University of Texas at Tyler Scholar Works at UT Tyler

MSN Capstone Projects

School of Nursing

Fall 12-3-2022

Bedside Nurse Shift Length: Evidence-Based Intervention on Nursing Burnout

Natalie Suzanne Medina BSN University of Texas at Tyler, nwardnurse@gmail.com

Kristen Morreale BSN University of Texas at Tyler, Kristenmorreale1@gmail.com

Bryanna Whitehurst BSN University of Texas at Tyler, bryannaremonte@gmail.com

Follow this and additional works at: https://scholarworks.uttyler.edu/nursing_msn

Part of the Health and Medical Administration Commons, and the Nursing Administration Commons

Recommended Citation

Medina, Natalie Suzanne BSN; Morreale, Kristen BSN; and Whitehurst, Bryanna BSN, "Bedside Nurse Shift Length: Evidence-Based Intervention on Nursing Burnout" (2022). *MSN Capstone Projects*. Paper 219. http://hdl.handle.net/10950/4113

This MSN Capstone Project is brought to you for free and open access by the School of Nursing at Scholar Works at UT Tyler. It has been accepted for inclusion in MSN Capstone Projects by an authorized administrator of Scholar Works at UT Tyler. For more information, please contact tgullings@uttyler.edu.

Bedside Nurse Shift Length: Evidence-Based Intervention on Nursing Burnout

Natalie Medina, Kristen Morreale, and Bryanna Whitehurst

School of Nursing, the University of Texas at Tyler

NURS 5382: Capstone

Dr. Colleen Marzilli, Ph.D., DNP, MBA, RN-BC, CCM, APHN-BC, CNE, NEA-BC

December 4th, 2022

Contents

Acknowledgments

Executive Summary

Project Evaluation Report

Bedside Nurse Shift Length: Evidence-Based Intervention on Nursing Burnout

- 1. Information about Bedside Nurse Shift Length project
- 2. Rationale for project
- 3. Literature Synthesis
- 4. Stakeholders
- 5. Implementation
- 6. Timetable/Flowchart
- 7. Data Collection
- 8. Cost/Benefit Discussion
- 9. Discussion of Results
- 10. Conclusion/Results

References

Appendix A-C

Acknowledgments

Many thanks are extended to those who take the time to consider nurse shift length and its potential relation to bedside nursing burnout. The data collection for potential intervention was only possible with the Robert R. Muntz Library at the University of Texas at Tyler. Many thanks to the future nurses willing to change schedules to see if the three-month trial period will affect patient outcomes and nursing burnout. Finally, thank you to Dr. Colleen Marzilli, Ph.D., DNP, MBA, RN-BC, CCM, APHN-BC, CNE, NEA-BC, and Associate Professor at the University of Texas Tyler for continued support and feedback regarding this change project.

Executive Summary

With the aging baby boomer population, employee burnout, and lack of quality medical training, the United States is facing one of the most detrimental nursing shortages in history. Before the COVID-19 pandemic, the United States Health and Human Services projected the demand for nurses to be much higher than the actual number of employed registered nurses through 2030. Since 2016 the nursing population was widely composed of nurses between 25 to 34 years old. After the global pandemic hit, the number of nurses in that age group declined by 5.2 percent, and nurses aged 35 to 44 have reduced by 7.4 percent (Haines, 2022). During a period when the need for nurses is at an all-time high, many are leaving the bedside for other less stressful careers.

When examining the nursing crisis topic, many factors must be considered, one of the most important being decreasing staff burnout, thus maintaining quality trained nurses. Everhart et al. found that retaining nursing staff decreased overall financial costs for the hospital and decreased adverse events, length of stays, and improved care processes (2013).

One of the issues leading to nursing burnout is believed to be the 12-hour shift work. A recent review showed that nurses who worked 12-hour shifts developed more chronic fatigue, cognitive anxiety, sleep disturbance, and emotional exhaustion than those who worked 8-hour shifts (Banakhar, 2017). In a recent survey, nurses working longer than ten hours were more likely to experience burnout and job dissatisfaction and showed intention to quit their jobs (Stimpfel, Sloane & Aiken, 2012). With this information, it is essential to assess how to decrease nursing burnout and retain quality nurses at the bedside. This change project discusses the following research question: In the acute setting, do nurses (P) working 8-hour shifts (I), compared to nurses working 12-hour shifts(C), have less burnout (O) over three months (T)?

4

During this project, we will take a deeper look into the effects of the 8-hour shift versus the 12hour shift, the nursing retention, and thus, overall patient care.

Bedside Nurse Shift Length: Evidence-Based Intervention on Nursing Burnout Information about the Project

With more than 200,000 open positions in the United States, our healthcare organizations must retain their nursing staff. After the COVID-19 pandemic, many nurses are leaving their bedside positions to pursue other opportunities outside of the hospital. Understanding why nurses are leaving the hospital is imperative to maintain quality nursing staff at the bedside. In a recent paper published by Saville, Dall-Ora, and Griffiths, one of the most cited reasons for leaving the bedside is burnout due to 12-hour shifts (2020). Although a common practice, assessing if changing shift length can lead to a longer retention of skilled nursing staff is crucial.

Rationale for the Project

As the global pandemic began, nurses worldwide had to accommodate increased workloads while keeping up with evolving advice on best practices for an unprecedented viral pandemic. Hospitals had to plan, and staff for growing acuity levels and high census needs. Mitigation and infection control changes increased the documentation demands, adding to the already overburdened nursing staff.

Working on understaffed units with inadequate personal protective equipment, more pressure was placed on an already strained healthcare workforce. Nurses became overworked and mentally, emotionally, and physically exhausted as time passed. To compound issues, hospital nurses were leaving their facilities to work contract jobs for more money, while traveling nurses were filling positions in facilities at higher rates of pay than the nurses who remained as loyal full-time staff. With morale low and fatigue high, the Great Resignation began. It is reported that 1 in 5 nurses left patient care behind and either retired or left the bedside for other endeavors (Fry et al., 2022).

As hospitals struggle to fill positions in acute care, there is continued debate over the best solutions to recruit and retain nursing staff. What worked before the pandemic may not work now. The world has changed, and healthcare facilities must consider the best way to care for nurses so they can provide safe, quality care while allowing the facility to maintain a budget-friendly payroll. Considering the current literature, nurses need a less stressful environment and more time to recover between shifts (Dall'Ora et al., 2015). It makes sense that poor sleep quality from mental and emotional strain and lack of mental clarity could lead to a higher risk of errors and accidents. With this in mind, this paper will examine the effects of shift length on nurse burnout and the related effects on outcomes and costs. This paper will suggest a potential solution to retain nursing staff by offering a way to help nurses maintain their health and well-being by improving sleep quality and reducing stress from long working hours. This paper will propose a change to shorter shift lengths and offer nurses a chance to rate their feelings and experiences before and after the change to find a solution that is beneficial to facilities, patients, and nurses.

Literature Synthesis

Burnout in healthcare is typical, especially in bedside nursing. Most healthcare professionals expect to face job burnout at least once in their career path. Burnout is so common that "burnout" was added by the World Health Organization to the International Identification of Diseases (ICD) in 2019 (Schmidt, 2020). Nurse burnout may not seem like an issue until it's analyzed at the potential, or actual, effects it has on patients and organizations. According to Reith (2018), nurses' increased burnout levels are associated with higher patient mortality and hospital-acquired infection transmission (pp. 2). It's become so expected that multiple studies

have been performed in search of the root cause of burnout for bedside nursing to find a cure for this rising disease.

This change project is upheld by evidence from a literature search and evaluation of twelve articles that dove head first into identifying the causes and outcomes of nurse burnout on varying aspects of healthcare, including the nurse's health, patient health outcomes, organizations, and job satisfaction. During this search, eight of twelve articles found that 12-hour shifts resulted in more significant nurse burnout, decreased patient outcomes, more frequent sick days, and decreased overall well-being of the nurse. Two of the twelve found that 12-hour shifts had no significant impact on burnout, patient outcome, reduced number of sick days, improved job satisfaction, and improved well-being.

In research from Banakhar (2017), the investigation into the impact of nurses' well-being and job satisfaction found that 12-hour shifts have increased adverse effects on health, wellbeing, poor sleep quality, more stress, and increased anxiety (pp. 78). Dall'Ora et al., (2015) performed a cross-sectional survey that included over thirty-one thousand nurses and concluded that longer working hours correlated with more adverse outcomes, whether that be a high rate of burnout or increased safety risks for patients (pp.1). While these twelve articles gave insight into the cause and effect of nursing job aspects and nurse burnout reasons, it is hard to conclude that decreasing shift length will decrease nurse burnout. A thorough evaluation of the change process is needed to evaluate the outcome of decreasing shift length and its effect on nurse burnout and patient outcomes.

Project Stakeholders

For adequate evaluation and proper dissemination of this proposed change, stakeholders will hold a large portion of the driving force needed to obtain buy-in from the nursing staff.

Those stakeholders include the hospital's board of directors, Chief Executive Officer (CEO), Chief Nursing Officer (CNO), nurse managers, and the nursing staff. These key individuals can make this change successful or a failure. While we need the individuals listed above to initiate the project, the nursing staff, floor staff, and patients will ultimately witness the changing environment from the decrease in shift length. Proper notification will be instrumental in making sure all parties are aware of the pending changes and how this will change their day-to-day operations, including the patients. For nurses, providing the best care possible to generate the best outcome for each patient is the goal. Making patients aware that they will still receive the best care while having more than two nurses in a twenty-four-hour shift will ease their minds on this new way of hospital operations and create an environment where bedside nurses can thrive. Ultimately, this proposed change project will depend on the stakeholders' buy-in.

Implementation Plan

When beginning a change project, it is vital to address all steps in implementing the proposed change. In order to achieve organizational buy-in, it is essential to obtain approval from key administrators. These administrators may include the Chief Nursing Officer, the Head of the Human Resources department, and the Director of the specialty in which the change is planned to be implemented (i.e., The Director of Critical Care if planning on implementing the change in the Surgical ICU). From there, selecting the unit where this shift change rollout will occur is essential. It can take place in any inpatient unit as long as previously approved by that unit's Director. Notify the nurse manager of the unit. Educate him/her on the project's background, the requirements needed to implement the project, the proposed timeline, and the flowchart, and obtain a signature for approval.

Once approvals have been obtained, developing a pre-change and post-change survey that can be used with the information of that specific unit is essential. The survey should be created using a five-point Likert scale. The survey must contain multiple questions about job satisfaction, well-being, energy levels, sleep quality, and job performance. In addition, the survey should contain yes/no questions surrounding shift preference, nurse retention, approval/disapproval of the change, time to complete tasks, stress levels, and future job outlook. Finally, an open area at the bottom of the survey should be available for additional feedback or comments (see appendix for example). These surveys should be distributed prior to implementing the change.

Following the unit selection and the creation of the survey, the distribution of the prechange survey is needed to gather data on the current job and personal characteristics. This survey would be distributed to all nurses within the selected unit and then gathered for analysis and comparison post-change. All unit nurses must complete the survey for proper analysis and outcomes. A pre-change chart audit would be completed next. It would include collecting data concerning the number of patients admitted to the floor, length of stay, adverse events (falls, medication errors, rapid responses, wounds, hospital-acquired infections, and deaths), and nurseto-patient ratio. These key factors must be evaluated and collected for post-change analysis and comparison.

One of the most significant steps of this process will be the implementation of the 8-hour shifts from 12-hour shifts. Collaboration with the unit managers and schedulers will be essential to developing a schedule that meets the requirements of the unit and nurses. These shifts would be broken down into three groups, with the change being scheduled as 0700-1500, 1500-2300, and 2300-0700. Each shift would last 8 hours, and each nurse must complete five 8-hour shifts to

meet their full-time requirements. This 8-hour schedule would continue for three months. At the 3-month mark, the same survey would be distributed to the nurses. The survey will be anonymous and could be in electronic or paper forms. The comments section can capture the feelings and expectations of nurses in the trial and their feelings and experiences. The results will be put into a report that can be shared with the stakeholders.

After surveying the nurses, the chart audit of the unit needs to be repeated, maintaining the previous focus on the length of stay, adverse events, and readmissions and comparing it to previous patient outcomes. Measuring these outcomes and comparing them to the pre-change audit will help determine if there is a sharp change in the quality of care. Information can be compiled into a report utilizing administration records for hospital length of stay and readmissions, to be shared with stakeholders and used for consideration. Since other influences may affect these outcomes, those should be considered and mentioned, if applicable, in the report.

After all the surveys have been completed and charts have been audited, determine the best shift length of the unit based on patient outcome and nurse survey results. The individual who implemented the project should utilize the information to put together a risk-benefit evaluation and SWOT analysis or another tool currently used by the facility. Costs for staffing the 8-hour shifts vs. the 12-hour shifts, factoring in the survey results for potential nurse burnout and turnover, as well as the outcomes report, should all be considered.

Timetable/Flowchart

Implementation of nursing shifts should follow a strict timeline. Although this benchmark project needed more time to be formally implemented, a specific timeline must be followed. As previously discussed in the implementation portion of this paper, obtaining administration approval is the first step in successful change implementation. This will give the project leader the green light of approval to make the changes needed to evaluate if the project should be permanently implemented. From there, the project leader must decide which unit would best adapt and benefit from the proposed shift change. This can be any unit, but starting in a unit such as PACU or Pre-op may be helpful. From there, a survey must be developed, which will be handed out both pre-and post-implementation of the change. After the survey has been developed and approved, the project leader must distribute the survey to all nurses in the change unit. Nurses will have one week to review, complete and return the survey. From there, a preimplementation chart audit will be completed over two weeks.

During this two-week time, the nursing staff will be divided into groups that will work the following shifts for the next three months: 0700-1500, 1500-2300, and 2300-0700. The threemonth period will begin with the project lead keeping a close eye on nurse and patient satisfaction. When the three months conclude, the same survey will be distributed to nurses, who will again have one week to complete the survey and return it. The change leader will again have a period of two weeks to complete a chart audit after the change. Finally, a comparison of the survey results and chart audits will be conducted, and the decision to keep 12-hour shifts or move to 8-hour shifts will then be implemented. The flowchart in appendix B describes steps that need to be completed in order to ensure a successful transition and evaluation.

Data Collection Methods

The timeline of one semester needed to be revised to formally implement this project in a clinical setting. In a real-life setting, the survey sample ideally includes all nurses in the proposed project unit. On average, the sample size should include anywhere from ten to forty nurses depending on the size of the nursing unit. As previously stated, the nurses would have one week

to take the pre-implementation survey home, complete it and return it to the project leader. The data collected from these surveys would be evaluated using the Likert scale and formulated into a pre-implementation chart to show participants' baseline opinions on shift length, job satisfaction, and burnout. Averages will be used to determine overall nurse satisfaction. The Likert scale for this survey is one to five, with one being very dissatisfied and five being very satisfied. The surveys will be collected, and all rating scores will be averaged and grouped in the following manner: very satisfied average score of 4.1 to 5.0, satisfied 3.41 to 4.0, neutral 2.61 to 3.4, dissatisfied 1.81 to 2.6, and very dissatisfied from 1.0 to 1.8. The number of each category will be calculated and set aside for future comparison.

When the nurses complete the survey, the project leader will complete chart audits and assess the unit's patient safety scores. This will include the number of patients admitted to the floor, length of stay, adverse events (falls, medication errors, rapid responses, wounds, hospitalacquired infections, and deaths), and nurse-to-patient ratio. The change in shift length would be implemented on a Monday, no longer than three weeks after the initial survey was sent out. Shift lengths would stay in effect for twelve consecutive weeks and end on the Sunday of the twelfth week.

Post-implementation surveys would then be distributed that Monday, with the deadline being the following Sunday evening. The hope would be for all nurses to participate in their survey as a part of their annual review. Surveys will again be grouped into the very satisfied, satisfied, neutral, dissatisfied, and very dissatisfied groups, as previously discussed. The average number will be added for each group and compared to the original group of surveys before the change was implemented. Finally, a post-change chart audit and unit assessment would be completed. This information would be presented to the staff and managers, and a decision to change shift length would be based on all presented data. The anticipated outcome based on the research would show that when the nurses worked 8-hour shifts, nursing burnout decreased, overall job satisfaction increased, and patient adverse events decreased due to a lack of fatigue experienced by the staff. This information will help state whether the change in nursing shift length was successful or unsuccessful.

Cost/Benefit Discussion

As with any business, the cost is a significant consideration when implementing change. Feasibility should be determined not only by the dollar amount for staffing but also by productive hours and quality of care. 12- hour shifts are often presented as a cost-saving method of providing resources. Griffiths et al. (2018) did not find any evidence of decreased costs for care hours when utilizing 12-hour shift lengths. Furthermore, Ball et al. (2017) associated 12hour shifts with decreased job satisfaction, nurse-reported lower quality of care, and increased rates of leaving care tasks that needed to be done, undone. According to Dall'Ora et al. (2019), shifts lasting 12 hours or more are linked to increased sickness absence by 24%. When replacing a nurse for an 8- hour shift, it is much easier to divide the missing shift between two 8-hour nurses than to find a nurse to replace an entire 12-hour shift. Utilizing agency and floating staff nurses to fill gaps is inefficient and costly. Dall'Ora et al. (2019) report that nurses working twelve or more hours tend to have higher rates of burnout. The cost of replacing nurses lost to burnout must be considered. Recruiting and training new nursing staff can quickly impact a facility financially. According to Plescia (2021), The average cost of RN turnover is between \$28,400 and \$51,700, which can impact a hospital with losses of \$3.6 million to \$6.5 million annually. "Each percent change in RN turnover will cost/save the average hospital an additional \$262,300 [per year] Plescia, 2021)." If a facility can reduce turnover by 5% annually, this could

result in savings of more than \$1.3 million annually. A 5% reduction in turnover is a significant benefit financially. Administrators want to provide high-quality care. The effects of longer shift lengths on staff turnover, potential errors, and injuries resulting from fatigue and stress may affect outcomes and reduce productivity.

Discussion of Results

Due to the slight change in topic for this course from previous courses, the short period of a semester, and the lack of access to a hospital setting, it was not possible to formally implement this change project. Based on our research and what has been stated in the literature, we would have expected one of two outcomes.

The first expected outcome would be that nurses preferred the 8-hour shift over the 12hour shift. Many articles discussed in this paper showed that nurse job satisfaction, fatigue, and burnout heavily relied on the nurse shift. The literature supports the change from the 12-hour to the 8-hour shift, stating that nurses felt more accomplished and able to complete all goals in a shorter time, rather than taking on additional tasks in those extra four hours and being unable to complete them. In addition, the literature supports 8-hour shifts stating that the nurses were less fatigued, which showed a decrease in sentinel events.

The other anticipated outcome, if this change had been formally implemented, would be that the nurses would like to choose between the 8-hour and 12-hour shifts. Many of the outcomes during our research showed better patient care in the 8-hour shifts, but few articles stated that many nurses were more satisfied with their jobs when working a 12-hour shift due to work-life balance. It is noted that nurses tend to choose this profession due to the flexibility of working three days a week. Keeping this in mind, it is possible that the survey would show that some nurses preferred working longer shifts in order to be able to balance their personal lives. Overall, if this change were implemented, we would see different outcomes based on the specific unit it was implemented in and the nursing population which works in that unit.

Conclusions/Recommendations

The importance of retaining bedside nurses during this crisis is paramount. Given its potential to change nursing satisfaction and patient outcomes, nursing leadership must evaluate the effect of shift length. By implementing this change project, it is recommended that nursing administrators evaluate the unit's needs and assess if 8-hour or 12-hour shifts would increase nursing satisfaction and decrease nurse turnover. This may include offering the employees a choice of which shift to work to keep skilled nurses. By evaluating shift length and its effect on nursing satisfaction, burnout, and patient outcomes, we can work to retain our skilled nurses, maintaining a high standard of patient care.

References

Ball, J., Day, T., Murrells, T., Dall'Ora, C., Rafferty, A., Griffiths, P., & Maben, J. (2017). Crosssectional examination of the association between shift length and hospital nurses job satisfaction and nurse reported quality measures. BMC Nursing, 16(1), 26.

Banakhar, M. (2017). The impact of 12-hour shifts on nurses' health, wellbeing, and job satisfaction: A systematic review. *Journal of Nursing Education and Practice*, 7(11), 69. <u>https://doi.org/10.5430/jnep.v7n11p69</u>.

Battle, C., & Temblett, P. (2018). 12-hour nursing shifts in critical care: A service evaluation. *Journal of the Intensive Care Society*, 19(3), 214–218. https://doi.org/10.1177/1751143717748094.

Bureau of Labor Statistics. (2022, September 8). Occupational Outlook Handbook, Registered Nurses, at <u>https://www.bls.gov/ooh/healthcare/registered-nurses.htm</u>.

- Dall'Ora, C., Ball, J., Redfern, O., Recio-Saucedo, A., Maruotti, A., Meredith, P., & Griffiths, P. (2019). Are long nursing shifts on hospital wards associated with sickness absence? A longitudinal retrospective observational study. *Journal of Nursing Management, 27*(1), 19-26
- Dall'Ora, C., Griffiths, P., Ball, J., Simon, M., & Aiken, L. H. (2015). Association of 12 h shifts and nurses' job satisfaction, burnout and intention to leave: findings from a crosssectional study of 12 European countries. *BMJ open*, 5(9), e008331. <u>https://doi.org/10.1136/bmjopen-2015-008331</u>

- Fry E, et al. Resigned to the "Great Resignation?". *J Am Coll Cardiol*. 2022 Jun, 79 (24) 2463–2466.https://doi.org/10.1016/j.jacc.2022.05.004
- Griffiths, P., Dall'Ora, C., Sinden, N., & Jones, J. (2019). Association between 12-hr shifts and nursing resource use in an acute hospital: Longitudinal study. *Journal of nursing management*, 27(3), 502–508. https://doi.org/10.1111/jonm.12704
- Haines, J. (2022, November 1). The state of the nation's nursing shortage | healthiest communities ... U.S. News and World Report. Retrieved November 28, 2022, from https://www.usnews.com/news/health-news/articles/2022-11-01/the-state-of-the-nationsnursing-shortage.

Haller, T., Quatrara, B., Letzkus, L. & Keim-Malpass, J. (2018). Nurses' perceptions of shift length. *Nursing Management (Springhouse)*, 49 (10), 38-43. doi: 10.1097/01.NUMA.0000546202.40080.c1.

- Haller, T., Quatrara, B., Miller-Davis, C., Noguera, A., Pannone, A., Keim-Malpass, J.,
 Guterbock, T. & Letzkus, L. (2020). Exploring Perceptions of Shift Length: A StateBased Survey of Registered Nurses. *JONA: The Journal of Nursing Administration, 50*(9), 449-455. doi: 10.1097/NNA.000000000000915.
- Plescia, M. (October 14, 2021). The cost of nurse turnover by the numbers. Becker's hospital review. Retrieved November 14, 2022, from https://www.beckershospitalreview.com/finance/the-cost-of-nurse-turnover-by-thenumbers.html.
- Reith T. P. (2018). Burnout in United States Healthcare Professionals: A Narrative Review. *Cureus*, 10(12), e3681. https://doi.org/10.7759/cureus.3681
- Rodriguez Santana, I., Anaya Montes, M., Chalkley, M., Jacobs, R., Kowalski, T., & Suter, J. (2020). The impact of extending nurse working hours on staff sickness absence: Evidence from a large mental health hospital in England. *International Journal of Nursing Studies*, *112*, N.PAG. <u>https://doi-org.ezproxy.uttyler.edu/10.1016/j.ijnurstu.2020.103611</u>.
- Saville, C., Dall'Ora, C., & Griffiths, P. (2020, December). The association between 12-hour shifts and nurses-in-charge's perceptions of missed care and staffing adequacy: A retrospective cross-sectional observational study. International journal of nursing studies. Retrieved November 28, 2022, from

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7695680/.

Schmidt, A. (2020, October 20). We need to talk about burnout the same way we talk about benefits. *American Hospital Association / AHA News*. https://www.aha.org/news/blog/2020-10-20-we-need-talk-about-burnout-same-way-wetalk-about-benefits

Shah, M. K., Gandrakota, N., Cimiotti, J. P., Ghose, N., Moore, M., & Ali, M. K. (2021).
Prevalence of and Factors Associated With Nurse Burnout in the US. *JAMA Network Open*, 4(2), e2036469. https://doiorg.ezproxy.uttyler.edu/10.1001/jamanetworkopen.2020.36469.

- Stimpfel, A. W., Sloane, D. M., & Aiken, L. H. (2012). The Longer The Shifts For Hospital Nurses, The Higher The Levels Of Burnout And Patient Dissatisfaction. *Health Affairs*, 31(11), 2501–2509. <u>https://doi.org/10.1377/hlthaff.2011.1377</u>.
- Ungard, W., Kroger-Jarvis, M., & Davis, L. S. (2019). The Impact of Shift Length on Mood and Fatigue in Pediatric Registered Nurses. *Journal of Pediatric Nursing*, *47*, 167–170. https://doi-org.ezproxy.uttyler.edu/10.1016/j.pedn.2019.05.014.
- Webster, J., McLeod, K., O'Sullivan, J., & Bird, L. (2019). Eight-hour versus 12-h shifts in an ICU: Comparison of nursing responses and patient outcomes. *Australian Critical Care*, 32(5), 391-396.
- Yu, F., Somerville, D., & King, A. (2019). Exploring the impact of 12-hour shifts on nurse fatigue in Intensive Care Units. *Applied Nursing Research*, 50, 151191. https://doi.org/10.1016/j.apnr.2019.151191.

Study	Design	Sample	Intervention	Outcome
А	Descriptive Study- Cross-Sectional Examination	N=2568 Day Shift= 1898 Night Shift= 670 12h=856 8-12h=852	-12h shift vs 8h shift: - the quality of care -Safety -Care left undone -Nurse Dissatisfaction	Longer length of the shift was statistically associated with poor patient care quality Longer length of shift resulted in less safe patient care Mean care left undone was higher in the 12hour shift staff Nurse dissatisfaction due to these factors was higher in the longer (12h) shifts than the shorter shifts
В	Systematic Review	12 Studies N= 84,074 over 12 studies	12h shift versus 8 h shift impact on fatigue and job satisfaction	12- hour shifts had a significant impact on physical and psychological health and well being
С	Cohort Study	N= 150 65% Full Time 35% Part Time	12h vs 8h shift impact on Maslach Burnout Inventory Survey assesses; emotional exhaustion, depersonalization, and personal accomplishment	Emotional exhaustion was higher in 8h shift over 12h shift Depersonalization was higher in the 8h shift over 12h shift Personal accomplishment was moderate in both shifts Higher burnout associated with 8h shifts than 12h shift

Evidence Synthesis Table

D	Cross-sectional, quantitative	30 hospitals were sampled in each of the 12 countries units N= 33, 659, average response rate of 62% which reduced the sample size to $n = 31, 627$. Age M= 38., and 92% were female.	Correlation between working 12-hour shifts and hospital nurses' job dissatisfaction, intent to leave, dissatisfaction with schedule flexibility, and burnout (Maslach Burnout inventory).	Nurses working 12 or more hours per shift were more likely to experience burnout as emotional exhaustion (aOR= 1.26, 95% Cl 1.09-1.46), job dissatisfaction (aOR= 1.40: 95% Cl 1.12 - 1.48), dissatisfaction with schedule flexibility (aOR= 1.15; 95% Cl 1.00 - 1.35), and intent to leave job (aOR= 1.29; 95% Cl 1.12 - 1.48)
Е	Quasi-experimental	N= 463 RNs from six hospitals n = 69 ward A, n = 73 ward B, n = 87 ward C, n = 56 ward D, n = 91 ward E, n = 87 ward F. The average age overall mean was 45.01 years. Predominantly Caucasian females.	Changing from an 8- hr shift to a 12-hr shift	An increase in sickness hours per week between 0.73% and 0.98%, which was stated to be the equivalent of a complete shift per week, per unit
F	Cross-sectional, observational study	N= 50,273 Female= 90.4%, White= 80.7%, average age of 48.7.	The likelihood of leaving a nursing position due to burnout and burnout cause	Workplace setting and hours worked per week increase the risk of burnout. 31.5% of the sample reported burnout as a reason contributing to leaving their job.

G	Cross-sectional, observational study with a two group design	<i>N</i> =80 female RNs with BSN degrees mean age of 31.26- and 12-hour evening shift nurses = mean age of 29.41, 8-hour day shift nurses mean age was 43.11-, and 8- hour evening shift = mean age of 30.33.	To measure the sleep, physical activity and working hours of nurses working 8-hr vs 12-hr shifts to examine relationship between hours worked and fatigue and mood states	The impact of recovery time between shifts can cause fatigue and fatigue may affect patient care.
Н	Cross Sectional Study	99 units 8 hr., n = 63 12-hr., n = 36	Compare the differences between 8- and 12-hour shifts on nurses, patient, and hospital outcomes.	Nurses working 12-hour shifts were more satisfied. There were no differences in quality outcomes. Flexibility and choice in shift length are important elements in a positive nurse work environment.
Ι	Descriptive study	190 RNs who had practiced in an inpatient setting in the past 5 years and spent 50% or more of their time in direct patient care completed the online survey in its entirety	Find the nurse's perspective on their lives in relation to shift length.	The preference for the 10-hour shift within the 40-hour work week is novel. These results may assist with efforts to initiate change, improve the work environment, and enhance home life.

J	Retrospective longitudinal study	Forty-eight percent of shifts worked lasted 8 hr or less (n = 270,709), and 38% of shifts were 12 hr or more (n = 216,877). The majority of day shifts lasted 8 hr or less (n = 270,390, 67.6%) and most of the night shifts lasted 12 hr or more (n = 110,022, 67.3%)	Are long nursing shifts on hospital wards associated with sickness absence?	The higher sickness absence rates associated with long shifts could result in additional costs or loss of productivity for hospitals. The routine implementation of long shifts should be avoided.
К	Descriptive Study	Total of 152/193 (78.8%) surveys were returned in phase 1. In phase 2, the response rate was 114/188 (60.6%). The proportion of nurses satisfied with the roster increased 3- fold after the introduction of 12-h shifts; risk ratios 3.36 (95% confidence intervals 2.62 to 4.28).	Impact of 12-hour shift patterns on staff satisfaction and health and on patient outcomes.	Twelve-hour shifts are popular with ICU nurses, days lost to sick and family leave are reduced, and patient outcomes are not compromised.

L	Descriptive Study- Cross-sectional Study	N= 67	-12h shift demographics and relation to burnout	 >50% of 12-h shift ICU nurses =low to moderate fatigue levels. Age, number of family dependents, years of nursing experience, and frequency of exercise per week were identified as key factors associated with fatigue. Implementing more support for younger and/or less experienced nurses, better strategies for retaining more experienced nurses, and fewer rotating shifts= less burnout in 12h shift
---	--	-------	---	---

Legend: A = Ball et. al., 2018 B = Banakhar, 2017 C = Battle & Temblett, 2018 D = Dall'Ora et al., 2015, E = ,Rodriquez Santana, 2020, F = Shah et al., 2021, G= Ungard et al., 2019, H= Haller et al., 2020, I= Haller et al., 2018, J= Dall'Ora et al., 2019, K= Webster et al., 2019, L= Yu, Somerville & King, 2019

	A	В	C♦	D	E	F	G	Н	Ι	J	К	L
Burnout	^	个*	NR	^ *	NE	个*	个*	NR	↑	NC	NC	个*
Patient Outcomes	\downarrow	√*	.↓*	\downarrow	NE	\downarrow	\downarrow	NC	NC	NR	NC	\checkmark
Job Satisfaction	NR	NR	\checkmark	√*	NE	\downarrow	\downarrow	个*	\downarrow	\downarrow	^ *	\downarrow
Absence	NE	NE	NC	NE	个*	NE	NE	NR	↑	↑	\downarrow	NC
Overall Wellbeing	√*	\downarrow	1	\downarrow	\downarrow	\downarrow	\downarrow	↑	\downarrow^*	\downarrow^*	NR	\checkmark

Outcomes Table: Effect of implementing longer shifts (\geq 12)

Legend: A = Ball et. al., 2018 B = Banakhar, 2017 C = Battle & Temblett, 2018 D = Dall'Ora et al., 2015, E = ,Rodriquez Santana, 2020, F = Shah et al., 2021, G= Ungard et al., 2019, H= Haller et al., 2020, I= Haller et al., 2018, J= Dall'Ora et al., 2019, K= Webster et al., 2019, L= Yu, Somerville & King, 2019, NC = no significant change, NE = not evaluated, NR = no results provided.

* = statistically significant findings

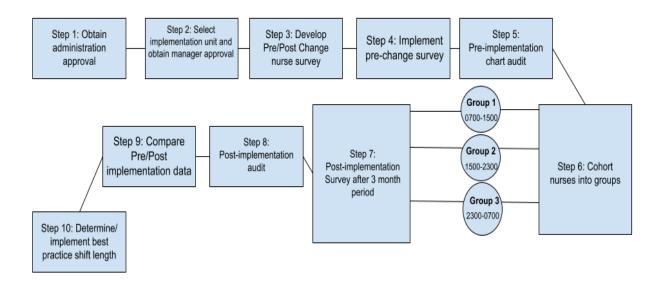
 \blacklozenge = higher level evidence

Recommendations

Through this research we found that offering nurses the opportunity to choose from longer versus shorter shifts leads to higher nurse satisfaction ratings. This should be taken into consideration when implementing 8-hour, 10-hour, or 12-hour shifts in a nursing unit. For facilities considering moving to 12-hour shifts as a cost-savings model, consideration of staff burnout and turnover should be taken into account. Offering options of shorter shift lengths to nurses and nursing support staff may improve job satisfaction and reduce the risk of burnout, thus increasing nurse retention, and improving overall patient care.

Appendix B





Appendix C

Pre and Post- Implementation of 8-Hour Shift Nurse Survey

Please answer the following questions as openly and honestly as possible.

How satisfied are you with your current work/life balance?

1	2	3	4	5
Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied

How do you feel about your overall well-being?

1	2	3	4	5
Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied

Do you feel satisfied with your energy level daily?

1	2	3	4	5
Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied

How satisfied are you with your sleep quality?

1	2	3	4	5
Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied

How do you feel about your current job performance?

1	2	3	4	5
Very Dissatisfied	Dissatisfied	Neutral	Satisfied	Very satisfied

Yes/No Questions Please circle YES or NO for the following questions

Do you prefer 12 hours over 8-hour shifts?

YES NO

Have you considered or do you intend to leave your position in the next three months?

YES NO

Would a permanent change in shift lengths make a difference in leaving or staying in your position?

YES NO

Do you feel you have enough time to complete your work in a safe manner each day?

YES NO

Do you feel you are too stressed during your shift to perform well?

YES NO

Do you feel optimistic about your future as a nurse?

YES NO

COMMENTS:

Please provide any additional comments regarding your feelings surrounding this change.