, particularly in these specialties,[17] it is timely and relevant to investigate the effectiveness of support programs that aim to retain NGNs in these clinical specialties.

2. Aim

This study aimed to examine NGNs' perceptions of clinical supervision (CS) and the practice environment and how these influenced their intention to stay in critical and noncritical care areas.

3. Methods

3.1. Study design

This article reports the follow-up findings from a larger pre-test and post-test research study designed to evaluate the effectiveness of a clinical supervision program for NGNs working in an acute care setting[24] using the conceptual model of 'supervision continuum for nurses and midwives'.[27] This model proposes that clinical supervision of nurses and midwives consist of point-of-care supervision (e.g. clinical teaching and buddying), facilitated professional development (e.g. coaching and mentoring scenario), and formalised clinical supervision. In this article, we reported the results of the follow-up phase (posttest) of the study, which occurred between 10 and 12 months after the commencement of the clinical supervision program.

3.2. Study setting and participants

The present study was conducted between May 2012 and August 2013 at a tertiary-level teaching hospital in Sydney, Australia. The facility has 855 beds and employs more than 1500 nursing staff across a number of speciality areas. As part of this clinical supervision program, NGNs undertook a 12-month transitional support program (TSP), which has previously been described.[24] For the purpose of this article, the TSP comprised of two rotations across two wards/units. NGNs rotated across two clinical specialties for a period of six months. Orientation days were given as supernumerary on the wards/unit and ranged from two days in general ward areas (medical-surgical wards, neurology, vascular, aged care, haematology, renal, and gastroenterology) and 10 days in critical care areas (emergency department, intensive care unit including cardiothoracics, anaesthetics, recovery, acute coronary care, cardiac catheterisation laboratory and neonatal intensive care unit). During this period, NGNs were 'buddied up' with a trained preceptor or clinical nurse educator (i.e. NGNs were supernumerary) and attended programmed education sessions covering essential clinical skills relevant to the specialty area.

3.3. Data collection

NGNs employed at the acute care setting were invited to participate in this study during facility orientation whereby potential participants were fully briefed regarding the purpose of the study and were provided a Participant Information Sheet. As this study involved a follow-up phase, NGNs who agreed to participate in the study were asked to sign a consent form and assigned a study identification code to link the baseline survey to the follow-up survey. Although the baseline survey data were collected 8–10 weeks after the commencement of the TSP, the follow-up survey was collected 10–12 months thereafter, the focus of this article. Ethics approval was granted by the Western Sydney University (WSU) and SouthWestern Sydney Local Health District Human Research Ethics Committees (H10055, LNR/11/LPOOL/510). Both written and verbal information about the study was provided to all participants.

3.4. Instruments

Participant characteristics assessed in this study included age and gender, while a single-item Likert scale measure (0 = never, 5 = sometimes, 10 = always) was used to assess how frequently NGNs were placed in a clinical situation where they felt the expectations of the clinical workload were beyond their personal

clinical capability and where they did not feel confident enough about managing the clinical situation at hand given their level of skill or expertise. In addition, three practice environment factors known to influence NGNs' intention to stay in a clinical specialty were included:[24]: (i) the type of ward (critical care or noncritical care area); (ii) the level of satisfaction with unit-based orientation; and (iii) satisfaction with the clinical supervision. These were measured using a Likert scale (0 = extremely dissatisfied; 10 = extremely satisfied).

The 26-item Manchester Clinical Supervision Scale© (MCSS-26) is a standardised measure used to assess nurses' satisfaction with and experiences of clinical supervision. The tool has six subscales including (i) trust/rapport, (ii) supervisor advice/support, (iii) improved care/skills, (iv) importance/value of CS, (v) finding time, and (vi) reflection.[28] The MCSS-26 scale uses a 5-point Likert response format with scores ranging from 0 = 'strongly disagree' to 4 = 'strongly agree', with a cumulative score potentially ranging from 0 to 104. Cronbach's alpha for this scale has been reported to be 0.66–0.87.[29]

The Practice Environment Scale, Australia (PES-AUS) is a 30-item validated instrument used to assess nurses' satisfaction with their clinical practice environment[30] and uses a four-point Likert scale ranging from 1 = 'strongly disagree' to 4 = 'strongly agree'. In this study, a midpoint of 3 = 'unsure' was added as it was anticipated that the NGNs may not be familiar with some items in the scale because of their lack of experience as a new employee at the time of the first survey.

Finally, an investigator-developed tool—'Intention to Stay in Clinical Specialty' was adapted from Cowin's[31] Nurse Retention Index (NRI). The NRI is a six-item scale developed to measure nurses' intention to stay in nursing or seek other types of employment. Each item contains a declarative statement, for example, "I would like to stay in nursing as long as possible" on an 8-point Likert scale ranging from 'definitely false (1)' to 'definitely true (8)". Of the six items, two (Items 3 and 6) were reverse-scored items. The NRI has been reported to be reliable with a Cronbach coefficient alpha of 0.94.[32]

In this study, the original six items and sequence of these items were retained. Modification made to the original NRI was the addition of "following my graduate program" at the beginning of each item and addition of "my selected acute care specialty" in the middle or end of each item. The response format was also increased to an 11-point Likert scale ranging from 'definitely false (0)' to 'definitely true (10)" to increase the sensitivity and reliability of this newly developed scale based on the recommendation of Bandura.[33] In addition, a response format from 0 to 10 is simpler, with '5' as the midpoint. An example of the modified item is "Following my new graduate program, I would like to stay working in my selected acute care specialty as long as possible."

3.5. Data analysis

Quantitative data were analysed using IBM SPSS Version 22.0 (Armonk, NY: IBM Corp).[34] Sample characteristics were summarised using descriptive statistics: mean (*SD*) and median (*IQR*) for continuous variables and frequencies and percentages for categorical variables. The PES-AUS and MCSS-26 were normally distributed; however, the remaining continuous variables were skewed, and thus, these variables were dichotomised at the median for bivariate and multivariate analyses. Pearson chi-square test was used to examine for group differences between (a) low–high intention to stay in current ward/unit; and (b) low–high expectations, among those working in critical and noncritical care areas. Multivariate logistic regression analysis was used to identify the predictors of NGNs' intention to stay in a clinical specialty and test the relationships with intention to stay in a critical care ward. Results are reported as adjusted odds ratio with 95% confidence intervals (CIs). A p value of <0.05 was considered to be statistically significant.

4. Results

4.1. Sample characteristics

A total of 109 NGNs consented to participate at baseline from a population of 140 NGNs enrolled in the transitional program from 2012 to 2013. Of these, 87 NGNs completed follow-up surveys, representing a response rate of 80%. Analysis of participants who were lost to follow-up showed they were older than those who completed the 12-month survey (28.04 years vs. 25.79; $p = 0.007$). Of the 22 (20%) NGNs who did not complete follow-up, 15 were unreachable, three resigned from the TSP for other nursing positions, two dropped out because of maternity leave, and two NGNs left nursing.

The median age of participants was 23.0 years (IQR: 21 to 29) years, and 63 (72.4%) were female. During the two clinical rotations within their new graduate year, over one-third, 36 (41%) of the nurses were allocated to work in a critical care area (Table 1). In the study setting, these were general intensive care including trauma, cardiothoracic intensive care, acute coronary care, and the emergency department.

The overall satisfaction with unit-specific orientation ranged from 5 to 8 (median 7). NGNs' satisfaction with the transitional support program ranged from 7 to 8 (median 8). In relation to meeting their expectations and not having to practise beyond capability, the ratings ranged from 2 to 5 (median 5). The mean MCSS-26 score was 73 (IQR: 65–79), and the PES-AUS mean score was 111 (IQR: 99–120). In the present study, the MCSS-26 demonstrated high internal consistency with a Cronbach's alpha

Table 1
Characteristics of new graduate nurses ($n = 87$).

Variable	
Age in years, median (IQR) (range: 18 to 53)	23 (21–29)
Critical care, *n* (%)	36 (41-)
Noncritical care, *n* (%)	51 (59-)
Sex, *n* (%)	
Male	24 (27.6)
Female	63 (72.4)
Overall satisfaction with unit-specific orientation, median (IQR) (range: 0 to 10)	7 (5–8)
Satisfaction with transitional support program, median (IQR), (range 3 to 10)	8 (7–8)
Meeting expectations, not having to practise beyond personal clinical capability, median (IQR) (range: 0 to 8)	5 (2–5)
Satisfaction with clinical supervision—Manchester Clinical Supervision Scale (MCSS) score, median (IQR) (range: 51 to 100)	73 (65–79)
Satisfaction with practice environment—Australian Practice Environment Scale (PES-AUS) score, median (IQR) (range: 81 to 150)	111 (99–120)

IQR, interquartile range.

Table 2
Predictors of new graduate nurses' intention to stay in the current ward/unit ($n = 87$).

Variables	Coefficient (B)	Standard error (SE)	Adjusted odds ratio (95% CI)	P value
Age: more than 23 years	0.700	0.528	2.014 (0.716–5.667)	0.185
Clinical workload expectations, not working beyond capability	1.439	0.686	4.215 (1.099–16.167)	0.036
High satisfaction with practice environment (PES score >111)	0.118	0.574	1.125 (0.365–3.468)	0.838
High satisfaction with clinical supervision (MCSS: >73)	0.522	0.573	1.686 (0.549–5.179)	0.362
High (>7) satisfaction with unit orientation	0.244	0.582	1.277 (0.408–3.992)	0.674
Clinical specialty: critical care	1.876	0.627	6.530 (1.911–22.314)	0.003

CI, confidence interval.
Hosmer–Lemeshow goodness-of-fit for the model, chi-square = 4.324, 7df ($P = 0.742$).
Nagelkerke's $R^2 = 0.246$.

of 0.90. Similarly, the PES-AUS showed a Cronbach's alpha of 0.91. In addition, the Cronbach's alpha of the intention to stay in clinical specialty was 0.88, indicating good internal consistency.

4.2. Predictors of NGNs' intention to stay in the current ward or unit

NGNs' intention to stay in their current ward or unit was directly related to not being placed in clinical situations beyond their capability ($p = 0.036$) and working in a critical care specialty ($p = 0.003$) (Table 2).

In further analyses, NGNs' intention to remain in critical care specialties yielded two independent and significant predictors: (i) high (MCSS: >73) satisfaction with clinical supervision (adjusted odds ratio: 3.861, 95% CI: 1.320–11.293) and (ii) high (>7) satisfaction with unit orientation score (adjusted odds ratio: 3.629, 95% CI: 1.236–10.659) (Table 3).

5. Discussion

This study showed that those working in critical care specialties and those who were not placed in clinical situations beyond their capability were more likely to report an intention to continue in their current ward or unit. Furthermore, NGNs working in a critical care specialty reported higher satisfaction with clinical supervision and higher satisfaction with unit orientation than NGNs working in noncritical care areas. These findings are not surprising as satisfaction with clinical supervision received and clinical supervisors leads to increased satisfaction with practice environment.[24]

In this study, NGNs working in critical care areas were more likely to want to stay in these specialties than those who were allocated to noncritical care areas, a finding that has not previously been reported. Younger RNs have historically been attracted to intensive care unit environments as they reportedly find them challenging and exciting,[16,35] and while age was not a predictor of intention to remain in a critical care area in this study, this finding could be due to dichotomising age at the median which may reduce power and increase the potential for type II errors.[36] Nevertheless, further analysis using a scatterplot of NGNs' intention score and age revealed a negligible association between these variables ($r^2 = 0.002$), suggesting that age was not a predictor of intention to remain in a critical care area.

Of interest was the high proportion of males (27.6%) among the NGNs in this sample, which was much higher than the 5–15% that had been recently reported in another Australian[37] study and a Canadian[38] study. Another reason for the higher proportion of males in the present study could be the prospect of working in a tertiary hospital that has high-level critical care services such as trauma.[39]

Although not working beyond personal capability was a predictor of NGNs' intention to remain in their current wards or unit, this was not the case for those working in critical care units. Despite the increased confidence with increasing nursing experience,[40] this may not be sufficient to buffer NGNs in general ward areas where there is limited support compared with critical care units, wherein NGNs are more closely supervised—often buddied with a senior nurse. In this study, the delivery of clinical supervision varied across both general (noncritical) wards and critical care units, with NGNs in general wards and units receiving two supernumerary days and those in critical care specialties such as an intensive care unit receiving 10 supernumerary days.

Previous research on NGNs' experiences during transition has highlighted a mismatch between the support given and that required.[9] It is consistent with the finding of this study; the NGNs who felt more supported, particularly in critical care areas, were more likely to be satisfied and remain on board.

The intention to leave nursing is reportedly more common among young and newly graduated nurses.[41] This departure from nursing is linked to dissatisfaction with orientation and burnout due to feelings of being poorly prepared for nursing practice.[42] In the critical care areas, the loss of NGNs can have a significant impact on not only the replacement of retiring nurses but also building additional workforce capacity to meet the growing need for critical care nurses.

5.1. Limitations

This study investigated NGNs' intention to stay in critical and noncritical care areas at a single site within Australia. It is possible

Table 3
Predictors of new nurse graduates' intention to remain in critical care area ($n = 87$).

Variables	Coefficient (B)	Standard error (SE)	Adjusted odds ratio (95% CI)	P value
Age: more than 23 years	0.030	0.535	1.030 (0.361–2.938)	0.955
Clinical workload expectations, not working beyond capability	0.475	0.648	1.608 (0.452–5.720)	0.463
High satisfaction with practice environment (PES score >111)	0.486	0.564	1.626 (0.539–4.910)	0.388
High satisfaction with clinical supervision (MCSS: >73)	1.351	0.548	3.861 (1.320–11.293)	0.014
High (>7) satisfaction with unit orientation	1.289	0.550	3.629 (1.236–10.659)	0.019

CI, confidence interval.
Hosmer–Lemeshow goodness-of-fit for the model, chi-square = 8.499, 8df ($P = 0.386$).
Nagelkerke's $R^2 = 0.28$.

that NGNs employed at other settings may differ in terms of their perception of the transitional support program or clinical supervision received and that qualitative data may have provided further explanation for our quantitative findings. Nonetheless, participation rates were high; of those who met the inclusion criteria (81%), more than three-quarters participated in the follow-up survey. An additional limitation in this study was the use of the MCSS-26, PES-AUS, and the intention to stay in clinical specialty tool. Although these measures have been shown to be reliable previously and in this study, this was the first time the scales have been used with NGNs in an acute care setting. Furthermore, although the internal consistency of the 'intention to stay in clinical specialty' tool was computed, content validity was not undertaken.

In this study, the PES-AUS was modified from a 4-point Likert scale to a 5-point Likert scale to include a neutral midpoint of 'unsure' as NGNs were uncertain about some of the items on the PES-AUS tool at baseline. Hence, the aggregated score of the modified PES-AUS in this study should not be compared with the aggregate score reported by Middleton et al.[30]

6. Conclusion

This study is the first to identify that when NGNs are not placed in clinical situations where they have to work beyond their clinical capability, they are more likely to indicate an intention to remain in their current specialty. Importantly, for NGNs assigned to critical care specialties during their TSP, ensuring they receive a good unit orientation and good clinical supervision increases their intention to remain in this setting.

Despite the current support mechanisms available with transitional support programs, fostering clinical competence and confidence requires a concerted effort by front-line clinical supervisors to help NGNs transition into practice. Addressing the mismatch between NGNs' capability and the challenges associated with higher hospital admission rates, patient acuity, and complexity, particularly in critical care settings, will help foster patient safety, a supportive environment, and NGNs' intention to stay in critical care settings.

Ethics approval and consent to participate

Ethics approval was granted by Western Sydney University and South Western Sydney Local Health District Human Research Ethics Committees (H10055, LNR/11/LPOOL/510). Written informed consent was obtained from all participants.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Availability of data and materials

The data sets used and/or analysed during the present study are available from the corresponding author on reasonable request.

Authors' contributions

R.H., Y.S., B.E., and W.H. contributed to the conception and design of the study; R.H. collected the data; R.H. and Y.S. analysed the data; and R.H., B.E., Y.S., and W.H. prepared the manuscript. All authors have read and approved the final manuscript.

Consent for publication

Not applicable

Acknowledgements

The authors thank Sandy Middleton for the permission given for using the PES-AUS and Dr Edward White and Dr Julie Winstanley for the permission given for using the MCSS-26.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.aucc.2018.09.003.

References

[1] Hillman L, Foster RR. The impact of a nursing transitions programme on retention and cost savings. J Nurs Manag 2011;19(1):50–6.
[2] Gellasch P. The driving forces behind nurses leaving the profession. Nurse Leader 2015;13(5):63–8.
[3] U.S. Department of Labor Bureau of Labor Statistics. Occupational outlook handbook. 13 edition 2012. registered nurses, 2012 Available from: http://www.bls.gov/ooh/healthcare/registered-nurses.htm.
[4] Health Workforce Australia. Health workforce Australia 2012-13 work plan. Adelaide, SA: HWA; 2012. Contract No.: 5 September.
[5] ABC News. NSW needs nurses as 'catastrophic' shortage predicted to affect patient care ABC. ABC; 2018. Available from: http://www.abc.net.au/news/2018-01-12/nsw-set-for-major-shortage-of-nurses-and-midwives/9321464.
[6] Australian Institute of Health and Welfare. Nursing and midwifery workforce 2011. Canberra: AIHW; 2012.
[7] Saghafi F, Hardy J, Hillege S. New graduate nurses' experiences of interactions in the critical care unit. Contemp Nurse 2012;42(1):20–7.
[8] Scott ES, Keehner Engelke M, Swanson M. New graduate nurse transitioning: necessary or nice? Appl Nurs Res 2008;21(2):75–83.
[9] Parker V, Giles M, Lantry G, McMillan M. New graduate nurses' experiences in their first year of practice. Nurse Educ Today 2014;34(1):150–6.
[10] Missen K, McKenna L, Beauchamp A. Satisfaction of newly graduated nurses enrolled in transition-to-practice programmes in their first year of employment: a systematic review. J Adv Nurs 2014;70(11):2419–33.
[11] Patterson B, Bayley EW, Burnell K, Rhoads J. Orientation to emergency nursing: perceptions of new graduate nurses. J Emerg Nurs 2010;36(3):203–11.
[12] Bauer TN, Bodner T, Erdogan B, Truxillo DM, Tucker JS. Newcomer adjustment during organizational socialization: a meta-analytic review of antecedents, outcomes, and methods. J Appl Psychol 2007;92(3):707–21.
[13] Unruh L, Zhang NJ. Newly licensed registered nurse job turnover and turnover intent. J Nurses Prof Dev 2014;5(30):1678–88.
[14] Burr S, Stichler JF, Poeltler D. Establishing a mentoring program. Nurs Wom Health 2011;15(3):214–24 (3).
[15] Halcomb EJ, Salamonson Y, Raymond D, Knox N. Graduating nursing students' perceived preparedness for working in critical care areas. J Adv Nurs 2012;68(10):2229–36.
[16] Sawatzky JAV, Enns CL, Legare C. Identifying the key predictors for retention in critical care nurses. J Adv Nurs 2015;71(10):2315–25.
[17] Schroyer CC, Zellers R, Abraham S. Increasing registered nurse retention using mentors in critical care services. Health Care Manag 2016;35(3):251–65.
[18] Friedman MI, Cooper AH, Click E, Fitzpatrick JJ. Specialized new graduate RN critical care orientation: retention and financial impact. Nurs Econ 2011;29(1):7–14.
[19] Blay N, Duffield CM, Gallagher R. Patient transfers in Australia: implications for nursing workload and patient outcomes. J Nurs Manag 2012;20(3):302–10.
[20] Needleman J. Increasing acuity, increasing technology, and the changing demands on nurses. Nurs Econ 2013;31(4):200–2.
[21] Trepanier S, Early S, Ulrich B, Cherry B. New graduate nurse residency program: a cost-benefit analysis based on turnover and contract labor usage. Nurs Econ 2012;30(4):207–14.
[22] Brewer CS, Kovner CT, Greene W, Tukov-Shuser M, Djukic M. Predictors of actual turnover in a national sample of newly licensed registered nurses employed in hospitals. J Adv Nurs 2012;68(3):521–38.
[23] Innes T, Calleja P. Transition support for new graduate and novice nurses in critical care settings: an integrative review of the literature. Nurse Educ Pract 2018;30:62–72.
[24] Hussein R, Everett B, Hu W, Smith A, Thornton A, Chang S, et al. Predictors of new graduate nurses' satisfaction with their transitional support programme. J Nurs Manag 2015;24(3):319–26.
[25] Hussein R, Everett B, Ramjan LM, Hu W, Salamonson Y. New graduate nurses' experiences in a clinical specialty: a follow up study of newcomer perceptions of transitional support. BMC Nurs 2017;16(1):42.

[26] O'Kane Catherine E. Newly qualified nurses experiences in the intensive care unit. Nurs Crit Care 2011;17(1):44–51.
[27] Health Education and Training Institute. The superguide: a supervision continuum for nurses and midwives. Gladesville, New South Wales, Australia: NSW Health Education and Training Institute; 2013.
[28] Winstanley J. Manchester clinical supervision scale. Nurs Stand 2000;14(19):31–2.
[29] Winstanley JW, Edward. The MCSS-26 user manual. Osman Consulting Pty Ltd; 2011 2011.
[30] Middleton S, Griffiths R, Fernandez R, Smith B. Nursing practice environment: how does one Australian hospital compare with magnet hospitals? Int J Nurs Pract 2008;14(5):366–72.
[31] Cowin L. The effects of nurses' job satisfaction on retention: an Australian perspective. J Nurs Adm 2002;32(5):283–91.
[32] Cowin LS, Johnson M, Craven RG, Marsh HW. Causal modeling of self-concept, job satisfaction, and retention of nurses. Int J Nurs Stud 2008;45(10):1449–59.
[33] Bandura A. Guide for constructing self-efficacy scales. In: Urdan T, Pajares F, editors. Self-efficacy beliefs of adolescents. Charlotte, NC, USA: Information Age Publishing; 2006. p. 307–37.
[34] IBM Corp. IBM SPSS statistics for windows, version 22.0. Armonk, NY: IBM Corp; 2013.
[35] Buerhaus P, Staiger D, Auerbach D. Why are shortages of hospitals RNs concentrated in specialty care units? Nurs Econ 2000;18(3):111–6.
[36] Iacobucci D, Posavac SS, Kardes FR, Schneider MJ, Popovich DL. Toward a more nuanced understanding of the statistical properties of a median split. J Consum Psychol 2015;25(4):652–65.
[37] Parker V, Giles M, Lantry G, McMillan M. New graduate nurses' experiences in their first year of practice. Nurse Educ Today 2014;34(1):150–6.
[38] Rhéaume A, Clément L, LeBel N. Understanding intention to leave amongst new graduate Canadian nurses: a repeated cross sectional survey. Int J Nurs Stud 2011;48(4):490–500.
[39] South Western Sydney Local Health District - NSW Government. Liverpool hospital: Operational plan 2014 - 2018. 2014. Available from: https://www.swslhd.health.nsw.gov.au/pdfs/OP_Liverpool.pdf.
[40] Bull R, Shearer T, Phillips M, Fallon A. Supporting graduate nurse transition: collaboration between practice and university. J Cont Educ Nurs 2015;46(9):409–15.
[41] Goh YS, Lee A, Chan SWC, Chan MF. Profiling nurses' job satisfaction, acculturation, work environment, stress, cultural values and coping abilities: a cluster analysis. Int J Nurs Pract 2015;21(4):443–52.
[42] Rudman A, Gustavsson JP. Burnout during nursing education predicts lower occupational preparedness and future clinical performance: a longitudinal study. Int J Nurs Stud 2012;49(8):988–1001.

7.3 Conclusion

This chapter presented the final published paper which identified NGNs who worked within their scope of practice were four times more likely to report their intention to remain in their current ward than nurses who reported working beyond their personal capability. New graduate nurses assigned to work in critical care units, where they were provided clinical support and orientation additional to non-critical care wards/units, were six times more likely to indicate their intention to remain than their peers. Taken together, these findings suggest the clinical support received by new graduate nurses during their first year of practice is related to their intention to remain in nursing.

CHAPTER EIGHT
Summary and Conclusion

8.1 Introduction

As highlighted in Chapter One, in Australia and other developed countries, acute healthcare settings are increasingly characterised by complex technology and higher acuity patients, often in advanced stages of illness (Gilmour et al., 2017; Parker et al., 2014). It is primarily within these clinical settings where up to 85% of NGNs are employed, leading to concerns regarding their capacity to deliver safe patient care with less than one quarter demonstrating practice-readiness (Kavanagh & Szweda, 2017). This is perhaps unsurprising in light of information about patient acuity (Juvé-Udina et al., 2019). In their recent multicentre study of 200,000 adults from eight public hospitals comprising three large, tertiary, metropolitan facilities (500–1,000 beds), three university hospitals (200–500 beds) and two community centres (100–200 beds), two-thirds of patients were classified as high-acuity. This excluded patients in critical care and step-down units, leading the authors to conclude these patients required more intensive than acute care nursing (Juvé-Udina et al., 2019). At the time of designing the CLASSIC Project, there was limited research exploring the experiences of new graduate nurses' transition to practice in large, tertiary referral hospitals (Bratt & Felzer, 2011; Dear et al., 1982; Leigh et al., 2005; Pine & Tart, 2007). Hence, the primary aim of this mixed methods study was to examine the effectiveness of a transitional support program for new graduate nurses during the first 12-months of their employment in a tertiary referral and teaching hospital. The study also sought to understand their experiences of clinical support and the practice environment across several specialties, and

whether these experiences affected their job satisfaction, level of confidence in handling clinical situations and intention to remain in their clinical specialty.

Using the research questions as a guide, this chapter will integrate the seminal literature with the key findings of the CLASSIC Project, highlighting the contribution of this research project to new. This will be followed by a discussion of the study limitations and strengths, implications for practice and recommendations for further research.

8.1.1 Research question 1

'What are the personal and situational factors, and elements of clinical supervision that influenced new graduate nurses' workplace satisfaction during their transitional support program?'

Increasingly, NGNs are working in higher acuity clinical settings, facing high performance expectations and increased levels of accountability related to key performance indicators such as the delivery of quality care and patient safety (for example, hand hygiene, patient falls, pressure injury assessment) (Barakat-Johnson et al., 2018; Blay et al., 2012; Burston et al., 2014) and patient flow (for example, national emergency access targets) (Sullivan et al., 2016). Hence, NGNs are frequently challenged by dealing with fast-paced admissions and discharges due to patient decreased lengths of stay (LOS), complex technology (Reinsvold, 2008) and afterhours unfamiliar scenarios where 'timely' clinical support is either absent or diminished. Transitional support programmes are vital in providing new graduate nurses with clinical support during their first year of employment and have been linked with increased job satisfaction, confidence, and intention to remain in nursing (Missen et al., 2014). Ward/unit orientation, which includes an introduction to managers and co-workers and the organisation's policy, vision and values has also been shown to be an important

element of transition programmes, helping NGNs to understand their role in achieving quality care and patient safety (Twibell et al., 2012).

The CLASSIC Project sought to increase our understanding of those elements of transitional support programmes that promote workplace satisfaction during this period by examining the relationship between selected personal factors (age, gender, history of previous paid employment and level of confidence in handling clinical situations and situational factors (assigned unit, level of satisfaction with unit-based orientation and satisfaction with the clinical supervision offered within the TSP).

In relation to personal factors, only age was a predictor of workplace satisfaction, with older nurses being less satisfied (Paper 1). This finding had been previously reported by Phillips et al. (2014) who noted older NGNs were less likely to report successful transition in their first year of practice than their younger peers. Other possible reasons may be older new graduates face greater family demands, and have higher expectations placed on them by virtue of their life experience, particularly for those who may have trained as enrolled nurses. Although not specifically focussed on new graduate nurses, a scoping review of the challenges encountered by older nurses in the workplace highlights many nurses struggle with the physical demands of nursing, including lower back pain and neck pain (Ryan et al., 2017). The review also found that during middle age, more nurses reported assuming care for ageing parents in addition to caring for their own families. While these factors were not explored in the current study, it is feasible that the additional demands on older new graduate nurses may help explain their lower satisfaction with their TSP and this could be explored in future research.

While there is evidence that has shown previous nursing experience may increase confidence of new graduates (Phillips et al., 2014), this was not the case in the current study. Paper 1 offered explanations for this finding including increased expectations of new graduates who had previous nursing experience and thus, a less satisfying transitional support program experience It may also be that new graduates needed more time to develop confidence, and for this to be reflected in their satisfaction with their practice environment (workplace), and indeed, this was evident in the semi-structured interviews conducted close to completion of their 12-month TSP. Paper 3, sub-theme 3.1 reports findings from these interviews where graduates reported increasing confidence and how this was reflected in providing safer patient care, feeling appreciated and a sense of belonging within the team.

The CLASSIC project also sought to identify situational factors which contributed to new graduate nurses' satisfaction with their transitional support program. In Paper 1, satisfaction with unit-based orientation and clinical supervision were predictors of new graduates' satisfaction with their practice environment, a finding that was also supported by Paper 3, where new graduates identified that receiving good clinical support was essential for learning how to deliver high standards of care, but also motivated them to educate others. Since the publication of Paper 1, Laschinger et al. (2019) has also reported clinical support to be positively although weakly correlated with new graduates' mental health ($r = 0.18$, $p < 0.001$), supporting the importance of additional clinical support at unit level, particularly during the early months of new graduates' transition to practice.

Finally, Paper 1 identified new graduate nurses assigned to a critical care unit on first rotation were less satisfied with their workplace/practice environment than new graduates

working in non-critical care settings. This finding was not entirely unexpected as Messmer et al. (2004) also reported new graduates placed in specialty settings such as intensive care on their first rotation—a period during which intense adjustments are required (Duchscher Boychuk, 2009) were more dissatisfied with their transition programme. However, this was an interesting finding given new graduates working in critical care areas were six times more likely to report their intention to stay in their current specialty at the end of their transitional support programme, than those working in non-critical care areas (Paper 4). Further analyses revealed satisfaction with unit orientation and clinical supervision were significant predictors of intention to remain in critical care. Unit orientation in critical care areas was standardised, regardless of rotation sequence, and while there is some variability in clinical supervision, this too is standardised at least in terms of the formal component (for example, education days). Initial explanations for this change might include new graduates' increasing confidence and competence and yet Paper 2, which examined changes in new graduate nurses' satisfaction between baseline and follow-up, found no changes in confidence levels or clinical capability (working beyond their scope). However, qualitative findings from the semi-structured interviews undertaken close to completion of the new graduate nurses' TSP would seem to contradict this finding, with comments such as "Now I know what I'm doing and I'm confident enough to be in the clinical setting (Sabah, Paper 3) suggesting confidence and competence had in fact increased over the course of the program.

It may be that the single-item questions used for confidence and competence were not sufficient to measure these constructs (Wanous & Reichers, 1996), or perhaps an opportunity to elaborate on responses was required to gain an understanding of new

graduate nurses' experience of these constructs. Either way, as international evidence emerges on the impact of placing new graduate nurses in critical care settings (Vanderspank-Wright et al., 2020), professional nursing organisations are publishing Position Statements on employing new graduates in critical care settings with recommendations for transitional support programs that are more robust (College of Emergency Nurses New Zealand, 2013; National Emergency Nurses Association, 2017), and ensuring a staff skill mix with a high proportion of registered nurses with critical care qualifications to support new graduates (Australian College of Critical Care Nurses, 2016). At a local level, the tertiary referral hospital where the CLASSIC Project was undertaken has implemented policy which ensures new graduate nurses are not placed in critical care areas on their first rotation.

8.1.2 Research question 2

'What are the changes in new graduate nurses' perceptions and experiences during the transitional period?'

At its most basic level, the transition from a nursing student to a registered nurse involves fundamental changes in role expectations while assuming new responsibilities and implementing new skills (Schumacher & Meleis, 1994). Widely acknowledged as a challenging and stressful period (Missen et al., 2014), transition programs have been designed to provide support, promote socialisation and facilitate learning, with support in particular being central to the new graduates' development (Adams et al., 2015). Understanding new graduate nurses' experiences of and satisfaction with their transitional support program may help identify how organizational factors and specific elements of these programs influence their experiences and provide insights to ensure these programs

are designed to maximise support and promote transition to an independent registered nurse (McKenna & Newton, 2008).

The second published paper in this thesis examined changes in new graduate nurses' satisfaction with their transitional support program, and the specific elements of the program. No statistically significant differences were noted between baseline and follow-up for NGNs' overall satisfaction with the transitional program or any of the elements it comprised (orientation, clinical supervision, study days and the practice environment). These findings were similar to those reported in a review by Missen et al. (2014) who identified seven studies of new graduate nurses using pre-post-test designs that reported similar or slightly higher (although statistically non-significant) satisfaction scores at 12 months compared to commencement of their transition support program. The authors of one of the studies suggested no difference between new graduate nurses' satisfaction scores could have been due to a ceiling effect of the tool used (Olson-Sitki et al., 2012), and it is possible that this could have also been the case in the current study. However, we believe it is more likely reflective of "the worst is over"—the period between 4-6 months when new graduate nurses are at their most vulnerable, often reflected in declines in satisfaction scores (and other psychological constructs such as sense of belonging) around 6 months, followed by increases close to baseline scores around 12 months (Missen et al., 2014).

Despite evidence that transition programs positively influence new graduate nurses' competence and confidence (Rush et al., 2019), the CLASSIC Project did not identify any quantitative changes in new graduates' levels of confidence or competence. In relation to confidence, the use of a single item to measure this construct has been previously discussed

but the point made by Rush et al. (2019) is worth noting: that the use of one-group only longitudinal designs makes it difficult to determine whether increases in competence and confidence are associated with program effects, are due to testing effects or maturation, or reflect timing of the measurement and interaction with new graduates' consolidation of knowledge and skills. These factors bear further consideration in future studies that seek to understand the development of competence and confidence in new graduate nurses.

Although no quantitative differences in overall satisfaction with their transitional support program and the elements it comprised being identified, the increased frequency of positively-worded open-ended responses at follow-up suggested NGNs' were more satisfied with their transitional support program than at baseline, and that they felt more competent and confident. Nevertheless, there was evidence of needs that remained unmet including: i) supporting resource personnel (for example, nurse educators, nursing unit managers) with information to remain up to date with NGNs' clinical capability and competence levels; ii) allocating the right new graduate to the right patients; and iii) NGNs having a closer working relationship with senior staff.

Additionally, in-charge nurses should endeavour to allocate NGNs with familiar patients, allowing them to consolidate newly-acquired skills and promote continuity of care. However, these allocations need to be closely monitored by nursing managers for several reasons. One reason is to avoid NGN burnout due to the assignment of consecutive heavy patient loads and another reason is the risk of incidents occurring related to a gap in skill or knowledge. In this instance, it may be better to allocate senior staff to these patients intermittently to help ensure that nothing is 'missed' and quality care in maintained. Hence, senior staff having a closer working relationship with NGNs through regular 'check-ups on

NGNs' can help develop important dialogue about challenges faced by NGNs on shift, promote support and ultimately improve patient care.

One way of getting to know NGNs clinical capability is through regular clinical supervisors and resource personnel 'rounding' in the ward/unit to capture and better understand NGNs 'emergent' clinical needs. This was alluded to by NGNs in the CLASSIC Project, particularly when they provided care for patients with unfamiliar diagnoses or new management plans. These findings are similar to more recent studies undertaken on NGNs experiences working in acute care settings during their transition to practice (Bakon et al., 2018; Gellerstedt et al., 2019; Wildermuth et al., 2020). These studies continue to report on the importance of supporting NGNs particularly during orientation periods and the challenges highlighted by NGNs during their clinical immersion such as clinical needs, expectations and observed outcomes. These findings are not surprising, as new nurses have a professional responsibility to practice within their scope and ask for help when needed. Despite this, NGNs continue to experience feelings of being overwhelmed (Hung et al., 2020) and a mismatch between expectations and reality during their transition (Smyth et al., 2018).

Nonetheless, health care organisations investing in TSPs continue to utilise several approaches within these programs to promote the development of clinical proficiency and professional support of NGNs (Doughty et al., 2018; Figueroa et al., 2016; Forde-Johnston, 2017). However, access to opportunities for further development and support continue to vary, depending on available support structures and challenges faced due the workplace culture which at times does not facilitate positive learning (Doughty et al., 2018). This perception is important, as findings of the CLASSIC Project showed that despite the many

difficulties encountered by NGNs, most had developed sufficient confidence to address the gap in handling emergent situations because of adjunct support available around them.

Interestingly, even at the conclusion of their new graduate program which included mandatory life-support training, some NGNs still lacked confidence in emergent situations. One participant commented: “I felt insecure… and I was not sure what do to”, another commented feeling “very uncomfortable, useless, dumb and I did not know what to do”. Although feeling counter intuitive, NGNs assigned in acute care settings were accredited in Advance Life Support (ALS) skills, hence, these perceptions could be related to feeling lower levels of support or engagement from senior staff, which may have had a negative effect on their confidence. Another possible explanation could be that NGNs were faced with an unfamiliar clinical scenario and may question their capability as a result. These findings in the present study are consistent with information found in the literature but with differing NGNs experiences. Wildermuth et al. (2020) identified that despite feeling ‘scared’, new nurses who ‘jumped into’ emergent situations as a positive but necessary experience. Participants in this present study expressed feelings of being overwhelmed when facing unfamiliar scenarios but did not express feelings of being unsupported. Wildermuth et al. (2020) also identified a lack of unit resources and increased workload and numbers of patients. Participants in this study also experienced these, in addition to that fact that some NGNs felt they did not possess the necessary skills and were working outside their scope of practice with heavy patient loads.

Over one-third (37%) of NGNs in the CLASSIC Project were allocated to work in critical care areas. Therefore, barriers such as being over census with patients and staff shortages in these specialty areas could also explain NGN responses of having to at times practice

beyond their clinical capability. Interestingly, in this study NGNs continued to deliver care amidst a busy environment and despite working alongside junior nurses with a similar level of skill. In this instance, while NGNs also worked alongside senior RNs with their own patient load, they too may have had little capacity to support their work partners, while at the same time providing care for their own higher acuity patients. Nonetheless, Doughty et al. (2018) found that when these barriers are addressed, NGNs will be empowered in the clinical work environment and supported to accomplish their workload despite the challenges faced in applying their recently learnt knowledge and skills in transitional support programs.

The physical and clinical demands of healthcare on NGNs are great during their 12-transition but do lead to the development of skills. Resource personnel need to challenge the status quo and escalate shortfalls in practice to nursing management to address these barriers to NGNs transition. Acute care settings with accessible resource personnel such as nurse educators and managers are well positioned to monitor NGNs' needs and provide both formal and informal support. Moreover, this creates a healthy work environment that supports a unit-based approach to successfully in integrating NGNs into the work environment (K. L. Rush et al., 2013). Wildermuth et al. (2020) also identifies positive indicators inherent to positive relationships with experienced resource personnel, as the need to stay connected. Participants in that study commented: "we look stuff up", "we read notes" and "we talk about it". New graduate nurses from this study related experiences where they felt connected with resource personnel when they 'rounded' particularly in critical care settings. This helped resource personnel also be more aware of actual NGNs clinical capabilities, and thus foresee when NGNs need support.

While Paper 2 provides evidence for the effectiveness of new graduate nurse transitional support programs, the findings have also revealed there are still unmet needs related to clinical, social and emotional support. This is perhaps unsurprising—by their very nature these programs are delivered during a period of transition characterised by disconnection from usual support systems, temporary loss of familiar reference points, the emergence of new needs or old ones that are not met in a familiar way, and expectations—or a frame of reference based on previous experience, that no longer fits with changing situations (Meleis, 1986). some common themes and challenges related to NGNs workload, skill-mix and clinical capability at both baseline and follow-up. This highlights the need for further research to establish the effectiveness of different TSPs on NGNs ability to safely practice in acute care settings characterised by increased workloads which require increased levels of support offered against the clinical demands and expectations.

8.1.3 Research question 3

'What are the clinical support experiences of NGNs during the transition period, and how have these experiences impacted on their learning, job satisfaction and skill development?'

In Australia and many other developed countries, the transition from apprenticeship-based hospital training to tertiary-based training reduced the number of hours of clinical experience for nursing students (El Haddad et al., 2017), ultimately reducing their clinical exposure. Numerous studies have identified lack of clinical exposure as contributing to reduced workplace readiness, with new graduates struggling to acclimatise to their new role and responsibilities (AlMekkawi & El Khalil, 2020; El Haddad et al., 2017; Missen et al., 2015; Usher et al., 2015).

To ensure new graduate nurses are adequately prepared to successfully transition to professional nursing practice, health care organisations have responded by implementing transitional support programs (Hampton et al., 2021). Commonly comprising combinations of orientation, preceptorship, supernumerary time, study days, online learning, formal assessment and self-directed packages (Graf et al., 2020), these programs aim to support new graduates by building clinical skills and confidence while integrating them into the culture of the organisation (Hampton et al., 2021). However, which elements of transition programs are viewed by NGNs as supportive of their learning, promote job satisfaction and skill development in acute care settings is less clear.

The third published paper in this thesis presented the findings from interviews with twenty-six new graduate nurses close to completion of their 12-month transitional support program with a view to developing a deeper understanding of their experiences of the clinical support they received. In the setting where this study took place, while formal clinical support was provided by designated supervisors it was commonly the informal—'learning on the run' clinical support that participants particularly valued. For many participants, this informal support, often provided by senior registered nurses and taking place at the bedside, compensated for inadequate formal clinical support, providing a safety net that enabled them to continue learning despite encountering multiple challenges. The value of informal clinical support at the bedside was also commented on as promoting skill development, with new graduates commenting it was quicker to learn 'hands-on' than having it explained in an in-service and the best way to learn was having it shown while 'on the job'. The value of hands-on learning in transition support programs has been previously noted (Adams et al., 2015; K. L. Rush et al., 2013), including by Directors of Nursing (Doughty

et al., 2018) and interestingly, is reflected in Chandler's definition of support for new graduate nurses as "feedback, guidance, recognition, and direct hands-on assistance" (Chandler, 2008, as cited in (Roche et al., 2004) p.28). Increasingly however, research into the experiences of new graduate nurses suggests their learning and opportunities to develop skills are negatively impacted by shortages of experienced staff (Gellasch, 2015; Pineau Stam et al., 2015), and this may be exacerbated in acute tertiary care settings. For example, Fox et al. (2005) noted three-quarters of new graduates employed in an acute tertiary referral hospital in Brisbane, Queensland commented on the heavy workloads of their preceptors negatively impacting on their own learning experiences. Participants in Fox et al. (2005) study also commented on being allocated preceptors who were not much more than new graduates themselves and whose knowledge was little better than their own. Some were consistently working with agency staff who were not familiar with the work environment and thus, received no precepting. Similar experiences were reported by participants in the CLASSIC Project who were allocated to work with casual assistants in nursing who had little capacity to support the new graduate, contributing to new graduates' need to work beyond their own capabilities (Paper 2).

Informal clinical support was particularly valued after-hours and during periods of higher patient acuity and staff shortages when access to resource people such as nurse unit managers and clinical nurse educators was limited. Henderson et al. (2015) reported similar findings in an evaluation of a clinical support program for new graduate nurses, who identified their greatest challenges were experienced after hours when resource persons were not available. Interestingly, Henderson's study also identified that while informal

support was considered vital by new graduates, it was largely 'invisible', not measured and so its value "not visible to those responsible for continuous education" (p. 225).

While informal clinical support was highly valued by participants in this study, there was also agreement that structured clinical support provided during study days away from the ward was also needed to promote learning. Away from the wards, new graduates could express concerns in a safe environment, learn vicariously through shared experiences, and learn through reflection. This finding also reflects that of Jones et al. (2014) who conducted a study of 212 newly qualified nurses in a Nurse Foundation Programme in the UK. Their results suggested the availability of a series of support opportunities, rather than a single type was required to develop relevant skill sets or competencies.

Receiving good clinical support, including positive feedback, was reflected in participants' comments about increased confidence, feeling appreciated and part of the team, and being able to deliver safer patient care, all of which ultimately increased job satisfaction. The finding that good clinical support can impact on job satisfaction is important given numerous studies (Parker et al., 2014; Pineau Stam et al., 2015; Smyth et al., 2018; Spector et al., 2015) and systematic reviews (Charette et al., 2020; Edwards et al., 2015; Missen et al., 2014) have demonstrated its strong association with intention to remain in the profession. The finding that participants identified good clinical support—teaching you 'how to do things the correct way', as influencing the delivery of safe patient care is equally important, albeit less well studied. An emerging body of literature shows job satisfaction is positively associated with quality of care and negatively linked to turnover intentions (Boamah et al., 2017), supporting the vital role clinical support plays in developing new

graduate nurses and empowering them to accomplish their work in meaningful ways (Parker et al., 2014).

8.1.4 Research question 4

'What are NGNs perceptions of clinical supervision and the practice environment, and how have these influenced their intention to stay in critical care and non-critical care areas following their TSP?'

Transitional support programs are designed to increase new graduate nurses' confidence and competence to provide safe patient care and in so doing, promote job satisfaction and increase retention rates (Asber, 2019; Brook et al., 2019). Nevertheless, attrition of new graduate nurses continues to be reported (Aparício & Nicholson, 2020; Cadmus & Wurmser, 2019) at a time when the remaining baby boomer cohort moves into retirement, and population aging increases growth in the demand for hospital bed-days (Schofield & Earnest, 2006). Understanding new graduates' perceptions of their transitional support program, and how these influence their intention to stay in their clinical speciality (critical care and non-critical care areas) was the final research question posed by the CLASSIC Project. As previously described, the study setting where the CLASSIC Project was undertaken is one of the largest tertiary referral hospitals in Australia, with numerous high-acuity specialty areas. Although no Australian data could be located for comparison, US and Canadian data indicates most new graduate nurses initially work in medical-surgical units to gain their skills, before moving to high-acuity specialty areas (National Council of State Boards of Nursing, 2018). However, in tertiary level facilities it may not be possible for new graduates to initially gain their skills in traditional medical-surgical settings (Baldwin et al., 2021), with many commencing their new graduate program in high-acuity/critical care

specialties where transition may be more difficult (Innes & Calleja, 2018). Hence, understanding the effectiveness of transitional support programs, and how these influence NGNs' intention to stay in their clinical specialty, was considered important to inform future support.

The final published paper in this thesis identified two predictors of NGNs' intention to stay in their current ward/unit—not being placed in situations where the clinical workload was beyond their personal clinical capability and working in a critical care specialty. Heavy workloads have repeatedly been identified as contributing to new graduate nurses' intention to leave (Africa & Trepanier, 2021; Çamveren et al., 2020; Hawkins et al., 2019; Rickard et al., 2012; Rush et al., 2019) however, working beyond clinical capability was, to this author's knowledge, the first time this has been reported as contributing to intention to leave. The importance of not working beyond their clinical capabilities was also evident in the qualitative findings of the CLASSIC Project. In Paper 2, one of the sub-themes to emerge from the open-ended survey responses was "Understanding the clinical capabilities of the new graduate" where participants reported examples of being "pushed into the deep end" and caring for three cardiothoracic patents at a time—"with a MET call thrown in". In Paper 3, the sub-theme "Know my capabilities" emerged with participants identifying good clinical support was when senior staff recognised their capabilities and did not place them in situations where they did not yet have experience.

Since the publication of the CLASSIC Project findings, a cross-sectional study of new graduate nurses in their first year of practice has also identified expectations exceeding capabilities (and high workloads) as contributing to new graduates' intention to leave their job (Ulupinar & Aydogan, 2021). Importantly, because both heavy workloads and working

beyond capabilities have been linked with feelings of inadequacy, exhaustion and burnout (McKenzie et al., 2021), and in turn, burnout associated with new graduate nurses permanently leaving the profession (Boamah et al., 2017; Laschinger et al., 2010), increased attention needs to be paid by nurse managers to ensure new graduates have been assessed as competent prior to allocating workloads.

The second predictor of new graduate nurses' intention to stay in their current ward/unit was working in a critical care specialty at the end of their transitional support program. In fact, new graduates in critical care areas were six times more likely than new graduates working in non-critical care areas to indicate their intention to remain in their current specialty. Further, they were also more satisfied with the clinical support, and unit orientation compared to new graduates in other wards. In their integrative review on best practices of new graduate transition programs Rush et al. (2019) found that new graduates nurses who received extended orientation periods were more likely to be satisfied due to the concentrated support offered, which in turn led to increased competence in various skill-sets and better retention. In the current study, those who worked in critical care areas received up to two weeks orientation compared to 2-3 days orientation in non–critical area areas.

The clinical support provided to new graduate nurses in critical care specialties is also more readily available, which likely helps explain the high satisfaction with this component of their transitional support program, and this was also evident in the qualitative findings of the CLASSIC Project. In Paper 3, the sub-theme "Support me around the clock" described the experiences of new graduates in clinical areas such as ICU and Emergency who had greater access to support and learning—"after-hours clinical supervisors" and "nearly an in-service

every day, educators on the floor every day." Critical care areas are known to have a stronger nursing and medical presence, hence new graduate nurses have readily available access to support when needed compared to non-critical care units (Australian College of Critical Care Nurses, 2016; Innes & Calleja, 2018; Smyth et al., 2018). Nurse-to-patient ratios in critical settings are also typically lower, patients are nursed in a unique unit layout with invasive and/or non-invasive monitoring connected and pre-set alarms to alert staff of any changes in patient condition, which may have contributed to new graduate nurses' confidence.

8.2 Study limitations

The findings of the CLASSIC Project should be interpreted in the context of limitations which were provided in the published papers. Of note however, is that convenience sampling at a single site limits the generalisability of a study's findings and the CLASSIC Project is no exception. It may be that new graduate nurses recruited at other study sites may have reported different responses and experiences. Although the response rate to the baseline and follow up surveys were good (81% and 76% respectively), analysis of participants who were lost to follow-up showed they were older than those who completed the 12-month survey. This was perhaps unsurprising given older new graduate nurses were less satisfied with their transitional support program at baseline however, it also suggests non-response bias may have influenced the follow-up study findings.

Another limitation of the CLASSIC Project was the brevity of the follow-up interviews which were undertaken during shift overlap and thus, time constrained. Despite interviewing 26 new graduate nurses, and no new data emerging, it is likely that with more time, the researchers could have moved beyond surface-level responses by using more probing and

reflection, allowing for an in-depth exploration of the participants' feelings, experiences and perceptions.

Finally, despite engaging in reflexive practice and articulating this researcher's position, this is no guarantee that the researcher—as a clinician, manager and peer of some of the new graduate nurses did not influence his interactions with participants. This made it important to ensure transparency in all aspects of the study, but particularly the analysis and reporting of the qualitative findings. It was important to minimise the risk of bias by maintaining an audit trail and having independent coders before coming to consensus.

It is also possible that although the new graduate nurses who participated in the CLASSIC Project were willing to—and comfortable with sharing their experiences with the researcher as someone who 'understood', the converse may have occurred: that new graduate nurses may not have shared information out of fear of the potential impact on their relationship with management or the risk of being judged and found 'wanting' (Chavez, 2008). Nevertheless, the findings from the CLASSIC Project lend support to previous research in this area suggesting they are credible (Shenton, 2004).

8.3 Study strengths

An important strength of this study not previously discussed in the published papers was the use of a sequential embedded design. In addition to combining the strengths of quantitative and qualitative research to enable greater understanding of the "context behind the numbers" (Zhang, 2011), the sequential timing provided an opportunity to track a cohort of new graduate nurses over the period of a 12-month transitional support program. At the time of undertaking the CLASSIC Project, most of the research exploring the experiences of new graduate nurses was cross-sectional, limiting the ability to examine the effectiveness of

transitional support programs. By prospectively following a cohort of new graduate nurses, the CLASSIC Project was not only able to compare differences between baseline and follow-up, but because participant data could be matched using paired *t*-tests, each participant acted as his or her own control, reducing variation between the samples.

A further strength of this study stems from being an insider researcher. This meant I had valuable insights and background information on how transitional support programs had developed and supported new graduates in the study setting. My knowledge of contemporary practice in supporting new graduate nurses enabled the development of specific research questions where findings could be applied and would be useful to my role as a nursing unit manager, as well as the hospital and potentially beyond. As an insider researcher, I was in a privileged position with study time allocated to me within my workload and support from my director of nursing to be able to conduct this project. I was also fortunate to gain the support of our local health district director of nursing who, upon being made aware of the findings, helped drive key changes to policy in the current study setting.

Finally, the CLASSIC study has contributed to our theoretical understanding of new graduate transition by demonstrating that despite increased workloads and skill-mix issues, new graduate nurses working in specialty areas where the practice environment was identified as 'supportive' experienced less stress and were likely to indicate their intention to remain in this setting. This finding suggests that supportive practice environments can ameliorate at least some of the stressors encountered by new graduate nurses and may facilitate new graduate nurse retention.

Impact

The impact of the CLASSIC Project is evidenced by three key changes to policy in the current study setting. These included:

i) a revised duration and more structured orientation for non-critical care areas to better support NGNs

ii) the recruitment and appointment of two new full-time equivalent positions to provide after-hours clinical support to NGNs, an afterhours CNC and afterhours CNE and

iii) not allocating NGNs to critical-care areas such as ICU and ED on first rotation during their 12-month TSP.

8.4 Recommendations

The CLASSIC Project has identified several areas that could be addressed to better support new graduate nurses during their transition to practice.

8.4.1 Practice and policy implications

A serious issue to emerge from this research was that new graduate nurses who are placed in situations where their clinical workload is beyond their personal clinical capability are more likely to leave nursing. Specific recommendations include:

- Urgent attention by nurse managers is needed to ensure new graduates have been assessed as competent prior to allocating workloads, and to ensure appropriate skill mix. This is important not only for ensuring the wellbeing of new graduates and a future nursing workforce, but to ensure patients receive safe, quality care.

- Another approach could be to develop a specialty-specific database to capture new graduate nurses' competency completion and accreditations; this could also be available electronically to new graduates nurses to track their own performance.
- Senior staff who allocate patients and workloads to NGNs also need to consider NGNs' previous experiences during rotation and take this into account when allocating patient loads in order to avoid requesting them to perform skills they may not yet have encountered.

New graduate nurses allocated to critical care specialties on their first rotation were less satisfied than new graduates allocated to non-critical care specialties, and reported feeling out of their depth.

- Nurse managers should consider not placing new graduate nurses in critical care specialties for their first rotation. Where this is not possible, nurse managers must ensure new graduates are supported by experienced clinical staff, and that this support is available around the clock.
- In this study, informal support provided by senior registered nurses at the bedside promoted new graduate nurses' skill development and confidence. Nurse managers should ensure senior registered nurses have reduced workloads to enable them to provide bedside teaching to new graduate nurses.

8.4.2 Further research

When considering that the success of transition programs primarily relies on resource personnel, all should receive a level of formal training for provision of effective clinical support.

- Common approaches to resource personnel training may include knowledge of learning styles, principles of adult learning, use of interactive approaches to learning such as Benner's novice to expert nursing theory and conflict resolution (Blegen et al., 2015; Marks-Maran et al., 2013).
- The findings of the CLASSIC Project supported the effectiveness of a transitional support program offered to new graduate nurses in a tertiary referral hospital, with new graduates generally reporting high levels of satisfaction and intention to remain in their clinical specialty at the end of their program.
- Further research on new graduate nurse transition should consider more inclusive methodologies to understand the perspectives of *all* stakeholder groups—new graduates, clinical supervisors/preceptors, senior nurse executives/managers and patients, as each group is likely to have different perceptions of what aspects of transitional support are most important, what is needed and what is feasible.
- Further research is needed to better understand the role of transitional support programs in developing new graduate nurse competence and confidence in increasingly high-acuity settings. The findings of this study suggest these were important outcomes for new graduates, with many linking increasing confidence and competence to their ability to deliver quality patient care. The link between confidence and competence and patient safety outcomes has not been established, suggesting a need for further investigation.
- Finally, considering the ongoing challenges (including fiscal) and variability in supporting new graduate nurses' transition to practice, it is important that future research not only address effectiveness, but implementation outcomes, particularly acceptability and feasibility.

8.5 Conclusion

The transition experience of new graduate nurses is complex, with much of the research on transition to practice focusing on the support offered during the early stages of programs. The CLASSIC Project provides nurse managers and nurse educators with direction for providing a multi-layered approach to support new graduate nurses as they face the challenges of working in increasingly high-acuity settings during their transition to practice period. The reliance on simply supporting new graduate nurses through orientation and preceptoring before they practice independently as an answer to support their practice in transition programs needs to be reframed in the broader context of transitional support, which addresses the needs of all stakeholder groups.

References

Aarons, G. A., Fettes, D. L., Sommerfeld, D. H., & Palinkas, L. A. (2012). Mixed methods for implementation research: Application to evidence-based practice implementation and staff turnover in community-based organizations providing child welfare services. *Child Maltreatment, 17*(1), 67-79. https://doi.org/10.1177/1077559511426908

Adamack, M., & Rush, K. L. (2014). Disparities in new graduate transition from multiple stakeholder perspectives. *Nursing Leadership, 27*(3), 16-28. https://doi.org/10.12927/cjnl.2015.24060

Adams, J. M., Alexander, G. A., Chisari, R. G., Banister, G., McAuley, M. E., Whitney, K. B., & Erickson, J. I. (2015). Strengthening new graduate nurse residency programs in critical care: Recommendations from nurse residents and organizational stakeholders. J*ournal of Continuing Education in Nursing, 46*(1), 41-48. https://doi.org/10.3928/00220124-20151217-01

Africa, L., & Trepanier, S. (2021). The role of the nurse leader in reversing the new graduate nurse intent to leave. *Nurse Leader, 19*(3), 239-245. https://doi.org/10.1016/j.mnl.2021.02.013

Al-Dossary, R. N., Kitsantas, P., & Maddox, P. J. (2016). Residency programs and clinical leadership skills among new Saudi graduate nurses. *Journal of Professional Nursing, 32*(2), 152-158. https://doi.org/10.1016/j.profnurs.2015.10.004

Almada, P., Carafoli, K., Flattery, J. B., French, D. A., & McNamara, M. (2004). Improving the retention rate of newly graduated nurses. *Journal for Nurses in Staff Development, 20*(6), 268-273.

Almadani, S. N. (2019). Does clinical supervision improve job satisfaction for qualified nurses in primary health care in Jeddah, Saudi Arabia? University of Salford]. Manchester, UK. http://usir.salford.ac.uk/id/eprint/50326

AlMekkawi, M., & El Khalil, R. (2020). New graduate nurses' readiness to practise: A narrative literature review. *Health Professions Education, 6*(3), 304-316. https://doi.org/10.1016/j.hpe.2020.05.008

Anderson, T., Linden, L., Allen, M., & Gibbs, E. (2009). New graduate RN work satisfaction after completing an interactive nurse residency. *Journal of Nursing Administration, 39*(4), 165-169. https://doi.org/10.1097/NNA.0b013e31819c9cac

Aparício, C., & Nicholson, J. (2020). Do preceptorship and clinical supervision programmes support the retention of nurses? *British Journal of Nursing, 29*(20), 1192-1197. https://doi.org/10.12968/bjon.2020.29.20.1192

Asber, S. R. (2019). Retention outcomes of new graduate nurse residency programs: An integrative review. *The Journal of Nursing Administration, 49*(9), 430-435. https://doi.org/10.1097/NNA.0000000000000780

Australian College of Critical Care Nurses. (2016). Workforce standards for intensive care nursing ACCCN. Retrieved May 23, from https://www.acccn.com.au/aboutus/position-statements-standards

Australian Government Department of Health. (2020). National Health Reform Agreement - Addendum 2020-2025. https://www.health.gov.au/initiatives-and-programs/2020-25-national-health-reform-agreement-nhra

Bakon, S., Craft, J., Wirihana, L., Christensen, M., Barr, J., & Tsai, L. (2018). An integrative review of graduate transition programmes: Developmental considerations for nursing management. *Nurse Education in Practice, 28*, 80-85. https://doi.org/10.1016/j.nepr.2017.10.009

Baldwin, K. M., Sleutel, M., Urban, R. W., Wells, J. N., Behan, D., Walsh, J., & Newcomb, P. (2021). An exploration of new graduate nurses' transition to specialty practice. *Journal for Nurses in Professional Development, 37*(2), 93-100. https://doi.org/10.1097/NND.0000000000000695

Barakat-Johnson, M., Lai, M., Barnett, C., Wand, T., Wolak, D. L., Chan, C., Leong, T., & White, K. (2018). Hospital-acquired pressure injuries: Are they accurately reported? A prospective descriptive study in a large tertiary hospital in Australia. *Journal of Tissue Viability, 27*(4), 203-210. https://doi.org/10.1016/j.jtv.2018.07.003

Beecroft, P. C., Dorey, F., & Wenten, M. (2008). Turnover intention in new graduate nurses: A multivariate analysis. *Journal of Advanced Nursing, 62*(1), 41-52. https://doi.org/10.1111/j.1365-2648.2007.04570.x

Begat, I. B., Severinsson, E. I., & Berggren, I. B. (1997). Implementation of clinical supervision in a medical department: Nurses' views of the effects. *Journal of Clinical Nursing, 6*(5), 389-394.

Blay, N., Duffield, C. M., & Gallagher, R. (2012). Patient transfers in Australia: Implications for nursing workload and patient outcomes. *Journal of Nursing Management, 20*(3), 302-310. https://doi.org/https://doi.org/10.1111/j.1365-2834.2011.01279.x

Blegen, M. A., Spector, N., Ulrich, B. T., Lynn, M. R., Barnsteiner, J., & Silvestre, J. (2015). Preceptor support in hospital transition to practice programs. *The Journal of Nursing Administration, 45*(12), 642-649. https://doi.org/10.1097/NNA.0000000000000278

Boamah, S. A., Read, E. A., & Spence Laschinger, H. K. (2017). Factors influencing new graduate nurse burnout development, job satisfaction and patient care quality: A time-lagged study. *Journal of Advanced Nursing, 7*3(5), 1182-1195. https://doi.org/10.1111/jan.13215

Bortolotto, S. J. (2015). Developing a comprehensive critical care orientation program for graduate nurses. *Journal for Nurses in Professional Development, 31*(4), 203-210. https://doi.org/10.1097/NND.0000000000000139

Bourgeois, S., Drayton, N., & Brown, A.-M. (2011). An innovative model of supportive clinical teaching and learning for undergraduate nursing students: The cluster model. *Nurse Education Today, 1*1(2). https://doi.org/10.1016/j.nepr.2010.11.005

Boychuk Duchscher, J. E. (2001). Out in the real world: Newly graduated nurses in acute-care speak out. *Journal of Nursing Administration, 31*(9), 426-439.

Bratt, M. M., & Felzer, H. M. (2011). Perceptions of professional practice and work environment of new graduates in a nurse residency program. *Journal of Continuing Education in Nursing, 42*(12), 559-568. https://doi.org/10.3928/00220124-20110516-03

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77-101. https://doi.org/10.1191/1478088706qp063oa

Brook, J., Aitken, L., Webb, R., MacLaren, J., & Salmon, D. (2019). Characteristics of successful interventions to reduce turnover and increase retention of early career nurses: A systematic review. *International Journal of Nursing Studies, 91*, 47-59. https://doi.org/10.1016/j.ijnurstu.2018.11.003

Bruce, T., Byrne, F., & Kemp, L. (2018). Using Skype to support remote clinical supervision for health professionals delivering a sustained maternal early childhood programme: A phenomenographical study. *Contemporary Nurse, 54*(1), 4-12. https://doi.org/10.1080/10376178.2018.1441732

Brunero, S., & Stein-Parbury, J. (2008). The effectiveness of clinical supervision in nursing: An evidenced based literature review. *Australian Journal of Advanced Nursing, 25*(3), 86-94. https://doi.org/10.3316/ielapa.253513927962100

Buchan, J., Schaffer, F., & Catton, H. (2018). Policy brief: Nurse retention. International Center on Nurse Migration. Retrieved April 9, from https://www.icn.ch/sites/default/files/inline-files/ICNM%20Nurse%20retention%20FINAL.pdf

Burr, S., Stichler, F. J., & Poeltler, D. (2011). Establishing a mentoring program: Transforming organizational culture and improving nurse retention. *Nursing for Women's Health, 15*(3), 214-224. https://doi.org/10.1111/j.1751-486X.2011.01636.x

Burston, S., Chaboyer, W., & Gillespie, B. (2014). Nurse-sensitive indicators suitable to reflect nursing care quality: A review and discussion of issues. *Journal of Clinical Nursing, 23*(13-14), 1785-1795. https://doi.org/10.1111/jocn.12337

Butterworth, T. (1992). Clinical supervision as an emerging idea in nursing. In T. Butterworth & J. Faugier (Eds.), Clinical Supervision and Mentorship in Nursing (pp. 3-17). Chapman & Hall. https://doi.org/10.1007/978-1-4899-7228-6_1

Butterworth, T., Bishop, V., & Carson, J. (1996). First steps towards evaluating clinical supervision in nursing and health visiting. I. Theory, policy and practice development. A review. *Journal of Clinical Nursing, 5*(2), 127-132. https://doi.org/10.1111/j.1365-2702.1996.tb00238.x

Cadmus, E., & Wurmser, T. (2019). Perceptions of acute care nurse residencies: Perspectives from one state. *Journal of Nursing Management, 27*, 1251-1260. https://doi.org/10.1111/jonm.12807

Çamveren, H., Arslan Yürümezoğlu, H., & Kocaman, G. (2020). Why do young nurses leave their organization? A qualitative descriptive study. *International Nursing Review, 67*(4), 519-528. https://doi.org/10.1111/inr.12633

Carroll, J. L., & Rothe, J. P. (2010). Levels of reconstruction as complementarity in mixed methods research: A social theory-based conceptual framework for integrating qualitative and quantitative research. *International Journal of Environmental Research and Public Health, 7*(9), 3478-3488. https://doi.org/10.339/ijerph7093478

Centre for Reviews and Dissemination. (2009). Systematic Reviews. CRD's guidance for undertaking reviews in health care. https://www.york.ac.uk/media/crd/Systematic_Reviews.pdf

Chapman, L. (2013). A 'roll-on, roll-off' preceptorship pathway for new registrants. *Nursing Management 20*(2), 24-26. https://doi.org/10.7748/nm2013.05.20.2.24.e1068

Charette, M., McKenna, G. L., Deschênes, M. F., Ha, L., Merisier, S., & Lavoie, P. (2020). New graduate nurses' clinical competence: A mixed methods systematic review. *Journal of Advanced Nursing, 76*(11), 2810-2829. https://doi.org/10.1111/jan.14487

Chavez, C. (2008). Conceptualizing from the inside: Advantages, complications, and demands on insider positionality. *The Qualitative Report, 13*(3), 474-494. https://doi.org/10.46743/2160-3715/2008.1589

Cleary, M., Horsfall, J., & Happell, B. (2010). Establishing clinical supervision in acute mental health inpatient units: Acknowledging the challenges. *Issues in Mental Health Nursing, 31*(8), 525-531. https://doi.org/10.3109/01612841003650546

College of Emergency Nurses New Zealand. (2013). Position statement: Nursing graduates in emergency departments. Retrieved May 23, from https://www.nzno.org.nz/Portals/0/Files/Documents/Groups/Emergency%20Nurses/Publications/7_%202010-11%20CENNZ%20PS%20new%20grads%20in%20ED.pdf

Cowin, L., & Jacobsson, D. (2003). Addressing Australia's nursing shortage: Is the gap widening between workforce recommendations and the workplace? *Collegian, 10*(4), 20-24. https://doi.org/10.1016/S1322-7696(08)60072-4

Crafoord, M. T., & Fagerdahl, A. M. (2017). Clinical supervision in perioperative nursing education in Sweden–A questionnaire study. *Nurse Education in Practice, 24*, 29-33. https://doi.org/10.3928/00220124-20140417-03

Creswell, J. W., & Plano Clark, V. L. (2011). Designing and conducting mixed methods research. Sage Publications, Inc.

Cubit, K. A., & Ryan, B. (2011). Tailoring a graduate nurse program to meet the needs of our next generation nurses. *Nurse Education Today, 31*(1), 65-71. https://doi.org/10.1016/j.nedt.2010.03.017

Cutcliffe, J. R. (2005). Clinical supervision: A search for homogeneity or heterogeneity? *Issues in Mental Health Nursing, 26*(5), 471-473. https://doi.org/10.1080/01612840590931902

Cutcliffe, J. R., Butterworth, T., & Proctor, B. (2001). Fundamental themes in clinical supervision. Routledge.

Dear, M. R., Celentano, D. D., Weisman, C. S., & Keen, M. F. (1982). Evaluating a hospital nursing internship. *Journal of Nursing Administration, 12*(11), 16-26.

DeCuir-Gunby, J. T., & Schutz, P. A. (2016). Developing a mixed methods proposal: A practical guide for beginning researchers (Vol. 5). Sage Publications.

Doughty, L., McKillop, A., Dixon, R., & Sinnema, C. (2018). Educating new graduate nurses in their first year of practice: The perspective and experiences of the new graduate nurses and the director of nursing. *Nurse Education in Practice, 30*, 101-105. https://doi.org/10.1016/j.nepr.2018.03.006

Duchscher Boychuk, J. E. (2009). Transition shock: The initial stage of role adaptation for newly graduated registered nurses. *Journal of Advanced Nursing, 65*(5), 1103-1113. https://doi.org/10.1111/j.1365-2648.2008.04898.x

Dyess, S., & Parker, C. G. (2012). Transition support for the newly licensed nurse: A programme that made a difference. *Journal of Nursing Management, 20*(5), 615-623. https://doi.org/10.1111/j.1365-2834.2012.01330.x

Edwards, D., Hawker, C., Carrier, J., & Rees, C. (2015). A systematic review of the effectiveness of strategies and interventions to improve the transition from student to newly qualified nurse. *International Journal of Nursing Studies, 52*(7), 1254-1268. https://doi.org/10.1016/j.ijnurstu.2015.03.007

El Haddad, M., Moxham, L., & Broadbent, M. (2017). Graduate nurse practice readiness: A conceptual understanding of an age old debate. *Collegian, 24*(4), 391-396. https://doi.org/10.1016/j.colegn.2016.08.004

Fanelli, S. (1998). Faculty and internships: A match made in heaven? *Journal for Nurses in Staff Development, 14*(6), 273-276.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G* Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods, 41*(4), 1149-1160. https://doi.org/10.3758/BRM.41.4.1149

Fetters, M. D., Curry, L. A., & Creswell, J. W. (2013). Achieving integration in mixed methods designs—Principles and practices. *Health Services Research, 48*(6), 2134-2156. https://doi.org/10.1111/1475-6773.12117

Figueroa, S., Gardner, J., Irizarry, J., & Cohn, T. (2016). Married state preceptorship model: Crossing the state line in new graduate nurse transition to practice. *The Journal of Continuing Education in Nursing, 47*(11), 511-517. https://doi.org/10.3928/00220124-20161017-10

Forde-Johnston, C. (2017). Developing and evaluating a foundation preceptorship programme for newly qualified nurses. *Nursing Standard, 31*(42), 42-52. https://doi.org/10.7748/ns.2017.e10413

Fox, R., Henderson, A., & Malko-Nyhan, K. (2005). 'They survive despite the organizational culture, not because of it': A longitudinal study of new staff perceptions of what constitutes support during the transition to an acute tertiary facility. *International Journal of Nursing Practice, 11*(5), 193-199. https://doi.org/10.1111/j.1440-172X.2005.00530.x

Franklin, N. (2013). Clinical supervision in undergraduate nursing students: A review of the literature. *e-Journal of Business Education & Scholarship of Teaching, 7*(1), 34-42. http://www.ejbest.org

Frels, R. K., & Onwuegbuzie, A. J. (2012). Interviewing the interpretive researcher: An impressionist tale. *Qualitative Report, 17*(30), 1-27. http://www.nova.edu/ssss/QR/QR17/frels.pdf

Garling, P. (2008). Final report of the special commission of inquiry: Acute care services in NSW public hospitals. http://www.lawlink.nsw.gov.au/acsinquiry

Gellasch, P. (2015). The driving forces behind nurses leaving the profession. *Nurse Leader, 13*(5), 63-68. https://doi.org/10.1016/j.mnl.2015.01.001

Gellerstedt, L., Moquist, A., Roos, A., Karin, B., & Craftman, A. G. (2019). Newly graduated nurses' experiences of a trainee programme regarding the introduction process and leadership in a hospital setting-A qualitative interview study. *Journal of Clinical Nursing, 28*(9-10), 1685-1694. https://doi.org/10.1111/jocn.14733

Giallonardo, L. M., Wong, C. A., & Iwasiw, C. L. (2010). Authentic leadership of preceptors: Predictor of new graduate nurses' work engagement and job satisfaction. *Journal of Nursing Management, 18*(8), 993-1003. https://doi.org/10.1111/j.1365-2834.2010.01126.x

Gilmour, J., Huntington, A., Slark, J., & Turner, C. (2017). Newly graduated nurses and employment: A dynamic landscape. *Collegian, 24*(3), 247-253. https://doi.org/10.1016/j.colegn.2016.02.004

Gonge, H., & Buus, N. (2011). Model for investigating the benefits of clinical supervision in psychiatric nursing: A survey study. *International Journal of Mental Health Nursing, 20*(2), 102-111. https://doi.org/10.1111/j.1447-0349.2010.00717.x

Graf, A. C., Jacob, E., Twigg, D., & Nattabi, B. (2020). Contemporary nursing graduates' transition to practice: A critical review of transition models. *Journal of Clinical Nursing, 29*(15-16), 3097-3107. https://doi.org/10.1111/jocn.15234

Haggerty, C., Holloway, K., & Wilson, D. (2013). How to grow our own: An evaluation of preceptorship in New Zealand graduate nurse programmes. *Contemporary Nurse, 43*(2), 162-171. https://doi.org/10.5172/conu.2013.43.2.162

Halfer, D. (2007). A magnetic strategy for new graduate nurses. *Nursing Economic$, 25*(1), 6-12.

Hampton, K. B., Smeltzer, S. C., & Ross, J. G. (2021). The transition from nursing student to practicing nurse: An integrative review of transition to practice programs. *Nurse Education in Practice, 52*, 103031. https://doi.org/10.1016/j.nepr.2021.103031

Hansan, J. (n.d.). The Social Welfare History Project—Charity Organization Societies: 1877–1893. https://socialwelfare.library.vcu.edu/

Hawkins, N., Jeong, S., & Smith, T. (2019). Coming ready or not! An integrative review examining new graduate nurses' transition in acute care. *International Journal of Nursing Practice, 25*(3), e12714. https://doi.org/10.1111/ijn.12714

Health Education and Training Institute. (2013). The Superguide: A supervision continuum for nurses and midwives. HETI.

Health Workforce Australia. (2014). Australia's future health workforce - nurses detailed. Department of Health.

Health Workforce Australia. (April 2011). Clinical supervision support program - directions paper.

Henderson, A., Ossenberg, C., & Tyler, S. (2015). 'What matters to graduates': An evaluation of a structured clinical support program for newly graduated nurses. *Nurse Education in Practice, 15*(3), 225-231. https://doi.org/10.1016/j.nepr.2015.01.009

Herdrich, B., & Lindsay, A. (2006). Nurse residency programs: Redesigning the transition into practice. *Journal for Nurses in Staff Development, 22*(2), 55-54.

Hoffart, N., Waddell, A., & Young, M. B. (2011). A model of new nurse transition. *Journal of Professional Nursing, 2*7(6), 334-343. https://doi.org/10.1016/j.profnurs.2011.04.011

Hong, Q. N., Fàbregues, S., Bartlett, G., Boardman, F., Cargo, M., Dagenais, P., Gagnon, M.-P., Griffiths, F., Nicolau, B., & O'Cathain, A. (2018). The Mixed Methods Appraisal Tool (MMAT) version 2018 user guide. *Education for Information, 34*(4), 285-291.

Hsieh, H.-F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research, 15*(9), 1277-1288. https://doi.org/10.1177/1049732305276687

Hung, S. Y. M., Wong, L. M., & Lam, K. K. S. (2020). The transition challenges faced by new graduate nurses in their first year of professional experience. GSTF *Journal of Nursing and Health Care 5*(1). https://doi.org/10.5176/2345-7198_5.1.19

Hussein, R., Everett, B., Hu, W., Smith, A., Thornton, A., Chang, S., & Salamonson, Y. (2015). Predictors of new graduate nurses' satisfaction with their transitional support programme. *Journal of Nursing Management, 24*(3), 319-326. https://doi.org/10.1111/jonm.12321

Hussein, R., Everett, B., Ramjan, L. M., Hu, W., & Salamonson, Y. (2017). New graduate nurses' experiences in a clinical specialty: A follow up study of newcomer perceptions of transitional support. *BMC Nursing, 16*(1), 42. https://doi.org/10.1186/s12912-017-0236-0

Hussein, R., Salamonson, Y., Everett, B., Hu, W., & Ramjan, L. M. (2019). Good clinical support transforms the experience of new graduates and promotes quality care: A qualitative study. *Journal of Nursing Management, 27*(8), 1809-1817. https://doi.org/10.1111/jonm.12880

Hussein, R., Salamonson, Y., Hu, W., & Everett, B. (2018). Clinical supervision and ward orientation predict new graduate nurses' intention to work in critical care: Findings from a prospective observational study. *Australian Critical Care, 35*(5), 397-402. https://doi.org/10.1016/j.aucc.2018.09.003

Huston, C. L., Phillips, B., Jeffries, P., Todero, C., Rich, J., Knecht, P., Sommer, S., & Lewis, M. P. (2018). The academic-practice gap: Strategies for an enduring problem. *Nursing Forum, 53*(1), 27-34. https://doi.org/10.1111/nuf.12216

Hyrkäs, K., Appelqvist-Schmidlechner, K., & Haataja, R. (2006). Efficacy of clinical supervision: influence on job satisfaction, burnout and quality of care. *Journal of Advanced Nursing, 55*(4), 521-535. https://doi.org/10.1111/j.1365-2648.2006.03936.x

IBM, C. (2013). IBM SPSS Statistics for Windows. In (Version 22.0) IBM Corp.

Innes, T., & Calleja, P. (2018). Transition support for new graduate and novice nurses in critical care settings: An integrative review of the literature. *Nurse Education in Practice, 30*, 62-72. https://doi.org/10.1016/j.nepr.2018.03.001

Jamieson, I., Sims, D., Basu, A., & Pugh, K. (2019). Readiness for practice: The views of New Zealand senior nursing students. *Nurse Education in Practice, 38,* 27-33. https://doi.org/10.1016/j.nepr.2019.05.007

Jans, J., Falk-Brynhildsen, K., & Salzmann-Erikson, M. (2021). Nurse anesthetists' reflections and strategies when supervising masters' students. *Nurse Education in Practice, 54*, 103120. https://doi.org/10.1016/j.nepr.2021.103120

JBI. (2020). Critical Appraisal Tools. https://jbi.global/critical-appraisal-tools

Johnston, B., Pringle, J., & Buchanan, D. (2016). Operationalizing reflexivity to improve the rigor of palliative care research. *Applied Nursing Research, 31*, e1-e5. https://doi.org/10.1016/j.apnr.2015.10.010

Jones, A., Benbow, J., & Gidman, R. (2014). Provision of training and support for newly qualified nurses. *Nursing Standard, 28*(19), 44-50. https://doi.org/10.7748/ns2014.01.28.19.44.e8191

Juvé-Udina, M. E., Adamuz, J., López-Jimenez, M. M., Tapia-Pérez, M., Fabrellas, N., Matud-Calvo, C., & González-Samartino, M. (2019). Predicting patient acuity according to their main problem. J*ournal of Nursing Management, 27*(8), 1845-1858. https://doi.org/10.1111/JONM.12885

Kadushin, A. (1976). Supervision in social work. Columbia University Press.

Kavanagh, J. M., & Szweda, C. (2017). A crisis in competency: The strategic and ethical imperative to assessing new graduate nurses' clinical reasoning. *Nursing Education Perspectives, 38*(2), 57-62. https://doi.org/10.1097/01.NEP.0000000000000112

Keane, S., Ryan, A., Adams, N., & Dowling, M. (2020). Palliative care nurses' experiences of clinical supervision: A qualitative evidence synthesis. *International Journal of Palliative Nursing, 26*(8), 413-423. https://doi.org/10.12968/ijpn.2020.26.8.413

Kowalski, S., & Cross, C. L. (2010). Preliminary outcomes of a local residency programme for new graduate registered nurses. *Journal of Nursing Management, 18*(1), 96-104. https://doi.org/10.1111/j.1365-2834.2009.01056.x

Kramer, M. (1974). Reality shock C. V. Mosby.

Lake, E. T. (2002). Development of the practice environment scale of the nursing work index. *Research in Nursing & Health, 25*(3), 176-188. https://doi.org/10.1002/nur.10032

Laschinger, H. K. S., Grau, A. L., Finegan, J., & Wilk, P. (2010). New graduate nurses' experiences of bullying and burnout in hospital settings. *Journal of Advanced Nursing, 66*(12), 2732-2742. https://doi.org/10.1111/j.1365-2648.2010.05420.x

Laschinger, H. K. S., Wong, C., Read, E., Cummings, G., Leiter, M., Macphee, M., Regan, S., Rhéaume-Brüning, A., Ritchie, J., & Burkoski, V. (2019). Predictors of new graduate nurses' health over the first 4 years of practice. *Nursing Open, 6*(2), 245-259. https://doi.org/10.1002/nop2.231

Leigh, J. A., Douglas, C. H., Lee, K., & Douglas, M. R. (2005). A case study of a preceptorship programme in an acute NHS Trust - Using the European Foundation for Quality Management tool to support clinical practice development. *Journal of Nursing Management, 13*(6), 508-518. https://doi.org/10.1111/j.1365-2934.2005.00570.x

Leung, S.-O. (2011). A comparison of psychometric properties and normality in 4-, 5-, 6-, and 11-point Likert scales. *Journal of Social Service Research, 37*(4), 412-421. https://doi.org/10.1080/01488376.2011.580697

Levett-Jones, T., & FitzGerald, M. (2005). A review of graduate nurse transition programs in Australia. *Australian Journal of Advanced Nursing 23*(2), 40.

Lynch, L., Happell, B., & Sharrock, J. (2008). Clinical supervision: An exploration of its origins and definitions. University of Southampton, Psychiatric Nursing Research Unit. http://hdl.cqu.edu.au/10018/24569

Lyth, G. M. (2000). Clinical supervision: A concept analysis. *Journal of Advanced Nursing, 31*(3), 722-729.

Marks-Maran, D., Ooms, A., Tapping, J., Muir, J., Phillips, S., & Burke, L. (2013). A preceptorship programme for newly qualified nurses: a study of preceptees' perceptions. N*urse Education Today, 33*(11), 1428-1434. https://doi.org/10.1016/j.nedt.2012.11.013

May, A. R. (1961). Prescribing community care for the mentally ill. *The Lancet, 277*(7180), 760-761.

McKenna, L., & Newton, J. M. (2008). After the graduate year: A phenomenological exploration of how new nurses develop their knowledge and skill over the first 18 months following graduation. *Australian Journal of Advanced Nursing, 25*(4), 9-15.

McKenzie, R., Miller, S., Cope, V., & Brand, G. (2021). Transition experiences of newly qualified registered graduate nurses employed in a Neonatal Intensive Care Unit. *Intensive and Critical Care Nursing*, 103112. https://doi.org/10.1016/j.iccn.2021.103112

McKillop, A., Doughty, L., Atherfold, C., & Shaw, K. (2016). Reaching their potential: Perceived impact of a collaborative academic–clinical partnership programme for early career nurses in New Zealand. *Nurse Education Today, 36*, 145-151. https://doi.org/10.1016/j.nedt.2015.09.005

Meleis, A. I. (1986). Theory development and domain concepts. In P. Moccia (Ed.), New approaches to theory development (pp. 3-21). National League for Nursing Publications.

Mellor, P., & Greenhill, J. (2014). A patient safety focused registered nurse transition to practice program. *Contemporary Nurse, 47*(1-2), 51-60. https://doi.org/10.1080/10376178.2014.11081906

Messmer, P. R., Jones, S. G., & Taylor, B. A. (2004). Enhancing knowledge and self-confidence of novice nurses: The" Shadow-A-Nurse" ICU program. *Nursing Education Perspectives, 25*(3), 131-136.

Middleton, S., Griffiths, R., Fernandez, R., & Smith, B. (2008). Nursing practice environment: How does one Australian hospital compare with magnet hospitals? *International Journal of Nursing Practice, 14*(5), 366-372. https://doi.org/10.1111/j.1440-172X.2008.00708.x

Mills, J. E., Francis, K. L., & Bonner, A. (2005). Mentoring, clinical supervision and preceptoring: Clarifying the conceptual definitions for Australian rural nurses. A review of the literature. *Rural and Remote Health, 5*(3), 1-10. https://doi.org/10.22605/RRH410

Milne, D. (2007). An empirical definition of clinical supervision. *British Journal of Clinical Psychology, 46*(4), 437-447. https://doi.org/10.1348/014466507X197415

Milne, D., Aylott, H., Fitzpatrick, H., & Ellis, M. V. (2008). How does clinical supervision work? Using a "Best Evidence Synthesis" approach to construct a basic model of supervision. *The Clinical Supervisor, 27*(2), 170-190. https://doi.org/10.1080/07325220802487915

Missen, K., McKenna, L., & Beauchamp, A. (2014). Satisfaction of newly graduated nurses enrolled in transition-to-practice programmes in their first year of employment: A systematic review. *Journal of Advanced Nursing, 70*(11), 2419-2433. https://doi.org/10.1111/jan.12464

Missen, K., McKenna, L., & Beauchamp, A. (2015). Work readiness of nursing graduates: Current perspectives of graduate nurse program coordinators. *Contemporary Nurse, 51*(1), 27-38. https://doi.org/10.1080/10376178.2015.1095054

Moher, D., Liberati, A., Tetzlaff, J., Altman, D. G., & Group, P. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *BMJ, 6*(7). https://doi.org/10.1136/bmj.b2535

Moore, S. (1961). A psychiatric outpatient nursing service. *Mental Health Bulletin, 20*, 51-54. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5081868/

Mullarkey, K., Keeley, P., & Playle, J. F. (2001). Multiprofessional clinical supervision: challenges for mental health nurses. *Journal of Psychiatric and Mental Health Nursing, 8*(3), 205-211. https://doi.org/10.1046/j.1365-2850.2001.00376.x

National Council of State Boards of Nursing. (2018). 2017 RN practice analysis: Linking the NCLEX-RN® examination to practice: US and Canada. https://www.ncsbn.org/15_rn_practice_analysis_vol62_web.pdf

National Emergency Nurses Association. (2017). New graduates in the emergency department www.ena.org

NHS Digital. (2020). NHS workforce statistics - June 2020. Retrieved 20 July from https://digital.nhs.uk/data-and-information/publications/statistical/nhs-workforce-statistics/june-2020

O'Kane, C. E. (2012). Newly qualified nurses' experiences in the intensive care unit. *Nursing in Critical Care, 17*(1), 44-51. https://doi.org/10.1111/j.1478-5153.2011.00473.x

Olson-Sitki, K., Wendler, M. C., & Forbes, G. (2012). Evaluating the impact of a nurse residency program for newly graduated registered nurses. *Journal for Nurses in Staff Development, 28*(4), 156-162. https://doi.org/10.1097/NND.0b013e31825dfb4c

Ostini, F., & Bonner, A. (2012). Australian new graduate experiences during their transition program in a rural/regional acute care setting. *Contemporary Nurse 41*(2), 242-252. https://doi.org/10.5172/conu.2012.41.2.242

Owings, C. R. (2016). Evaluation of a community-based nurse residency program [Ed.D., The University of Alabama]. ProQuest Central. Ann Arbor. https://search.proquest.com/docview/1868414254?accountid=36155

Parker, D., Tuckett, A., Eley, R., & Hegney, D. (2010). Construct validity and reliability of the Practice Environment Scale of the Nursing Work Index for Queensland nurses. *International Journal of Nursing Practice, 16*(4), 352-358. https://doi.org/10.1111/j.1440-172X.2010.01851.x

Parker, V., Giles, M., Lantry, G., & McMillan, M. (2014). New graduate nurses' experiences in their first year of practice. *Nurse Education Today, 34*(1), 150-156. https://doi.org/10.1016/j.nedt.2012.07.003

Penprase, B. (2012). Perceptions, orientation, and transition into nursing practice of accelerated second-degree nursing program graduates. *The Journal of Continuing Education in Nursing, 43*(1), 29-36. https://doi.org/10.3928/00220124-20110315-02

Pezalla, A. E., Pettigrew, J., & Miller-Day, M. (2012). Researching the researcher-as-instrument: An exercise in interviewer self-reflexivity. *Qualitative Research, 12*(2), 165-185. https://doi.org/10.1177/1468794111422107

Phillips, C., Kenny, A., Esterman, A., & Smith, C. (2014). Does the choice of pre-registration paid employment impact on graduate nurse transition: An Australian study. *Nurse Education Today, 34*(4), 532-537. https://doi.org/10.1016/j.nedt.2013.06.024

Pine, R., & Tart, K. (2007). Return on investment: Benefits and challenges of a baccalaureate nurse residency program. *Nursing Economic$, 25*(1), 13-18+39.

Pineau Stam, L. M., Spence Laschinger, H. K., Regan, S., & Wong, C. A. (2015). The influence of personal and workplace resources on new graduate nurses' job satisfaction. *Journal of Nursing Management, 23*(2), 190-199. https://doi.org/10.1111/jonm.12113

Pollock, A., Campbell, P., Deery, R., Fleming, M., Rankin, J., Sloan, G., & Cheyne, H. (2017). A systematic review of evidence relating to clinical supervision for nurses, midwives and allied health professionals. *Journal of Advanced Nursing, 73*(8), 1825-1837. https://doi.org/10.1111/jan.13253

Poudel, C., Ramjan, L., Everett, B., & Salamonson, Y. (2018). Exploring migration intention of nursing students in Nepal: A mixed-methods study. *Nurse Education in Practice, 29*, 95-102. https://doi.org/10.1016/j.nepr.2017.11.012

Proctor, B. (1986). Supervision: A co-operative exercise in accountability. In M. Marken & M. Payne (Eds.), Enabling and ensuring. Supervision in practice (pp. 21-23). National Youth Agency.

Reed, P. G. (2021). The philosophical turn to mixed methods for nursing science. *Nursing Science Quarterly, 34*(3), 263-267. https://doi.org/10.1177/08943184211010442

Reinsvold, S. (2008). Nursing residency: Reversing the cycle of new graduate RN turnover. *Nurse Leader, 6*(6), 46-49. https://doi.org/10.1016/j.mnl.2007.11.002

Rickard, G., Lenthall, S., Dollard, M., Opie, T., Knight, S., Dunn, S., Wakerman, J., MacLeod, M., Seiler, J., & Brewster-Webb, D. (2012). Organisational intervention to reduce occupational stress and turnover in hospital nurses in the Northern Territory, Australia. *Collegian, 19*(4), 211-221. https://doi.org/10.1016/j.colegn.2012.07.001

Rizzo, M. D. (2003). Clinical Supervision: A working model for substance abuse acute care settings. *The Health Care Manager, 22*(2), 136-143. https://doi.org/10.1097/00126450-200304000-00009

Roche, J. P., Lamoureux, E., & Teehan, T. (2004). A partnership between nursing education and practice: Using an empowerment model to retain new nurses. *The Journal of Nursing Administration, 34*(1), 26-32.

Rush, K. L., Adamack, M., Gordon, J., Lilly, M., & Janke, R. (2013). Best practices of formal new graduate nurse transition programs: An integrative review. *International Journal of Nursing Studies, 50*(3), 345-356. https://doi.org/10.1016/j.ijnurstu.2012.06.009

Rush, K. L., Adamack, M., Janke, R., Gordon, J., & Ghement, I. R. (2013). The helpfulness and timing of transition program education. *Journal for Nurses in Professional Development, 29*(4), 191-196. https://doi.org/10.1097/NND.0b013e31829aec43

Rush, K. L., Janke, R., Duchscher, J., Phillips, R., & Kaur, S. (2019). Best practices of formal new graduate transition programs: An integrative review. *International Journal of Nursing Studies, 94*, 139-158. https://doi.org/10.1016/j.ijnurstu.2019.02.010

Ryan, C., Bergin, M., & Wells, J. S. (2017). Valuable yet vulnerable—A review of the challenges encountered by older nurses in the workplace. *International Journal of Nursing Studies, 72*, 42-52. https://doi.org/10.1016/j.ijnurstu.2017.04.006

Schoessler, M., & Waldo, M. (2006). Organizational infrastructure to support development of newly graduated nurses. *Journal for Nurses in Professional Development, 22*(6), 286-293.

Schofield, D. J., & Earnest, A. (2006). Demographic change and the future demand for public hospital care in Australia, 2005 to 2050. *Australian Health Review, 30*(4), 507-515. https://doi.org/10.1071/AH060507

Schumacher, K. L., & Meleis, A. l. (1994). Transitions: A central concept in nursing. *The Journal of Nursing Scholarship, 26*(2), 119-127.

Scott, E. S., Keehner Engelke, M., & Swanson, M. (2008). New graduate nurse transitioning: Necessary or nice? *Applied Nursing Research, 21*(2), 75-83. https://doi.org/10.1016/j.apnr.2006.12.002

Shenton, A. K. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information, 22*(2), 63-75. https://doi.org/10.3233/EFI-2004-22201

Sloan, G., & Watson, H. (2002). Clinical supervision models for nursing: Structure, research and limitations. *Nursing Standard, 17*(4), 41-46.

Smyth, W., Pianta, P., & Perkins, R. (2018). New nurses' positive evaluation of transition-to-practice programs. *Journal of Continuing Education in Nursing, 49*(11), 500-506. https://doi.org/10.3928/00220124-20181017-06

Snowdon, D. A., Hau, R., Leggat, S. G., & Taylor, N. F. (2016). Does clinical supervision of health professionals improve patient safety? A systematic review and meta-analysis. *International Journal for Quality in Health Care, 28*(4), 447-455. https://doi.org/10.1093/intqhc/mzw059

Spector, N., Blegen, M. A., Silvestre, J., Barnsteiner, J., Lynn, M. R., Ulrich, B., Fogg, L., & Alexander, M. (2015). Transition to practice study in hospital settings. *Journal of Nursing Regulation, 5*(4), 24-38. https://doi.org/10.1016/S2155-8256(15)30031-4

Spiva, L., Hart, P. L., Pruner, L., Johnson, D., Martin, K., Brakovich, B., McVay, F., & Mendoza, S. G. (2013). Hearing the voices of newly licensed RNs: The transition to practice. *American Journal of Nursing, 113*(11), 24-32. https://doi.org/10.1097/01.NAJ.0000437108.76232.20

Stewart, S., Yorkston, E., Turner, C., Gaynor, L., & Gallasch, T. (2006). Where do all the undergraduate and new graduate nurses go and why? A search for empirical research evidence. *Australian Journal of Advanced Nursing, 24*(2), 26. https://doi.org/10.3316/ielapa.403298697716636

Sturmberg, J., & Lanham, H. J. (2014). Understanding health care delivery as a complex system: Achieving best possible health outcomes for individuals and communities by focusing on interdependencies. *Journal of Evaluation in Clinical Practice, 20*(6), 1005-1009. https://doi.org/10.1111/jep.12142

Sullivan, C., Staib, A., Khanna, S., Good, N. M., Boyle, J., Cattell, R., Heiniger, L., Griffin, B. R., Bell, A. J., & Lind, J. (2016). The National Emergency Access Target (NEAT) and the 4-hour rule: Time to review the target. *Medical Journal of Australia, 204*(9), 354-354. https://doi.org/10.5694/mja15.01177

Tapping, J., Muir, J., & Marks-Maran, D. (2013). How first experiences influence newly qualified nurses. *British Journal of Nursing, 22*(2), 102-109. https://doi.org/10.12968/bjon.2013.22.2.102

Tashakkori, A., & Teddlie, C. (2010). Sage handbook of mixed methods in social & behavioral research. Sage.

Tastan, S., Unver, V., & Hatipoglu, S. (2013). An analysis of the factors affecting the transition period to professional roles for newly graduated nurses in Turkey. *International Nursing Review, 60*(3), 405-412. https://doi.org/10.1111/inr.12026

Taylor, A. M. (1940). Principles of supervision in nursing. *The American Journal of Nursing*, 807-812.

Theisen, J. L., & Sandau, K. E. (2013). Competency of new graduate nurses: A review of their weaknesses and strategies for success. *The Journal of Continuing Education in Nursing, 44*(9), 406-414. https://doi.org/10.3928/00220124-20130617-38

Tomietto, M., Rappagliosi, C. M., Sartori, R., & Battistelli, A. (2015). Newcomer nurses' organisational socialisation and turnover intention during the first 2 years of employment. *Journal of Nursing Management, 23*(7), 851-858. https://doi.org/10.1111/jonm.12224

Trahan, A., & Stewart, D. M. (2013). Toward a pragmatic framework for mixed-methods research in criminal justice and criminology. *Applied Psychology in Criminal Justice, 9*(1).

Trepanier, S., Early, S., Ulrich, B., & Cherry, B. (2012, 2012 Jul-Aug). New graduate nurse residency program: A cost-benefit analysis based on turnover and contract labor usage. *Nursing Economic$, 30*(4), 207-214. http://europepmc.org/abstract/MED/22970551

Twibell, R., St. Pierre, J., Johnson, D., Barton, D., Davis, C., Kidd, M., & Rook, G. (2012). Why new nurses don't stay and what the evidence says we can do about it. *American Nurse Today, 7*(6).

Tyndall, D. E., Firnhaber, G. C., & Scott, E. S. (2018). The impact of new graduate nurse transition programs on competency development and patient safety: An integrative review. A*dvances in Nursing Science, 41*(4), 26-52.

U.S. Department of Labor Bureau of Labor Statistics. (2016). Occupational Outlook Handbook, Registered Nurses. Retrieved 4 July from https://www.bls.gov/ooh/healthcare/registered-nurses.htm

Ulrich, B., Krozek, C., Early, S., Ashlock, C. H., Africa, L. M., & Carman, M. L. (2010). Improving retention, confidence, and competence of new graduate nurses: Results from a 10-year longitudinal database. *Nursing Economic$, 28*(6), 363-376.

Ulupinar, S., & Aydogan, Y. (2021). New graduate nurses' satisfaction, adaptation and intention to leave in their first year: A descriptive study. *Journal of Nursing Management*, 1-11. https://doi.org/10.1111/jonm.13296

Unruh, L., & Zhang, N. J. (2014). Newly licensed registered nurse job turnover and turnover intent. *Journal for Nurses in Professional Development 30*(5), 1678-1688. https://doi.org/10.1097/NND.0000000000000079

Usher, K., Mills, J., West, C., Park, T., & Woods, C. (2015). Preregistration student nurses' self-reported preparedness for practice before and after the introduction of a capstone subject. *Journal of Clinical Nursing, 24*(21-22), 3245-3254. https://doi.org/10.1111/jocn.12996

Vanderspank-Wright, B., Lalonde, M., Squires, J., Graham, I. D., Efstathiou, N., Burry, R. D., Marcogliese, E., Skidmore, B., & Vandyk, A. (2020). Identifying, describing, and assessing interventions that support new graduate nurse transition into critical care nursing practice: A systematic review protocol. *Systematic Reviews, 9*(1), 1-7. https://doi.org/10.1186/s13643-020-01483-7

Wanous, J. P., & Reichers, A. E. (1996). Estimating the reliability of a single-item measure. *Psychological Reports, 78*(2), 631-634. https://doi.org/10.2466/pr0.1996.78.2.631

Waskett, C. (2009). An integrated approach to introducing and maintaining supervision: The 4S model. *Nursing Times, 105*(17), 24-26.

Weng, R.-H., Huang, C.-Y., Tsai, W.-C., Chang, L.-Y., Lin, S.-E., & Lee, M.-Y. (2010). Exploring the impact of mentoring functions on job satisfaction and organizational commitment of new staff nurses. *BMC Health Services Research, 10*, 240. https://doi.org/10.1186/1472-6963-10-240

West, N., Berman, A., Karshmer, J., Priori, S., Van, P., & Wallace, J. (2014). Preparing New Nurse Graduates for Practice in Multiple Settings: A Community-Based Academic-Practice Partnership Model. *Journal of Continuing Education in Nursing, 45*(6), 252-256. https://doi.org/10.3928/00220124-20140417-03

White, E., & Winstanley, J. (2010). A randomised controlled trial of clinical supervision: Selected findings from a novel Australian attempt to establish the evidence base for causal relationships with quality of care and patient outcomes, as an informed contribution to mental health nursing practice development. *Journal of Research in Nursing, 15*(2), 151-167. https://doi.org/10.1177/1744987109357816

White, E., & Winstanley, J. (2014). Clinical supervision and the helping professions: An interpretation of history. *The Clinical Supervisor, 33*(1), 3-25. https://doi.org/10.1080/07325223.2014.905226

Whittemore, R., & Knafl, K. (2005). The integrative review: Updated methodology. *Journal of Advanced Nursing, 52*(5), 546-553. https://doi.org/10.1111/j.1365-2648.2005.03621.x

Wildermuth, M. M., Weltin, A., & Simmons, A. (2020). Transition experiences of nurses as students and new graduate nurses in a collaborative nurse residency program. *Journal of Professional Nursing, 36*(1), 69-75. https://doi.org/10.1016/j.profnurs.2019.06.006

Winstanley, J., & Edward, W. (2003). Clinical supervision: Models, measures and best practice. N*urse Researcher, 10*(4), 7-38.

Winstanley, J., & White, E. (2011). The MCSS-26: Revision of the Manchester clinical supervision scale using the Rasch measurement model. *Journal of Nursing Measurement, 19*(3), 160-178. https://doi.org/10.1891/1061-3749.19.3.160

Zhang, W. (2011). Mixed methods embedded design in medical education, mental health and health services research: A methodological analysis. The University of Nebraska-Lincoln.

Appendix A Search Strategy

Database: Ovid MEDLINE(R)

1 Education, Nursing, Graduate/
2 (((new* or recent*) adj3 (graduat* or qualif*)) and nurs*).tw.
3 ((junior adj2 nurse*) or (new adj2 nurse*)).tw.
4 *Education, Nursing, Baccalaureate/
5 or/1-4
6 ((transition* or practice) adj3 program*).mp.
7 (graduate* adj2 transition*).mp.
8 (nurs* adj3 rotation).mp.
9 transition* support.mp.
10 *"Preceptorship"/ or *Mentors/
11 (Nurs* residency program*.mp. or *Internship/) and Residency/mt [Methods]
12 or/6-11
13 5 and 12
14 limit 13 to english language

CINAHL

S1 (MH "New Graduate Nurses")
S2 (((new* or recent*) n3 (graduat* or qualif*)) and nurs*)
S3 ((junior n2 nurse*) or (new n2 nurse*))
S4 S1 OR S2 OR S3
S5 (MH "Transitional Programs")
S6 ((transition* or practice) n3 program*)
S7 (graduate* adj2 transition*)
S8 (nurs* n3 rotation) OR transition* support
S9 S5 OR S6 OR S7 OR S8
S10 S4 AND S9

Database: Embase <1996 to 2019 Week 19>

1 Education, Nursing, Graduate/
2 (((new* or recent*) adj3 (graduat* or qualif*)) and nurs*).tw.
3 ((junior adj2 nurse*) or (new adj2 nurse*)).tw.
4 (transition* adj3 program*).mp.
5 (graduate* adj2 transition*).mp.
6 transition* support.mp.
7 1 or 2 or 3
8 4 or 5 or 6
9 7 and 8

Database: Ovid Emcare

1 Education, Nursing, Graduate/
2 (((new* or recent*) adj3 (graduat* or qualif*)) and nurs*).tw.
3 ((junior adj2 nurse*) or (new adj2 nurse*)).tw.
4 (transition* adj3 program*).mp.
5 (graduate* adj2 transition*).mp.
6 transition* support.mp.
7 1 or 2 or 3
8 4 or 5 or 6
8 7 and 8

Database: PsycINFO

1 Education, Nursing, Graduate/
2 (((new* or recent*) adj3 (graduat* or qualif*)) and nurs*).tw.
3 ((junior adj2 nurse*) or (new adj2 nurse*)).tw.
4 (transition* adj3 program*).mp.
5 (graduate* adj2 transition*).mp.
6 transition* support.mp.
7 1 or 2 or 3
8 4 or 5 or 6
9 7 and 8

Appendix B Critical Appraisal

JBI critical appraisal for included studies (Quantitative)

		1.Were the criteria for inclusion in the sample clearly defined?	2.Were the study subjects and the setting described in detail?	3.Was the exposure measured in a valid and reliable way?	4.Were objective, standard criteria used for measurement of the condition?	5.Were confounding factors identified?	6.Were strategies to deal with confounding factors stated?	7.Were the outcomes measured in a valid and reliable way?	8.Was appropriate statistical analysis used?
1	Bratt and Felzer (2011)	Y	Y	Y	Y	Y	U	Y	Y
2	Dear et al. (1982)	Y	Y	Y	Y	Y	U	Y	Y
3	Rush, Adamack, Janke, et al. (2013)	Y	Y	Y	Y	Y	N	Y	Y
4	Spector et al. (2015)	Y	Y	Y	Y	Y	U	Y	Y
5	Tapping et al. (2013)	Y	Y	Y	Y	Y	U	Y	Y
6	Ulrich et al. (2010)	Y	Y	Y	Y	Y	Y	Y	Y
7	West et al. (2014)	Y	Y	Y	Y	N	N	Y	U
8	Dyess and Parker (2012)	Y	Y	Y	Y	U	U	Y	Y

Y = Yes N = No U = Unclear N/A = Not applicable

JBI critical appraisal for studies included in updated literature review (Quantitative)

Updated Table		1.Were the criteria for inclusion in the sample clearly defined?	2.Were the study subjects and the setting described in detail?	3.Was the exposure measured in a valid and reliable way?	4.Were objective, standard criteria used for measurement of the condition?	5.Were confounding factors identified?	6.Were strategies to deal with confounding factors stated?	7.Were the outcomes measured in a valid and reliable way?	8.Was appropriate statistical analysis used?
1	Al-Dossary et al. (2016)	Y	Y	Y	Y	Y	U	Y	Y
2	Hussein et al. (2018)	Y	Y	Y	Y	Y	U	Y	Y
3	Owings (2016)								
4	Smyth et al. (2018)	Y	Y	Y	Y	Y	N	Y	Y

Y = Yes N = No U = Unclear N/A = Not applicable

JBI critical appraisal for included studies (Qualitative)

		1.Is there congruity between the stated philosophical perspective and the research methodology?	2.Is there congruity between the research methodology and the research question or objectives?	3.Is there congruity between the research methodology and the methods used to collect data?	4.Is there congruity between the research methodology and the representation and analysis of data?	5.Is there congruity between the research methodology and the interpretation of results?	6.Is there a statement locating the researcher culturally or theoretically?	7.Is the influence of the researcher on the research, and vice-versa, addressed?	8.Are participants, and their voices, adequately represented?	9.Is the research ethical according to current criteria or, for recent studies, and is there evidence of ethical approval by an appropriate body?	10.Do the conclusions drawn in the research report flow from the analysis, or interpretation, of the data?
1	Adamack and Rush (2014)	Y	Y	Y	Y	Y	N	N	Y	Y	Y
2	Fanelli (1998)	Y	Y	U	Y	U	N	N	Y	Y	Y
3	Ostini and Bonner (2012)	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
4	Spiva et al (2013)	Y	Y	Y	Y	Y	U	U	Y	Y	Y

Y = Yes N = No U = Unclear N/A = Not applicable

JBI critical appraisal for studies included in updated literature review (Qualitative)

	Author	1.Is there congruity between the stated philosophical perspective and the research methodology?	2.Is there congruity between the research methodology and the research question or objectives?	3.Is there congruity between the research methodology and the methods used to collect data?	4.Is there congruity between the research methodology and the representation and analysis of data?	5.Is there congruity between the research methodology and the interpretation of results?	6.Is there a statement locating the researcher culturally or theoretically?	7.Is the influence of the researcher on the research, and vice-versa, addressed?	8.Are participants, and their voices, adequately represented?	9.Is the research ethical according to current criteria or, for recent studies, and is there evidence of ethical approval by an appropriate body?	10.Do the conclusions drawn in the research report flow from the analysis, or interpretation, of the data?
1	Gellerstedt et al. (2019)	Y	Y	Y	Y	Y	N	U	Y	Y	Y

Y = Yes N = No U = Unclear N/A = Not applicable

Critical appraisal for included studies (Mixed methods)

Qualitative

		Are there clear research questions?	Do the collected data allow to address the research questions?	Is the qualitative approach appropriate to answer the research question?	Are the qualitative data collection methods adequate to address the research question?	Are the findings adequately derived from the data?	Is the interpretation of results sufficiently substantiated by data?	Is there coherence between qualitative data sources, collection, analysis and interpretation?
1	Almada et al. (2004)	Y	Y	Y	Y	Y	Y	Y
2	Anderson et al. (2009)	Y	Y	Y	Y	Y	Y	Y
3	Bortolotto (2015)	Y	Y	Y	Y	Y	Y	Y
4	Chapman (2013)	N	Y	Y	Y	Y	Y	Y
5	Halfer (2007)	Y	Y	Y	Y	Y	Y	Y

6	Henderson et al. (2015)	Y	CT	Y	Y	Y	Y	Y
7	Herdrich & Lindsay (2006)	Y	Y	Y	Y	Y	Y	Y
8	Jones et al. (2014)	Y	Y	Y	Y	Y	Y	Y
9	Kowalski & Cross (2010)	Y	Y	Y	Y	Y	Y	Y
10	Leigh et al. (2005)	Y	Y	Y	Y	Y	Y	Y
11	Olson-Sitki et al. (2012)	Y	Y	Y	Y	Y	Y	Y
12	Pine and Tart (2007)	Y	Y	Y	Y	Y	Y	Y
13	Scott et al. (2008)	Y	Y	Y	Y	Y	Y	Y
14	Weng et al. (2010)	Y	Y	Y	Y	Y	Y	Y

Y = Yes N = No CT= Can't tell

Critical appraisal for included studies (Mixed methods)

Quantitative descriptive

		Are there clear research questions?	Do the collected data allow to address the research questions?	Is the sampling strategy relevant to address the research question?	Is the sample representative of the target population?	Are the measurements appropriate?	Is the risk of nonresponse bias low?	Is the statistical analysis appropriate to answer the research question?
1	Almada et al. (2004)	Y	Y	Y	Y	Y	Y	Y
2	Anderson et al. (2009)	Y	Y	Y	Y	Y	Y	Y
3	Bortolotto (2015)	Y	Y	Y	Y	Y	Y	Y
4	Chapman (2013)	N	Y	CT	Y	Y	Y	Y
5	Halfer (2007)	Y	Y	Y	Y	Y	Y	Y
6	Henderson et al. (2015)	Y	Y	Y	Y	Y	Y	Y
7	Herdrich and Lindsay (2006)	Y	Y	Y	Y	Y	Y	Y
8	Jones et al. (2014)	Y	Y	Y	Y	Y	Y	Y
9	Kowalski and Cross (2010)	Y	Y	Y	Y	Y	Y	Y

10	Leigh et al. (2005)	Y	Y	Y	Y	Y	Y	Y
11	Olson-Sitki et al. (2012)	Y	Y	Y	Y	Y	Y	Y
12	Pine and Tart (2007)	Y	Y	Y	Y	Y	Y	Y
13	Scott et al. (2008)	Y	Y	Y	Y	Y	Y	Y
14	Weng et al. (2010)	Y	Y	Y	Y	Y	Y	Y

Y = Yes N = No CT= Can't tell

Critical appraisal for included studies (Mixed methods)

Mixed methods

		Are there clear research questions?	Do the collected data allow to address the research questions?	Is there an adequate rationale for using a mixed methods design to address the research question?	. Are the different components of the study effectively integrated to answer the research question?	Are the outputs of the integration of qualitative and quantitative components adequately interpreted?	Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?	Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?
1	Almada et al. (2004)	Y	Y	N	N	CT	N	Y
2	Anderson et al. (2009)	Y	Y	Y	CT	CT	N	Y
3	Bortolotto (2015)	Y	Y	CT	CT	CT	N	Y
4	Chapman (2013)	N	Y	N	N	CT	N	CT
5	Halfer (2007)	Y	Y	Y	CT	Y	Y	Y
6	Henderson et al. (2015)	Y	Y	Y	Y	Y	CT	Y
7	Herdrich and Lindsay(2006)	Y	Y	N	CT	Y	CT	CT
8	Jones et al. (2014)	Y	Y	CT	CT	Y	CT	CT

9	Kowalski and Cross (2010)	Y	Y	N	Y	Y	CT	CT
10	Leigh et al. (2005)	Y	Y	N	CT	Y	N	CT
11	Olson-Sitki et al. (2012)	Y	Y	CT	Y	Y	N	CT
12	Pine and Tart (2007)	Y	Y	N	N	N	N	N
13	Scott et al. (2008)	Y	Y	N	N	N	N	N
14	Weng et al. (2010)	Y	Y	N	N	N	N	N

Y = Yes N = No CT= Can't tell

Critical appraisal for studies included in updated literature review (Mixed methods)

Qualitative

		Are there clear research questions?	Do the collected data allow to address the research questions?	Is the qualitative approach appropriate to answer the research question?	Are the qualitative data collection methods adequate to address the research question?	Are the findings adequately derived from the data?	Is the interpretation of results sufficiently substantiated by data?	Is there coherence between qualitative data sources, collection, analysis and interpretation?
1	Forde-Johnston (2017)	Y	Y	Y	Y	Y	Y	Y
2	Hussein et al. (2017)	Y	Y	Y	Y	Y	Y	Y

Y = Yes N = No CT= Can't tell

Critical appraisal for studies included in updated literature review (Mixed methods)

Quantitative descriptive

		Are there clear research questions?	Do the collected data allow to address the research questions?	Is the sampling strategy relevant to address the research question?	Is the sample representative of the target population?	Are the measurements appropriate?	Is the risk of nonresponse bias low?	Is the statistical analysis appropriate to answer the research question?
1	Forde-Johnston (2017)	Y	Y	Y	Y	Y	Y	Y
2	Hussein et al. (2017)	Y	Y	Y	Y	Y	Y	Y

Y = Yes N = No CT= Can't tell

Critical appraisal for studies included in updated literature review (Mixed methods)

Mixed methods

		Are there clear research questions?	Do the collected data allow to address the research questions?	Is there an adequate rationale for using a mixed methods design to address the research question?	. Are the different components of the study effectively integrated to answer the research question?	Are the outputs of the integration of qualitative and quantitative components adequately interpreted?	Are divergences and inconsistencies between quantitative and qualitative results adequately addressed?	Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?
1	Forde-Johnston (2017)	Y	Y	Y	CT	N	N	N
2	Hussein et al. (2017)	Y	Y	Y	Y	Y	Y	Y

Y = Yes N = No CT= Can't tell

Appendix C Participant Information Statement

Health
South Western Sydney
Local Health District

Project No 11/303 LNR

Clinical Supervision of New Graduates in the Acute Care Setting

Definition of Terms

Clinical Supervision (CS): An intervention that is provided by a senior member of a profession to a junior member or members of that same profession. This relationship is evaluative, extends over time and has the simultaneous purposes of enhancing the professional functioning of the junior member(s), monitoring the quality of professional services offered to the clients she, he or they see(s) and serves as a gatekeeper for those who are to enter the particular profession (NSW Health toolkit, 2001).

Clinical Supervision Session: A formal or informal 'clinical' learning encounter between a bedside nurse (New Graduate) and their immediate clinical supervisor.

Clinical Supervisor: Your immediate clinical nurse educator (CNE), Clinical Nurse Specialist (CNS), Team Leader (TL) or senior member of nursing staff who is accessible to you on a given shift in your work environment.

Brunero and Stein-Parbury (2008) state that "The nursing literature dominates with specialty groups such as mental health nurses and aged care nurses. More research is needed to evaluate the effectiveness of CS in other specialties of nursing. Further study needs to explore the differences between similar forms of supervision such as action learning sets and mentorships groups" (p.93).

Brunero, S., & Stein-Parbury, J. (2008). The effectiveness of clinical supervision in nursing: An evidenced based literature review. *Australian Journal of Advanced Nursing, 25*(3), 86-94.

Health
South Western Sydney
Local Health District

PARTICIPANT INFORMATION STATEMENT

Clinical Supervision (CS) of New Graduates in the Acute Care Setting?

Subject selection and purpose of study

Clinical Supervision (CS) focuses on the development of formal processes of professional support and learning, and aims to enable nurses optimise their knowledge and competence to ensure delivery of optimal and safe patient care. You are invited to participate in this study to determine the effectiveness of current CS practice and Brigid Proctors Model of Clinical Supervision offered to Transitional Support Programme (TSP) new graduate nurses at Liverpool Hospital in 2012. In this study we hope to review our current CS practice at Liverpool Hospital and learn about the effectiveness Proctors model of CS in the acute care setting. Your involvement as a nursing stakeholder / new graduate nurse means that you will help us identify the current gaps in our CS practice related to nurses professional development, clinical competence and skills. This will enable us to remodel or develop an innovative model of supervision able to better support our future new graduate nurses in the delivery of patient centered and more immediate quality clinical care.

Description of study and risks

As a New graduate Nurse you will be asked to complete the Manchester Clinical Supervision Scale (MCSS) questionnaire and the Practice Environment Scale Australia (PES-AUS) in week 12 and week 36 of your TSP. These surveys will be used to evaluate our success in implementing CS, enable us to measure the effectiveness of CS you received so far and give us an insight about your level of satisfaction. In Week 36 of TSP CS supervisors, clinical nurse educators and new graduate nurses will also be asked to complete an additional open-ended survey questionnaire. This survey will also provide us with valuable information on how our CS and Proctor's model of supervision enabled new graduate nurses and clinical nurse educators to meet relevant Australian Nursing & Midwifery Council (ANMC) competency standards. We hope this survey will uncover any other potential gaps in current CS practice.

The open-ended survey will be conducted by interview and will approximately take place between 20 and 30 minutes. There are approximately 10 questions and is an open interview that will be audio taped. There will not be any risk or discomfort expected during the interview, however it is upon your discretion if you chose not to answer any particular question.

I cannot and do not guarantee or promise that you will receive any benefits from this study.

Confidentiality and disclosure of information

Any information that is obtained in connection with this study and that can be identified with you will remain confidential and will be disclosed only with your permission or except as required by law. If you give us your permission by signing this document,

Health
South Western Sydney
Local Health District

I plan to discuss the results with the University of Western Sydney, project supervisor. Your name will not be identified in the study. The final report will be electronically stored in a password protected computer for a period of 7 years. The audiotapes will be stored in a secured locked cabinet for a period of 7 years and then will be erased.

This report may be published in publication journals; however there will be not be any identified information. The participants name will be coded and all the results will be aggregated.

Financial Costs

It is not anticipated that you will incur any additional costs if you participate in this study You will **not** receive any payment for participation in this study.

Your consent
Your decision whether or not to participate will not prejudice your relationship with South Western Sydney Local Health District or any other institution cooperating in this study. If you decide to participate, you are free to withdraw your consent and to discontinue your participation at any time without prejudice.

You are making a decision whether or not to participate. Your signature on the consent form indicates that, having read the information provided above, you have decided to participate.

Complaints may be directed to the Ethics Secretariat, South Western Sydney Local Health District, Locked Bag 7017, LIVERPOOL BC, NSW, 1871 **(Phone 8738 8304, fax 8738 8310,** email mailto:research.support@sswahs.nsw.gov.au
Project number: 11/303 LNR.

You will be given a copy of this form to keep.

Appendix D Consent Form

Health
South Western Sydney
Local Health District

Project No: **11/303 LNR**

CONSENT FORM

Clinical Supervision (CS) of New Graduates in the acute care setting

1. I, ... of .....
..... aged .....years,
agree to participate as a subject in the study described in the participant information statement *(attached to this form)*.

2. I acknowledge that I have read the participant information statement, which explains why I have been selected, the aims of the study and the nature and the possible risks of the investigation, and the statement has been explained to me to my satisfaction.

3. I agree that this interview will be audio taped and/or and transcribed and my name will not be identified in the study.

3. Before signing this Consent Form, I have been given the opportunity to ask any questions relating to any possible physical and mental harm I might suffer as a result of my participation. I have received satisfactory answers to any questions that I have asked.

4. My decision whether or not to participate will not prejudice my present or future treatment or my relationship with South Western Sydney Local Health District or any other institution cooperating in this study or any person treating me. If I decide to participate, I am free to withdraw my consent and to discontinue my participation at any time without prejudice.

5. I agree that research data gathered from the results of the study may be published, provided that I cannot be identified.

6. I understand that if I have any questions relating to my participation in this research, I may contact the researcher Rafic Hussein 9828 3619 who will be happy to answer them.

7. I acknowledge receipt of a copy of this Consent Form and the participant information statement.

Complaints may be directed to the Ethics Secretariat, South Western Sydney Local Health District, Locked Bag 7017, LIVERPOOL BC, NSW, 1871 (phone 9612 0614, fax 9612 0611, email mailto:research.support@sswahs.nsw.gov.au. Project Number : 11/303 LNR

Signature of subject _____ Signature of witness _____

Please PRINT name _____ Please PRINT name _____

Date _____ Date _____

Signature(s) of investigator(s) _____

Please PRINT Name _____

Date: _____

Appendix E Participant Survey 1 (Baseline)

Please answer all questions. Most questions require you to tick a box to indicate your answer. Choose the box that best matches your answer.

1 Your current ward/unit _____

2 What is your gender?

1☐ Male 0☐ Female

3 Age (at 1st May 2012): ☐☐ years

4 Were you previously in paid employment prior to commencement of the new graduate program?

0☐ No 1☐ Yes

Specify type of employment: (e.g. Enrolled Nurse (EN), Assistant in Nursing (AIN), *Shop assistant, etc*) _____

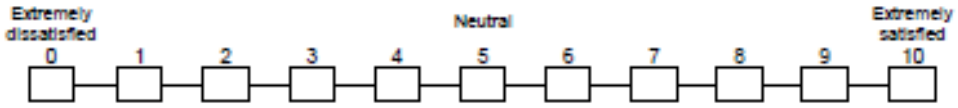
5 Other than your university undergraduate clinical placements; do you have previous nursing experience working in the acute care / hospital setting?

0☐ No 1☐ Yes

If Yes *(Please specify type)* _____ *and years* _____

6 General Orientation and Education Program:

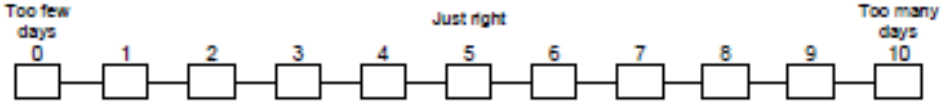
a. Overall, how satisfied were you with the Transitional Support Program (TSP) for new graduate nurses?



Reason for your rating:_____

_____

b. The number of education days provided in the Transitional Support Program for new graduate nurses are:

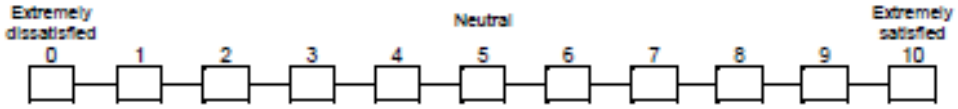


Reason for your rating:_____

_____

7 Ward- or Unit-specific Orientation:

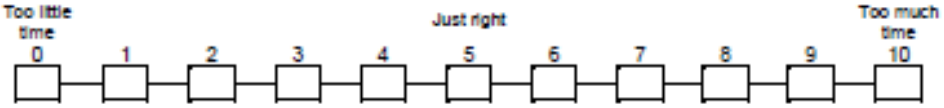
a. Overall, how satisfied were you with your ward/unit orientation program?



Reason for your rating:_____

_____

b. The amount of time spent on me during my ward/unit orientation was:



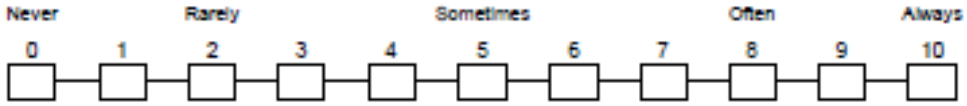
Reason for your rating:_____

_____

8 Ward- or Unit-specific clinical expectations

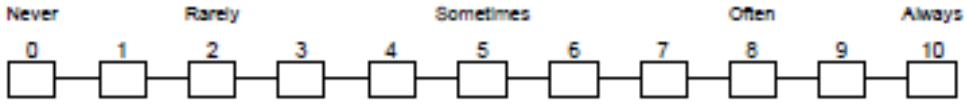
During your Transitional Support Program (TSP) so far as a New graduate nurse:

a. How often have you been placed as an in-charge of ward?



Please specify how many times_____

b. How often have you been placed in a clinical situation where you felt the expectations of the clinical workload were beyond your personal clinical capability?

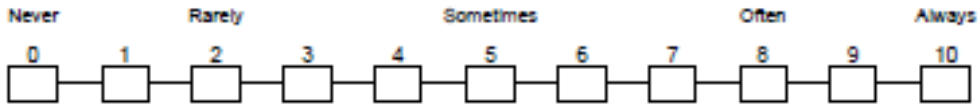


Can you please give an example? _____

_____

9 Ward- or Unit specific Clinical confidence:

a. During your Transitional Support Program (TSP) so far as a new graduate nurse, how often have you been placed in a clinical situation where you felt not confident about handling the scenario at hand?



Can you please give an example? _____

_____

_____

Please circle the ONE response that best reflects your level of agreement in relation to your current work environment		Strongly Disagree	Disagree	Agree	Strongly Agree
1	Adequate support services allow me to spend time with my patients	1	2	3	4
2	Doctors and nurses have good working relations	1	2	3	4
3	A nursing unit manager that is supportive of nurses	1	2	3	4
4	Active staff development or continuing education program for nurses	1	2	3	4
5	Career development / clinical ladder opportunity	1	2	3	4
6	Opportunity for nurses to participate in policy decisions	1	2	3	4
7	Senior nurses use mistakes as learning opportunities, not criticism	1	2	3	4
8	Enough time and opportunity to discuss patient care problems with other nurses	1	2	3	4
9	Enough registered nurses to provide quality patient care	1	2	3	4
10	A nursing unit manager who is a good manager and leader	1	2	3	4
11	A director of nursing who is highly visible and accessible to staff	1	2	3	4
12	Enough staff to get the work done	1	2	3	4
13	Praise and recognition for a job well done	1	2	3	4
14	High standards of nursing care are expected by the hospital management	1	2	3	4
15	A director of nursing equal in power and authority to other top-level hospital executives	1	2	3	4
16	Good teamwork between nurses and doctors	1	2	3	4
17	Opportunities for advancement	1	2	3	4
18	A clear philosophy of nursing that pervades the patient care environment	1	2	3	4
19	Working with nurses who are clinically competent	1	2	3	4
20	A nursing unit manager who backs up the nursing staff in decision-making even if the conflict is with a doctor	1	2	3	4
21	Hospital management that listens and responds to employee concerns	1	2	3	4
22	An active quality assurance programme	1	2	3	4
23	Nurses are involved in the internal governance of the hospital (e.g. practice and policy committees).	1	2	3	4
24	Collaboration (joint practice) between nurses and doctors	1	2	3	4
25	A preceptor program for newly hired nurses	1	2	3	4
26	Nursing care is based on a nursing model, rather than a medical model.	1	2	3	4
27	Nurses have the opportunity to serve on hospital and nursing committees	1	2	3	4
28	Nurse managers consult with staff on daily problems and procedures	1	2	3	4
29	Written up-to-date nursing care plans for all patients	1	2	3	4
30	Patient care assignments that foster continuity of care (i.e. the same nurse cares for the patient from one day to the next)	1	2	3	4

	Drawing on your experience of receiving Clinical Supervision, please indicate your level of agreement with the following 26 statements by ticking the box which best represents your answer.	Strongly Disagree	Disagree	No opinion	Agree	Strongly Agree
1	Other work pressures interfere with clinical supervision sessions	0	1	2	3	4
2	It is difficult to find the time for clinical supervision sessions	0	1	2	3	4
3	Clinical supervision sessions are not necessary / don't solve anything	0	1	2	3	4
4	Time spent on clinical supervision takes me away from my real work in the clinical area	0	1	2	3	4
5	Fitting clinical supervision sessions in can lead to more pressure at work	0	1	2	3	4
6	I find clinical supervision sessions time consuming	0	1	2	3	4
7	My supervisor gives me support and encouragement	0	1	2	3	4
8	Clinical supervision sessions are intrusive	0	1	2	3	4
9	Clinical supervision gives me time to 'reflect'	0	1	2	3	4
10	Work problems can be tackled constructively during clinical supervision sessions	0	1	2	3	4
11	Clinical supervision sessions facilitate reflective practice	0	1	2	3	4
12	My supervisor offers an 'unbiased' opinion	0	1	2	3	4
13	I can discuss sensitive issues encountered during my clinical work with my supervisor	0	1	2	3	4
14	My clinical supervision sessions are an important part of my work routine	0	1	2	3	4
15	I learn from my supervisor's experiences	0	1	2	3	4
16	It is important to make time for clinical supervision	0	1	2	3	4
17	My supervisor provides me with valuable advice	0	1	2	3	4
18	My supervisor is very open with me	0	1	2	3	4
19	Sessions with my supervisor widen my clinical knowledge base	0	1	2	3	4
20	Clinical supervision is unnecessary for experienced/established staff	0	1	2	3	4
21	My supervisor acts in a superior manner during our sessions	0	1	2	3	4
22	Clinical supervision makes me a better practitioner	0	1	2	3	4
23	Clinical supervision sessions motivate staff	0	1	2	3	4
24	I can widen my skill base during my clinical supervision sessions	0	1	2	3	4
25	My supervisor offers me guidance with patient care	0	1	2	3	4
26	I think receiving clinical supervision improves the quality of care I give	0	1	2	3	4

Thank you very much for your time

Appendix F Participant Survey 2 (Follow-up)

Clinical Supervision of New Graduates in the Acute Care Setting

Transitional Support Program (TSP) 2012-2013

Final Survey & Semi structured Interview

Name:……..

Date:……

TSP Group:……
(e.g. Feb, March, May, Aug)

Current ward:……

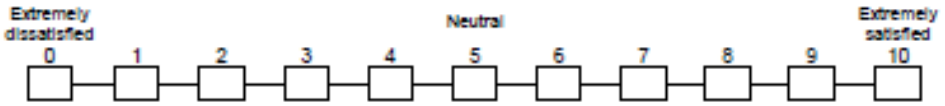
Research office use only:

Data Collectors Name:……..

Case Number……..

1 General Orientation and Education Program:

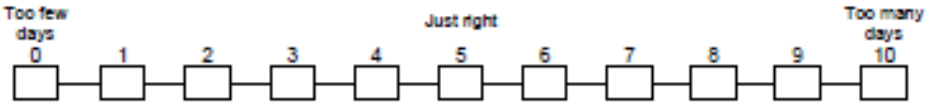
a. Overall, how satisfied are you with the Transitional Support Program (TSP) for new graduate nurses?



Reason for your rating:_____

_____

b. The number of education days provided in the Transitional Support Program for new graduate nurses are:

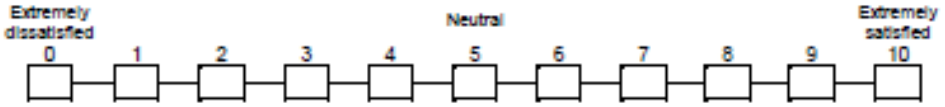


Reason for your rating:_____

_____

2 Ward- or Unit-specific Orientation:

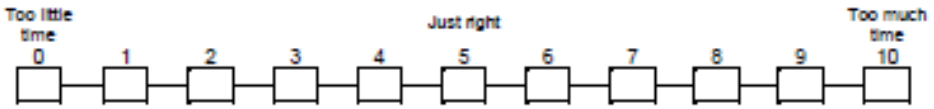
a. Overall, how satisfied were you with your ward/unit orientation program?



Reason for your rating:_____

_____

b. The amount of time spent on me during my ward/unit orientation was:



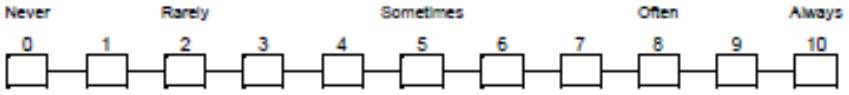
Reason for your rating:_____

_____

3 Ward- or Unit-specific clinical expectations

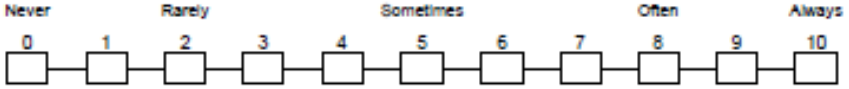
During your Transitional Support Program (TSP) so far as a New graduate nurse:

a. How often have you been placed as an in-charge of ward?



Please specify how many times_____

b. How often have you been placed in a clinical situation where you felt the expectations of the clinical workload were beyond your personal clinical capability?

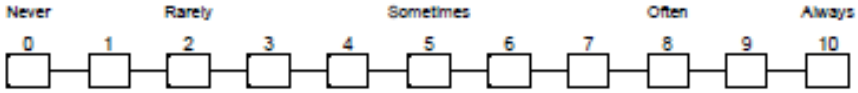


Can you please give an example? _____

_____

4 Ward- or Unit specific Clinical confidence:

a. During your Transitional Support Program (TSP) so far as a new graduate nurse, how often have you been placed in a clinical situation where you felt not confident about handling the scenario at hand?



Can you please give an example? _____

_____

_____

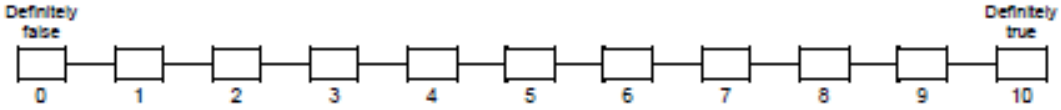
Please circle the ONE response that best reflects your level of agreement in relation to your current work environment		Strongly Disagree	Disagree	Agree	Strongly Agree
1	Adequate support services allow me to spend time with my patients	1	2	3	4
2	Doctors and nurses have good working relations	1	2	3	4
3	A nursing unit manager that is supportive of nurses	1	2	3	4
4	Active staff development or continuing education program for nurses	1	2	3	4
5	Career development / clinical ladder opportunity	1	2	3	4
6	Opportunity for nurses to participate in policy decisions	1	2	3	4
7	Senior nurses use mistakes as learning opportunities, not criticism	1	2	3	4
8	Enough time and opportunity to discuss patient care problems with other nurses	1	2	3	4
9	Enough registered nurses to provide quality patient care	1	2	3	4
10	A nursing unit manager who is a good manager and leader	1	2	3	4
11	A director of nursing who is highly visible and accessible to staff	1	2	3	4
12	Enough staff to get the work done	1	2	3	4
13	Praise and recognition for a job well done	1	2	3	4
14	High standards of nursing care are expected by the hospital management	1	2	3	4
15	A director of nursing equal in power and authority to other top-level hospital executives	1	2	3	4
16	Good teamwork between nurses and doctors	1	2	3	4
17	Opportunities for advancement	1	2	3	4
18	A clear philosophy of nursing that pervades the patient care environment	1	2	3	4
19	Working with nurses who are clinically competent	1	2	3	4
20	A nursing unit manager who backs up the nursing staff in decision-making even if the conflict is with a doctor	1	2	3	4
21	Hospital management that listens and responds to employee concerns	1	2	3	4
22	An active quality assurance programme	1	2	3	4
23	Nurses are involved in the internal governance of the hospital (e.g. practice and policy committees).	1	2	3	4
24	Collaboration (joint practice) between nurses and doctors	1	2	3	4
25	A preceptor program for newly hired nurses	1	2	3	4
26	Nursing care is based on a nursing model, rather than a medical model.	1	2	3	4
27	Nurses have the opportunity to serve on hospital and nursing committees	1	2	3	4
28	Nurse managers consult with staff on daily problems and procedures	1	2	3	4
29	Written up-to-date nursing care plans for all patients	1	2	3	4
30	Patient care assignments that foster continuity of care (i.e. the same nurse cares for the patient from one day to the next)	1	2	3	4

	Drawing on your experience of receiving Clinical Supervision, please indicate your level of agreement with the following 26 statements by ticking the box which best represents your answer.	Strongly Disagree	Disagree	No opinion	Agree	Strongly Agree
1	Other work pressures interfere with clinical supervision sessions	0	1	2	3	4
2	It is difficult to find the time for clinical supervision sessions	0	1	2	3	4
3	Clinical supervision sessions are not necessary / don't solve anything	0	1	2	3	4
4	Time spent on clinical supervision takes me away from my real work in the clinical area	0	1	2	3	4
5	Fitting clinical supervision sessions in can lead to more pressure at work	0	1	2	3	4
6	I find clinical supervision sessions time consuming	0	1	2	3	4
7	My supervisor gives me support and encouragement	0	1	2	3	4
8	Clinical supervision sessions are intrusive	0	1	2	3	4
9	Clinical supervision gives me time to 'reflect'	0	1	2	3	4
10	Work problems can be tackled constructively during clinical supervision sessions	0	1	2	3	4
11	Clinical supervision sessions facilitate reflective practice	0	1	2	3	4
12	My supervisor offers an 'unbiased' opinion	0	1	2	3	4
13	I can discuss sensitive issues encountered during my clinical work with my supervisor	0	1	2	3	4
14	My clinical supervision sessions are an important part of my work routine	0	1	2	3	4
15	I learn from my supervisor's experiences	0	1	2	3	4
16	It is important to make time for clinical supervision	0	1	2	3	4
17	My supervisor provides me with valuable advice	0	1	2	3	4
18	My supervisor is very open with me	0	1	2	3	4
19	Sessions with my supervisor widen my clinical knowledge base	0	1	2	3	4
20	Clinical supervision is unnecessary for experienced/established staff	0	1	2	3	4
21	My supervisor acts in a superior manner during our sessions	0	1	2	3	4
22	Clinical supervision makes me a better practitioner	0	1	2	3	4
23	Clinical supervision sessions motivate staff	0	1	2	3	4
24	I can widen my skill base during my clinical supervision sessions	0	1	2	3	4
25	My supervisor offers me guidance with patient care	0	1	2	3	4
26	I think receiving clinical supervision improves the quality of care I give	0	1	2	3	4

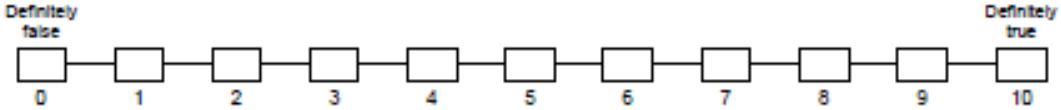
Intention to Stay in Selected Acute Care Specialty

Instructions: ***Please place a tick or cross in the numbered box that best reflects your opinion.***

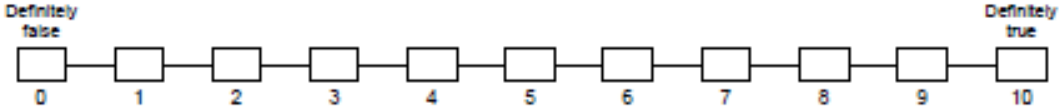
1. **Following my new graduate program, it is my intention to continue my nursing career in my selected acute care specialty in the foreseeable future.**



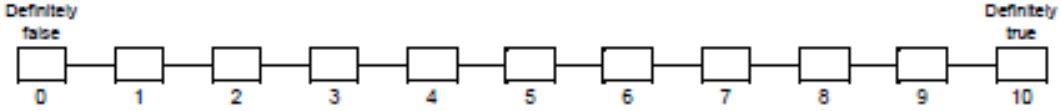
2. **Following my new graduate program, I would like to work as a nurse in my selected acute care specialty as long as possible.**



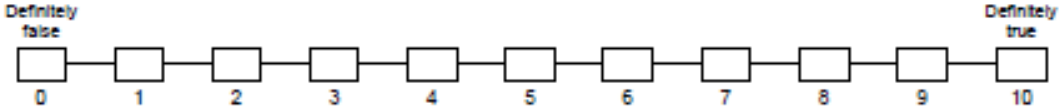
3. **Following my new graduate program, and as soon as it is convenient for me, I plan to move on from my selected acute care specialty.**



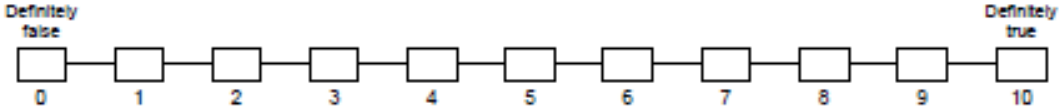
4. **Following my new graduate program, I expect I will keep working as a nurse in my selected acute care specialty.**



5. **Following my new graduate program, my plan is to remain working as a nurse in my selected acute care specialty as long as I can.**



6. **Following my new graduate program, I would like to find other employment by leaving nursing in my selected acute care specialty.**



Appendix G New graduate nurse semi-structured interview guide

Health
South Western Sydney
Local Health District

New Graduate Semi-structured interview guide:

1. Overall, how do you describe your ward orientation/s and TSP study days?
2. How do you compare both ward rotations? What was the same and what was different?
3. During both rotations what were your good CS experiences and not so good CS experiences? What differences did they make to your journey as a NGN on a TSP?
4. What factors contributed positively or negatively to CS you received?
5. How effective was the implementation of both formal and informal CS at a department level and what factors supported or impeded the process?
6. Did your department clinical supervision sessions (formal/informal) improve your clinical confidence / competence and ability to deliver quality care and patient safety? If so, how?
7. Did your clinical supervisors enable you to meet ANMC professional development and competence standards? If so, how?
8. What do you think of clinical supervision you have received over the past year? To what extent have CS sessions developed your clinical skills?
9. Do you think CS improved your clinical practice and enabled you to achieve positive outcomes? If so, how?
10. Do you think that CS sessions assisted you in becoming a more competent nurse? If so, how?
11. Do you think CS has improved your job satisfaction? If so, how?
12. Do you think CS has enabled you to be more confident in the clinical setting? e.g. to address your patients needs? Please give examples if you can.
13. During CS sessions (both on / off the ward) do you accurately recall key clinical practice issues that you have encountered? Do you have opportunity to address them all?
14. Do you experience recurring clinically challenging situations each month? Has CS assisted you to address them 'promptly'? If so, give some examples as to how you address them?
15. What do you think feedback you receive during ward CS assist you to develop your clinical capacity and skills as a NGN? If so, to what extent has CS helped you achieve this? Please provide some examples.
16. Do you think feedback you have received during CS helps you prioritise care and meet the clinical needs of your higher acuity patients in a 'timely' manner? Please provide some examples.
17. What suggestions can you make to improve clinical supervision you received?
18. What you think current CS practices at Liverpool Hospital should be redefined to better meet your clinical needs as a NGN? If so how can we better achieve this?

Appendix H SWSLHD, WSU HREC Approval Letters

Health
South Western Sydney
Local Health District
Ethics and Research Governance Office
Locked Bag 7017, LIVERPOOL BC, NSW, 1871
Phone: 02 9512 0614
Facsimile: 02 9512 0611
http://www.sswahs.nsw.gov.au/swslhd/ethics/default.html

13th March 2012

Mr Rafic Hussein
Liverpool Hospital
35 Tyalgum Avenue
Panania NSW 2213

Dear Mr Rafic Hussein,

*****THIS LETTER CONSTITUTES ETHICAL APPROVAL ONLY. YOU MUST NOT COMMENCE THIS RESEARCH PROJECT UNTIL SEPARATE SITE SPECIFIC AUTHORISATION HAS BEEN GRANTED*****

Project title: **How effective is Brigid Protocor's Model of Clinical Supervision in the Acute Care setting**
Project number: **11/303 LNR**
HREC Reference: **LNR/11/LPOOL/510**

Thank you for your response dated 7th February 2012 to our conditional letter dated 6th February 2012. This HREC is constituted and operates in accordance with the National Health and Medical Research Council's *National Statement on Ethical Conduct in Research Involving Humans* and the *CPMP/ICH Note for Guidance on Good Clinical Practice*.

I am pleased to advise that the Committee has granted ethical approval of the above project.

The following documentation has been reviewed and approved:

- Low and Negligible Risk Application Form, submission code, AU/6/854B09
- Participant Information Statement, Master Version 3.0, dated 7/2/2012
- Consent Form, Master Version 2.0, dated 29/12/2011
- Manchester Clinical Supervision Scale, Version 2.0, © Julie Winstanley 2000-2009
- Transitional Support Nurses Survey of Clinical Supervision 2012, Version 1.0, dated 4/11/11

Please ensure for all future documents submitted for review include a document version number, document date and page numbering.

Approval is valid for the following Site only:

- Liverpool Hospital

Health
South Western Sydney
Local Health District
http://www.sswahs.nsw.gov.au/swslhd/ethics/default.html
Ethics & Research Governance Office
Locked Bag 7017, LIVERPOOL BC, NSW, 1871
Phone: 02 9612 0614
Facsimile: 02 9612 0611

13th March 2012

Mr Rafic Hussein
Nursing Unit Manager
35 Tyalgum Avenue
Panania NSW 2213

Dear Mr Rafic Hussein,

Project title: **How effective is Brigid Protocor's Model of Clinical Supervision in the Acute Care setting**
Project number: **11/303 LNR**
HREC Reference: **LNR/11/LPOOL/510**

SITE SPECIFIC AUTHORISATION

Thank you for submitting an application for authorisation of this project.

I am pleased to inform you that the Chief Executive has granted authorisation for this study to take place at the following site(s):

- Liverpool Hospital

The participant documents approved for use at this site are:

- **Participant Information Statement**, Version 3.0, dated 7/2/2012
- **Consent Form**, Version 2.0, dated 29/12/2011

The following conditions apply to this research project. These are additional to those conditions imposed by the Human Research Ethics Committee that granted ethical approval:

1. Proposed amendments to the research protocol or conduct of the research which may affect the ethical acceptability of the project, and which are submitted to the lead HREC for review, are copied to this office.
2. Proposed amendments to the research protocol or conduct of the research which may affect the ongoing site acceptability of the project, are to be submitted to this office.
3. Please note that you are responsible for making the necessary arrangements (e.g. identity pass; signed confidentiality agreement and vaccine compliance as per NSW Health Policy Directive PD2011_005) for any researcher who is not employed by the South Western Sydney Local Health District and is conducting the research on-site.

Yours sincerely,

[redacted]

Merela Ghazal
Acting Manager - Ethics & Research Governance Office
South Western Sydney Local Health District (SWSLHD)

Health
South Western Sydney
Local Health District
http://www.sswahs.nsw.gov.au/swslhd/ethics/default.html
Ethics & Research Governance Office
Locked Bag 7017, LIVERPOOL BC, NSW, 1871
Phone: 02 8738 8304
Facsimile: 02 8738 8310

26th April 2012

Mr Rafic Hussein
Nursing Unit Manager
Intensive Care Unit
Liverpool Hospital
35 Tyalgum Avenue
Panania NSW 2213

Dear Mr Rafic Hussein,

Project title: **How effective is Brigid Protocor's Model of Clinical Supervision in the Acute Care setting**
Project number: **11/303 LNR**
HREC Reference: **LNR/11/LPOOL/510**

Thank you for your Summary Sheet for an Amendment to an Approved Protocol dated 1st April 2012 (received 4th April 2012), requesting approval from the South Western Sydney Local Health District Human Research Ethics Committee. I am pleased to inform you that the following documents are approved for the above-mentioned study:

1. Patient Information Statement, Version 4.0, dated 1st April 2012
2. Practice Environment Scale (PE-AUS), Sandy Middleton, Rhonda Griffiths, Ritin Fernandez and Brownwyn Smith, dated 2008

Any serious adverse events or patient complaints must be reported to the Committee immediately and the protocol may not be changed without prior permission of the Committee.

Yours faithfully

[redacted]

[redacted]
Professor Jeremy Wilson
Chairperson
SWSLHD Human Research Ethics Committee

Appendix I Statement of Authors Contributions (Paper 1)

Title: Predictors of new graduate nurses' satisfaction with their transitional support programme.

Authors: Rafic Hussein, Bronwyn Everett, Wendy Hu, Andrew Smith, Anna Thornton, Sungwon Chang, Yenna Salamonson

Journal: Journal of Nursing Management

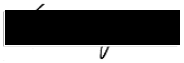
Contribution: RH, YS, BE, and WH contributed to the conception and design of the study; RH collected the data; RH, YS, and SC analysed the data. RH, BE, YS, WH, SC, AS and AT prepared the manuscript. All authors have read and approved the final manuscript.

Signatures

Rafic Hussein

Bronwyn Everett

Wendy Hu

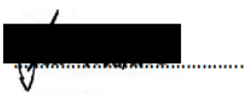


Andrew Smith

Anna Thornton

Sungwon Chang

Yenna Salamonson



Appendix J Statement of Authors Contributions (Paper 2)

Title: New graduate nurses' experiences in a clinical specialty: A follow up study of newcomer perceptions of transitional support.

Authors: Rafic Hussein, Bronwyn Everett, Lucie Ramjan, Wendy Hu, Yenna Salamonson

Journal: BMC Nursing

Year of Publication: 2017

Contribution: RH was the principal investigator in this study and contributed to the conception and design. Study design: RH, YS. Data collection: RH. Data analysis: RH, YS, LR. Manuscript writing: RH, BE, LR, WH, YS. Authors read and approved the final manuscript.

Signatures

Rafic Hussein

Bronwyn Everett

Lucie Ramjan

Wendy Hu

Yenna Salamonson

Appendix K Statement of Authors Contributions (Paper 3)

Title: Good clinical support transforms the experience of new graduates and promotes quality care: A qualitative study.

Authors: Rafic Hussein, Yenna Salamonson, Bronwyn Everett, Wendy Hu, Lucie Ramjan

Journal: Journal of Nursing Management

Year of Publication: 2019

Contribution: RH, WH and YS were responsible for the study conception and design, RH organised the data collection, RH, LR and YS performed the data analysis. RH, LR, BE and YS were responsible for drafting the manuscript. RH, LR, BE, WH and YS made critical revisions to the paper for important intellectual content.

Signatures

Rafic Hussein

Yenna Salamonson

Bronwyn Everett

Wendy Hu

Lucie Ramjan

Appendix L Statement of Authors Contributions (Paper 4)

Title: Clinical supervision and ward orientation predict new graduate nurses' intention to work in critical care: Findings from a prospective observational study.

Authors: Rafic Hussein, Yenna Salamonson, Wendy Hu, Bronwyn Everett

Journal: Australian Critical Care

Year of Publication: 2018

Contribution: RH, YS, BE, and WH contributed to the conception and design of the study; RH collected the data; RH and YS analysed the data; and RH, BE, YS, and WH prepared the manuscript. All authors have read and approved the final manuscript.

Signatures

Rafic Hussein

Yenna Salamonson

Wendy Hu

Bronwyn Everett