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Administrative Interventions to Increase New Graduate Nurse Retention

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Administrative Interventions to Increase New Graduate Nurse Retention

A Paper Submitted in Partial Fulfillment of the Requirements for

NURS 5382

In the School of Nursing

The University of Texas at Tyler

by

Adam Ruff

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Acknowledgments

First, I would like to thank God for helping me through school and allowing me the opportunity to pursue a graduate education. I would also like to thank my wife for taking care of our children when I wasn't able to help out as much as I would have liked and for being supportive of my endeavors. Finally, thank you to all the professors at UT Tyler that have helped get me to this point and providing me invaluable lessons on what it means to be an MSN-prepared nurse.

Executive Summary

New nurse retention and turnover is arguably the most significant factor affecting healthcare administrators on a regular basis. This issue becomes even more pertinent as it is estimated that up to 40% of the nursing workforce is predicted to retire within the next fifteen years, leaving new nurses as the best option to sustainably replace these workers (Auerbach et al., 2014). Many hospital systems do not have a standardized, structured orientation program for new nurse graduates that emphasizes employee engagement or retention interventions from management. However, research suggests that not only are these types of nursing management interventions during this critical period demonstrably cost-effective, but also they significantly increase both employee satisfaction and competence while simultaneously reducing nurse turnover and improving patient outcomes, leading to further cost savings (Silvestre et al., 2017).

Cost is typically the primary factor in most health systems' decision to implement new transition-to-practice orientation programs for new nurse graduates. It is estimated that healthcare organizations can incur an average of \$88,000 in turnover costs when a new nurse graduate leaves the organization within the first few years. Evidence suggests that implementing a standardized, structured orientation program that is evidence-based and customizable for both nurses and unit specialties results in maximum cost benefits (Van Camp & Chappy, 2017). As recent research has identified effective interventions that have been shown to simultaneously increase retention, job satisfaction, cost-savings, and patient outcomes, this change project identifies the integral role nurse administrators have in implementing research-based interventions and the significance thereof. With the establishment of standardized yet adaptable curriculum interventions during an evidence-based orientation program, nurse turnover can be greatly reduced resulting in a lasting, positive change for generations of nurses to come.

Administrative Interventions to Increase New Graduate Nurse Retention

Given the growing significance of new nurse retention and turnover, this change project seeks to explore the most effective, evidence-based nurse administrator interventions available to help promote new nurse retention and prevent turnover. Also, interventions that help to promote confidence, competence, and job satisfaction are emphasized throughout the implementation of the standardized orientation curriculum introduced through this project as an estimated 60% of first-year nurses will leave their first place of employment due to intolerable levels of stress and resultant low job satisfaction and confidence (Cheng et al., 2015). One possible question to prompt this needed change in healthcare settings can be explored: In acute care units (P), how do employee engagement interventions from nursing administration (I) compared to no employee engagement interventions (C) affect new nurse turnover (O) within 3 months of hire (T)?

Rationale for the Project

Although becoming a registered nurse is a very honorable and impactful career path, it is also fraught with challenges. Nursing is a profession with a substantial amount of inherent stress. Nurses often face life or death situations on a daily basis and the care they provide can be the difference between those two outcomes. Therefore, the importance of providing evidence-based, effective support for the nursing demographic most likely to experience relatively high levels of stress, new nurse hires, cannot be understated. An impact is felt not only amongst staff, but also at the patient care level, as high levels of stress adversely affect patient care outcomes which results in an increase in adverse events and health-associated infections (Galletta et al., 2016). If a system-wide change in the way nurse administrators hire and train new nurses is not adopted, these trends will not only continue, but worsen, as less new nurses will stay within the workforce.

As cost is the most significant factor in most health systems' decision to implement a structured orientation program, it is important to consider the change project's cost and potential savings. Not only were new nurses enrolled in formalized orientation programs that implemented evidence-based nursing administration interventions more competent, but there was also a significant financial benefit to the facility due to increased retention rates, increased nurse competence, and lower incidences of adverse patient outcomes (Silvestre et al., 2017). The interventions proposed by this change project have a multilevel effect on the facilities that deploy them. A positive correlation between formalized administrative interventions and other perceived organizational support methods for new nurses leads to decreased nurse turnover and improved job satisfaction (Islam et al., 2018).

Literature Synthesis.

It is estimated that a healthcare organization incurs an average of \$88,000 in turnover costs when a new nurse graduate leaves the organization. Evidence suggests that there is a benefit to making a residency program customizable for both the new nurse and the setting in which they will be practicing in for maximum cost benefit (Van Camp & Chappy, 2017). For example, if a new nurse is hired onto an oncology unit, the orientation curriculum, regardless of format, should be tailored to that particular nurse's background and level of familiarity with oncological procedures to ensure a seamless transition to the unit. This idea of adapting curriculums for specialties and nurse backgrounds is reflected throughout the literature.

This idea is not limited solely to residency orientation programs. The outcomes of mentor or preceptor programs demonstrated the benefits of a more intimate orientation program on not just the new nurse, but also the mentor, organization, and patient. A positive correlation was noted in more emotionally supportive mentor-driven orientation interventions and the reduction

of nurse turnover (Zhang et al., 2016). In fact, preceptors or mentors carry the most significant influence on how well a new nurse transitions to their new environment (Pasila et al., 2017). The overall relationship a preceptor or mentor has with the new nurse throughout their orientation program is the largest factor when predicting the competence, job satisfaction, and likelihood of staying within that healthcare system (Ke et al., 2017). This highlights the importance of a structured and emotionally-supportive orientation program for new nurse graduates to help ease the transition into a high-stress environment.

A standardized, evidence-based transition to practice (TTP) program has been shown to improve several facets of nursing at both a micro and macro level as it improved nursing competence which led to higher job satisfaction rates. This then leads to lower nurse turnover ultimately resulting in higher quality patient care and cost savings for the healthcare facilities that implemented the program (Spector et al., 2015). Two other key components of a standardized orientation program should consider the merits of both physical education (Kox et al., 2020) and mental health education (Bakker et al., 2020) in the workplace for new nurse graduates as this has been demonstrated to have a positive correlation with both job satisfaction and fewer absences from work. This shows the far-reaching impact that a standardized approach to orientation from nursing administration for new nurse hires can have.

The merits of a particular approach to the onboarding and training process are less important than the manner in which the interventions are implemented. Almost all administrative interventions demonstrated a positive correlation with a reduction in new nurse turnover (Brook et al., 2019). Regardless of the type of administrative orientation strategy, whether it be a mentorship, residency, or even manager check-ins, what made the largest impact regarding new nurse training benefits was that the particular intervention was rendered by a nurse manager,

either directly or indirectly, and that it was supportive and structured (Edwards et al., 2015). In general, this type of leadership is primarily seen within encouraging, relational nurse administrative styles (Cummings et al., 2018). This establishes the idea that the driving factors behind the benefits realized by new nurse graduates and subsequently, their employers, had more to do with the sense of support they felt rather than a specific type of method used.

This idea then lends itself to how best to make up the curriculum of a standardized yet adaptable, structured, and emotionally-supportive orientation program. Programs that documented the most significant benefits to new graduate nurses in competency, satisfaction, and turnover rate all shared a detailed format outlining an optimal orientation duration of approximately one year. The optimal orientation experience should include participation-focused interventions (Paguio et al., 2020) such as lab simulations, bedside learning, and learning materials specific to unit exhibiting the similar detailed-driven characteristics that comprise the most favorable orientation curriculums (Pertiwi & Hariyati, 2019).

Project Stakeholders

The anticipated stakeholders impacted by this change will include: new graduate nurses, nursing administration, nursing education, human resources department, financial department, and patients. New graduate nurses will provide data regarding their experiences, nursing administration can provide insight on approvals and changes, nursing education can help disseminate information, human resources can provide turnover data, the financial and accounting department can contribute data to determine cost-effectiveness and saving, and patients can provide information used in Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores or general surveys pre- and post-change. Also, an interpersonal team including physicians could provide an added perspective on their general thoughts working

with new graduate nurses pre-change and post-change. Permission to enact these changes will likely come from hospital administrators in collaboration with nurse managers on the unit and nursing education.

Implementation Plan

This project fits the outcomes management model, adapted to address the issue of new graduate nurse turnover, as it outlines four phases which comprehensively identifies, appraises, implements and analyzes (Alexandrov et al., 2019). This change project should be easily adapted to any healthcare setting, however, since many hospitals typically have a larger general medical-surgical unit in comparison to specialty units, this type of acute care unit is an ideal setting to enact initial changes. Steps of this plan are as follows:

- 1) Identify – An acute care unit should be identified to implement initial study, results of which can later be adapted to specialties of other units e.g. ICU, PACU, Neuro, etc. General medical-surgical, or the unit within hospital which employs most new nurses, should be prioritized for largest sample size.
 - a. Gather research and evidence to support change project – Accumulate data to support why standardized orientation programs and nurse administration interventions therein should be adapted at your facility.
 - b. Establish plan for enactment – Establish or gather the following: orientation length, preceptors (if applicable), methods to assess and analyze effectiveness of interventions and program, baseline data of unit turnover rates, and currently utilized new nurse orientation programs
- 2) Appraise

- a. Develop curriculums – Decide which orientation program (preceptorship, residency, etc.) best suits the needs of the unit. Along with nurse educator, tailor both online and in-person education materials and educational strategies to that of the unit.
 - b. Negotiate implementation of interventions – evaluate roles and responsibilities of nurse manager, nurse educator, preceptor (if needed), and orientee.
- 3) Implement – Launch initial pilot study with small group of new nurses. Collect objective/subjective data for analysis.
 - 4) Analyze – Determine effectiveness of interventions from nursing administration, preceptor, and educator based on feedback from orientees, preceptor assessments, competency measurements, and orientation length needed versus expected orientation length. Make revisions to curriculum based on findings and repeat cycle to further assess interventions.

Timetable/Flowchart

The timeline for this project is implemented in small phases as more manageable steps increases the likelihood of success of a proposed change (Rodgers, Brown, & Hockenberry, 2019). The flowchart can be found in Appendix B and the timetable of phases is listed below:

- Phase One (6-8 weeks): Identify issue, gather evidence, establish plan
- Phase Two (2-4 weeks): Develop curriculums, negotiate implementation of interventions
- Phase Three (12 weeks): Implement small pilot group enrolled in practice change and collect data
- Phase Four (4-6 weeks): Analysis of data and make revisions based on findings

Data Collection Methods

Data from the unit the proposal is implemented on that will be needed to prove the merits of this change project should include: turnover rates from unit in intervals of 3, 6, 9, and 12 months to help establish a baseline and determine effective outcomes as well as any information regarding the current interventions enacted by current administration for new nurse graduates. Also, if possible, turnover rates from other units within the hospital should help to establish the entirety of the scenario at that facility. Data to measure the efficacy of this change project proposal will primarily consist of survey results from new graduate nurses and preceptors, if applicable, to determine job satisfaction and competence as well as turnover rates which can later be compared to the baseline. The survey should ideally be conducted and collected by either the nurse manager or nurse educator at bi-weekly intervals throughout orientation with the new hire preceptor/mentor or educator, depending on orientation type. This survey will be measured utilizing a 5-point Likert scale with a score of 1 indicating “Poor” ability up to 5 indicating “Excellent” ability in five categories: satisfaction, effort, patient care, knowledge, and comfort level. Comments from preceptors will be required for any rating below 3 with specific comments regarding areas needed for improvement. This survey is included as Appendix C. Data to measure the efficacy of this change project’s impact on the organization will include a cost analysis with projections at 1, 2, and 5 years as well as chart audits of patient adverse events or errors during 12-week orientation to determine effect on patient outcomes. If this change project is unable to be adapted, organizations should reflect on their current administrative interventions targeted at new graduate nurses and compare to evidence presented here to determine best practice.

Cost/Benefit Discussion

Healthcare organizations can incur an estimated average of \$88,000 in turnover costs when a new nurse graduate leaves the organization within the first two years (Van Camp & Chappy, 2017). However, in nurses enrolled in formalized training programs, not only were these nurses shown to be more competent with higher job satisfaction, but there was also a multilevel financial benefit to the facility due to increased retention rates and lower numbers of adverse patient outcomes. By addressing new nurse turnover, nurses are better able to empathize and educate which allows for increased patient engagement ultimately leading to higher quality patient-centered care (Fineout-Overholt et al., 2019). This approach to patient-centered care addresses the root cause of the issue, making it a proactive approach to addressing several areas of healthcare concerns, instead of solely focusing on a single issue and implementing a change that could be considered more of a reactionary patchwork solution. Limiting costs and increasing availability of resources appeals to administrative stakeholders while patients directly benefit from the improvement noted in care metrics when nurses are seen to have high levels of job satisfaction.

Turnover rates amongst new nurse hires in a control study were 11.3% higher than those enrolled in a formalized orientation program. As a result, a positive return on investment of \$1,458 per nurse was noted in established orientation programs as well as a net development and maintenance cost savings of \$15,253 per nurse (Silvestre et al., 2017). Therefore, larger organizations would stand to benefit most from instituting a new, standardized orientation program, however, smaller organizations can reduce costs by partnering with schools of nursing to facilitate transitioning to new nurse roles. To further address the financial concerns, there is evidence that suggests a positive return on investment is realized at 1-2 years post-hire since the

resources needed for this change project would consist primarily of internal data and research evidence. Generally, aside from minor financial costs relating to initial development of training and education materials, anticipated additional expenses would be time-related as data tracking and outcome documentation would require additional effort.

Discussion of Results

The research demonstrably shows that a standardized approach to a formal orientation curriculum and interventions implemented specifically by nurse administrators lead to optimal improvements in new nurse confidence, competence, job satisfaction, and critical thinking which ultimately correlate with an improved unit culture and lower nurse turnover rates (Edwards et al., 2015). This idea is corroborated by several systematic reviews found for this proposal, providing a strong foundation for the level of evidence supporting this change project. Although this project will not be able to be implemented due to COVID restrictions currently in place at local clinical facilities, the strength of the research should provide a convincing enough benchmark to merit a pilot study on a unit at a facility in the future.

Conclusions/Recommendations

Although a current lack of administrative interventions focused on new nurse graduates is leading to an alarming rate of turnover, recent research has identified effective nurse administrator interventions that have been shown to simultaneously improve retention, job satisfaction, nurse competence, cost-savings, and patient outcomes. This change project identifies the integral role nurse administrators have in implementing research-based interventions and the significance thereof leading to an easily sustainable model of improvement across a spectrum of healthcare metrics. Once adapted at a healthcare facility, this change project can be continuously cycled for performance improvement studies adapted to most healthcare

settings. Recommendations for facility depend on setting, but can be easily adapted to a range of healthcare settings. Recommendations for leadership include being transparent with staff about changes and offer incentives to encourage preceptor development where applicable. With the establishment of standardized yet adaptable orientation interventions, nurse turnover can be greatly reduced resulting in a lasting, positive change for generations of nurses to come.

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Appendix A

Synthesis Table

PICOT Question: In acute care units (P), how do employee engagement interventions from nursing administration (I) compared to no employee engagement interventions (C) affect new nurse turnover (O) within 3 months of hire (T)?

PICOT Question Type (Circle): **Intervention** Etiology Diagnosis or Diagnostic Test Prognosis/Prediction Meaning

Caveats

- 1) The **only studies** you should put in these tables are the ones that **you know answer your question** after you have done rapid critical appraisal (i.e., the keeper studies)
- 2) Include APA reference
- 3) Use abbreviations & create **a legend** for readers & yourself
- 4) Keep your descriptions brief – there should be **NO complete sentences**
- 5) This evaluation is for the purpose of knowing your studies to synthesize.

Place your APA References here (Use correct APA reference format including the hanging indentation):

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Citation: (i.e., author(s), date of publication, & title)	Conceptual Framework	Design/ Method	Sample/ Setting	Major Variables Studied and Their Definitions	Measurement of Major Variables	Data Analysis	Study Findings	Strength of the Evidence (i.e., level of evidence + quality [study strengths and weaknesses])
Author, Year, Title	Theoretical basis for study Qualitative Tradition		Number, Characteristics of the sample (not Inclusion/exclusion criteria), Attrition rate & why?	Independent variables (e.g., IV1 = IV2 =) Dependent variables (e.g., DV =)	What scales were used to measure the outcome variables (e.g., name of scale, author, reliability info [e.g., Cronbach alphas])	What methods were used to answer the clinical question (i.e., all stats do not need to be put into the table)	Statistical findings (i.e., for every statistical test you have in the data analysis column, you should have a finding) or qualitative findings (themes and subthemes)	<ul style="list-style-type: none"> Strengths and limitations of the study (Consider the validity of the study and/or flaws in the method not just what is stated as limitations) Risk of harm if study intervention or findings implemented Feasibility of use in your practice Remember: level of evidence (See Melnyk & Finout-Overholt handout) + quality of evidence = strength of evidence & confidence to act Use the USPSTF grading schema http://www.ahrq.gov/clinic/3rduspstf/ratings.htm
ARTICLE #1 Bakker et al., (2020), Improving mental health of student and novice nurses to	None	Systematic Review	21 studies (6 controlled trials, 2 RCTs, 7 Uncontrolled longitudinal, 4 Uncontrolled post-test, 1 Controlled post-test, and 1 Cross-sectional) were used of	IV1 = mental health Interventions (stress management, new/student nurse transition programs) DV1 = Turnover	None	Narrative Analysis	<p>IV was positively correlated with all DVs.</p> <p>Five studies in particular demonstrated a statistically significant correlation for mental health interventions with decreasing turnover rates.</p> <p>Frequency and duration of supportive interventions by either preceptor or</p>	<p><u>For each of the following, bullet or number items:</u></p> <p>1. Strengths: specificity of mental health intervention studies, multiple intervention types</p> <p>2. Limitations: non-standardized methodology, quality of study reports</p>

prevent dropout: A systematic review			15,566 total studies. Each study used published between 1984-2019.	DV2 = intention to leave DV3 = sickness/absences			manager were most significant contributing factors to overall mental health or new nurses and job satisfaction including regular support sessions, standardized clinical orientation, and stress management skills.	<p>3. Risk of harm: none</p> <p>4. Feasibility: easily adapted</p> <p>5. Level of evidence for the PICOT question type: Level I</p> <p>6. Quality of the evidence: 1B</p> <p>USPSTF: Grade: B Level of Certainty: Moderate</p>
<p>ARTICLE #2</p> <p>Brook et al., (2019), Characteristics of successful interventions to reduce turnover and increase retention of early career nurses: A systematic review</p>	None	Systematic Review	53 studies (52 quasi-experiment, 1 RCT) of 11,656 identified studies used. Peer-reviewed studies published between 2001-2017. 48 studies from US. Hospitals ranged from 12-1800 beds, nurses sampled ranged 3-6000, median of 90.	<p>IV = supportive interventions (preceptor, mentor, training, assessment, incentives)</p> <p>DV1 = Turnover (% improvement/difference)</p> <p>DV2 = Retention (% improvement/difference)</p>	None	Narrative Analysis	<p>IV was positively correlated with all DVs.</p> <p>Most promising interventions appear to be either internship/residency programs or orientation/TTP programs with teaching, mentor, and preceptor components.</p> <p>Ideal length= 27-52 weeks</p> <p>Generally, support is associated with higher nurse retention rates and lower nurse turnover rates</p>	<p>1.Strengths: Rigor of study, multiple characteristics, large study group</p> <p>2. Limitations: non-standardized methodology, quality of study reports</p> <p>3. Risk of harm: none</p> <p>4. Feasibility: easily adapted</p> <p>5. Level of evidence for the PICOT question type: Level I</p> <p>6. Quality of the evidence: 1B</p> <p>USPSTF: Grade: B Level of Certainty: Moderate</p>
<p>ARTICLE #3</p> <p>Cummings et al., (2018), Leadership styles and</p>	None	Systematic Review	129 studies (all using correlational, non-experimental, or cross-sectional design) published	IV1 = Leadership styles (transformational, authentic, resonant, supportive, motivational/empowering,	None	Narrative Analysis	<p>IV was positively correlated with all DVs.</p> <p>Generally, this study indicated that relational leadership styles versus task-focused leadership styles are linked to better nursing workforce</p>	<p>1.Strengths: Large body of research for study, clear outcomes, established leadership theories</p> <p>2. Limitations: variability in measurement of leadership styles, quality of study reports</p> <p>3. Risk of harm: none</p> <p>4. Feasibility: easily adapted</p>

outcome patterns for the nursing workforce and work environment: A systematic review			between 1985-2017 with 74 in North America, 24 in Europe, 11 in Asia, 8 in Middle East, 4 in Australia, 2 in Africa, and 6 with no stated country.	passive, transactional) DV1= Staff retention/satisfaction DV2 = staff relationships DV3 = staff health/wellbeing DV4 = organizational environment factors DV5 = productivity/effectiveness			outcomes and related organizational outcomes. Robust evidence showing that leaders who display concern for employees as persons and can work collaboratively with staff towards shared goals have best outcomes. Improved relational outcomes between management and staff led to overall reduction in turnover and positive correlation with staff and organization well-being/productivity	5. Level of evidence for the PICOT question type: Level I 6. Quality of the evidence: 1B USPSTF: Grade: B Level of Certainty: Moderate
ARTICLE #4 Edwards et al., (2015), Effectiveness of strategies and interventions to improve the transition from student to newly qualified nurse	None	Systematic Review	30 studies (1 RCT, 2 Quasi-experimental, remaining 27 descriptive, longitudinal, or cross-sectional studies) of 8199 identified studies included. Includes both published and unpublished studies from 2000-2011. 24 studies from USA.	IV= Supportive interventions (NRP/internship, orientation, mentorship/preceptor, simulation-based) DV1= confidence/competence DV2= knowledge DV3= job satisfaction	None	Narrative Analysis	IV was positively correlated with all DVs. Generally, this study demonstrates beneficial effects of all transitional support intervention programs on new graduate nurses. It highlights the idea that the type of support strategy is less important and that the focus upon and investment in easing the transition process for new nurses leads to positive outcomes in all listed dependent variables.	1.Strengths: multiple intervention program types, multiple characteristics 2. Limitations: non-standardized methodology, quality of study reports 3. Risk of harm: none 4. Feasibility: easily adapted 5. Level of evidence for the PICOT question type: Level I 6. Quality of the evidence: 1B USPSTF: Grade: B Level of Certainty: Moderate

				DV4= stress/anxiety DV5= retention/turnov er rate				
ARTICLE #5 Ke et al., (2017), The effects of nursing preceptorship on new nurses' competence, professional socialization, job satisfaction and retention: A systematic review	None	Systematic Review	6 studies (1 RCT, 1 quasi-experimental, 4 observational) of 328 identified studies included. Included studies published between 2009-2014.	IV = Nursing preceptorship (characteristics, model, program, duration) DV1 = nurse competency DV2 = professional socialization DV3= job satisfaction DV4 = nurse retention	None	Narrative Analysis	IV was positively correlated with DV1, other variables largely inconclusive, but did positively correlate with DV2, DV3, and DV4 given limited data Studies showed statistically significant increase in new nurse competency due to preceptorship. Mentoring model on a fixed one-on-one basis during first 3 months provided most efficient preceptorship. Preceptor should be at least 25 with at least 3 years of experience.	1.Strengths: Focus on preceptorship, multiple characteristics and outcomes 2. Limitations: limited number of included studies, non-standardized methodology, quality of study reports 3. Risk of harm: none 4. Feasibility: easily adapted 5. Level of evidence for the PICOT question type: Level I 6. Quality of the evidence: 1B USPSTF: Grade: B Level of Certainty: Moderate
ARTICLE #6 Kox et al., (2020), Effective interventions for	None	Systematic Review	11 studies (6 non-randomized control studies, 2 observational studies, 4 randomized control studies) of	IV = Physical safety interventions (patient handling training, biomechanics education, exercise education,	None	Narrative Analysis	IV was positively correlated with DVs, but overall limited due to concerns of study quality. Studies largely showed statistically significant improvement in effect of interventions on improving	1.Strengths: Focus on physical health interventions, multiple characteristics 2. Limitations: translation issues with two studies, non-standardized methodology, quality of study reports 3. Risk of harm: none

preventing work related physical health complaints in nursing students and novice nurses: A systematic review			12,533 identified studies included. Included studies published between 1983-2014.	safety equipment use) DV1 = Turnover rate DV2 = physical injury (back pain)			back strength and reduction in physical pain. Sickness/absence/dropout statistically significantly lower in intervention groups	4. Feasibility: easily adapted 5. Level of evidence for the PICOT question type: Level I 6. Quality of the evidence: 1B USPSTF: Grade: B Level of Certainty: Moderate
ARTICLE #7 Paguio et al., (2020), Systematic review of interventions to improve nurses' work environments	None	Systematic Review	14 studies (4 survey, 7 quasi-experimental, 3 pre-posttest) of 2,268 identified studies. Studies were conducted in developed countries between 2008-2019.	IV = Work environment interventions (educational, accreditation, and participatory) DV1 = work environment DV2 = job satisfaction DV3 = burnout/stress DV4 = turnover DV5 = patient satisfaction DV6 = quality of care	None	Narrative Analysis	IV was positively correlated with all DVs. Work environment most improved by participatory interventions. Caution utilizing accreditation interventions as long process could cause increased stress. No interventions reduced DV measures, either positive or no change.	1.Strengths: Focus on multiple intervention components, multiple characteristics of variables, multiple levels of measurement (nurse, patient, hospital) 2. Limitations: inability to perform precision comparisons, non-standardized methodology, quality of study reports 3. Risk of harm: none 4. Feasibility: easily adapted 5. Level of evidence for the PICOT question type: Level I 6. Quality of the evidence: 1B USPSTF: Grade: B Level of Certainty: Moderate
ARTICLE #8 Pasila et al., (2017),	None	Systematic Review	13 studies were chosen of 513 identified studies.	IV = Orientation programs DV1= Themes/pattern/	None	Narrative Analysis	IV positively correlated with DV. Orientation programs had a significant effect on new nurse experiences. Significant concepts were	1.Strengths: Qualitative study focus, clear positive/negative themes 2. Limitations: non-standardized methodology, inconsistencies of study reports, quality of some results reported

Newly graduated nurses' orientation experiences: A systematic review of qualitative studies				concepts/processes			<p>identified as individualized orientation, frequent feedback/support, and positive social interactions with peers.</p> <p>Most positive experiences identified the preceptor as helping to create a positive portrayal of the transition process and prepared them to be competent and satisfied nurses. These led to increased likelihoods of new nurse retention.</p> <p>Negative experiences were associated with negative personal experiences with preceptor as well as the type or rotations the orientee was assigned to. These led to higher rates of turnover.</p>	<p>3. Risk of harm: none</p> <p>4. Feasibility: easily adapted</p> <p>5. Level of evidence for the PICOT question type: Level I</p> <p>6. Quality of the evidence: 1B</p> <p>USPSTF: Grade: B Level of Certainty: Moderate</p>
<p>ARTICLE #9</p> <p>Pertiwi and Harivati, (2019), Effective orientation programs for new graduate nurses: A systematic review</p>	None	Systematic Review	14 studies (4 pilot projects, 4 cohort, 3 quasi-experimental, and 3 mixed-methods) of 3025 identified studies. All included studies published between 2009 and 2017. Sample sizes of studies	<p>IV = Orientation programs</p> <p>DV1 = performance/competence</p> <p>DV2= job satisfaction/engagement</p> <p>DV3 = retention/turnover rate</p> <p>DV4 = cost effectiveness</p>	None	Narrative Analysis	<p>IV was positively correlated with all DVs.</p> <p>New graduate nurses participating in any type of organized orientation program demonstrated lower turnover rates, increased job satisfaction, increased organizational engagement and increased competency when transitioning into RN roles.</p> <p>Organizations noted increased cost-effectiveness and savings as a result of implementing a structured,</p>	<p>1.Strengths: multiple intervention program types, multiple attributes of successful programs specifically type of tools, materials, and activities</p> <p>2. Limitations: non-standardized methodology, quality of study reports</p> <p>3. Risk of harm: none</p> <p>4. Feasibility: easily adapted</p> <p>5. Level of evidence for the PICOT question type: Level I</p> <p>6. Quality of the evidence: 1B</p> <p>USPSTF: Grade: B Level of Certainty: Moderate</p>

			included range from 3 to 521.				administratively supportive orientation program	
ARTICLE #10 Spector et al., (2015), Transition to practice study in hospital settings	None	Randomized Controlled Trial	94 hospitals with 1088 new nurses were identified across three states (Illinois, Ohio, and North Carolina). 34 hospitals in rural locations, 34 in suburban, and 37 in urban. Hospitals averaged 261 beds ranging from 24-932. Newly licensed RNs enrolled 7/1/2011-9/30/2011.	IV= TTP programs DV1= Nurse turnover DV2= quality/safety DV3= job satisfaction DV4= competence DV5= stress	Competence: Overall Competence Tool ($p<.05$) and ($\alpha=0.868$) Specific Competence Tool, Nurses - ($\alpha= .737-.832$), Preceptors – ($\alpha= .819-.894$). Stress: Four questions developed by NCSBN ($\alpha=0.769-0.775$). Job Satisfaction: Brayfield & Rothe Index of Job Satisfaction ($\alpha=0.883$).	Mean, Standard Deviation, Cronbach's Alpha, P-Value, Chi-square test, ANOVA Test, Two-tailed test, One-tailed test	IV was positively correlated with all DVs. This study provides substantial evidence that a standardized TTP program does improve safety and quality outcomes. Nurses in established TTP programs (evidence-based, existed for 2 years prior) demonstrated best outcomes. Quality/Safety: Total patient errors were lower in established program group ($p=0.014$). New nurses in established programs began with fewer negative safety practices than TTP and limited groups ($p=0.016$) Competency: Established group was consistently higher at all four time points compared to TTP and limited groups ($p=.018$) Work Stress: Nurses in established programs experienced the least amount of stress across four time periods ($p=0.029$). Job Satisfaction: Nurses in established programs	1.Strengths: Rigor of study, quality of evidence, multiple characteristics 2. Limitations: sample only in three states, possible volunteer bias, impossible to verify new nurse errors when accounting for quality/safety 3. Risk of harm: none 4. Feasibility: easily adapted 5. Level of evidence for the PICOT question type: Level II 6. Quality of the evidence: A USPSTF: Grade: A Level of Certainty: High

							remained most satisfied over time ($p=0.031$). Turnover: Established programs had the lowest rate of turnover at 12% ($p<.001$). TTP=14.7%, Limited= 25%	
ARTICLE #11 Van Camp and Chappy, (2017), Effectiveness of NRPs on retention	None	Systematic Review	22 studies (10 level 3, 8 level 5, 3 level 2, 1 level 4) of 48 identified studies used. Published between 2004-2016).	IV = NRPs DV1= Turnover rate DV2=Job satisfaction DV3=Employee engagement DV4=Organization commitment DV5= Confidence DV6 = Competence	None	Narrative Analysis	IV was positively correlated with all DVs. New graduate nurses participating in NRPs demonstrated lower turnover rates, increased job satisfaction, increased employee engagement, increased organization commitment, increased confidence, and increased competence when transitioning into RN roles.	1.Strengths: Specific focus on NRPs, multiple characteristics 2. Limitations: more research is needed as NRPs were only begun to be implemented in health care systems in the early 2000's and more high-quality research is needed to draw finite conclusions 3. Risk of harm: none 4. Feasibility: easily adapted 5. Level of evidence for the PICOT question type: Level I 6. Quality of the evidence: 1B USPSTF: Grade: B Level of Certainty: Moderate
ARTICLE #12 Zhang et al., (2016), Effective and implementation of mentoring program for	None	Systematic Review	9 studies (1 RCT and 8 quasi-experimental) of a total 347 identified studies. Published between 2001-2014. 7 studies in English, 2 in	IV= Mentorship program DV1=turnover rate DV2= cost effectiveness DV3= job satisfaction	None	Narrative Analysis	IV was positively correlated with all DVs. Mentoring programs, with an emphasis on emotional and technological support, had positive outcomes for mentees, mentors, and organizations.	1.Strengths: Specific focus on mentorship programs, comparatively high level of evidence 2. Limitations: 3 studies with small sample sizes, 9 studies included 3. Risk of harm: none 4. Feasibility: easily adapted

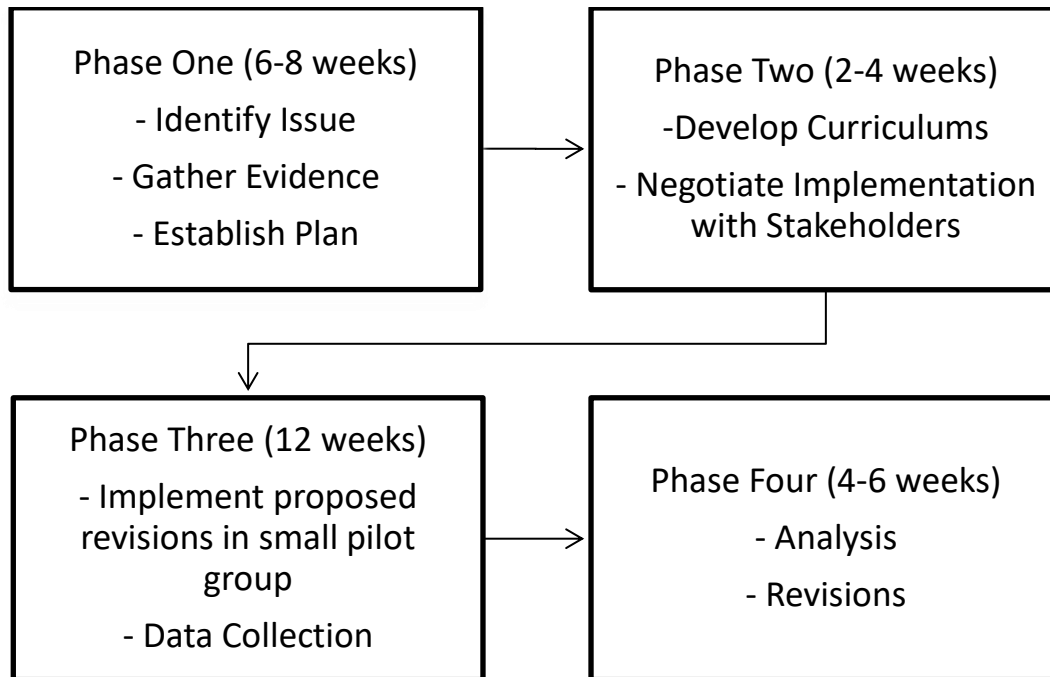
newly graduated nurses			Chinese. Six studies had samples between 30-450, three studies had samples below 30.	DV4= Competence				<p>5. Level of evidence for the PICOT question type: Level 1</p> <p>6. Quality of the evidence: 1B</p> <p>USPSTF: Grade: B Level of Certainty: Moderate</p>
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Legend: IV= Independent variable, DV= Dependent variable, TTP= Transition-to-practice, NRP= Nurse residency program

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Appendix B

Flowchart



Appendix C

Instrument

Bi-Weekly Orientee Progress Form

NAME _____

DATE _____

	SCORE	1 Poor	2 Below Average	3 Average	4 Above Average	5 Excellent
Role Satisfaction		Argumentative, negative, refuses to take direction, disrespectful	Distracted, lack of attention to detail, lacks communication skills	Positive, interested in procedures, uses appropriate conversations	Shows pride in work, is respectful to everyone	Performing above expected level
Effort Level		Needs repeated prompting	Needs occasional prompting	Performs assignments independently	Seeks alternative learning experiences	Performing above expected level
Patient Care		Lacks ability to provide patient care	Provides patient care with help	Provides care with little or no instruction	Receives compliments from co-workers	Performing above expected level
Knowledge		Lacks understanding of policies, procedures, and guidelines	Requires consistent reminders	Has basic understanding	Applies policies and procedures	Displays knowledge above expected level
Comfort Level		Refuses to perform patient care	Needs frequent reminder, questions inappropriate for stage	Comfortable with workflow	Confident with ability, needs little instruction	Performing above expected level
TOTAL						

Provide comments on necessary improvements (Scores below 3 require specific comments)

Goal: _____

Signature/Date: _____