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Implementation of Change of Shift Huddles in an Urban Medical Center

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Submitted in partial fulfillment of the requirements for the degree of

Doctor of Nursing Practice

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Dedication

This paper is dedicated to the memory of my grandmother, Gladwell Wanjiru, whose love for family and patience inspired my persistence, hard work and commitment. My mother Eunice's support continues to act as guidance in my life. To my wife, Marie and daughters, Samerah, Eliana, and Emma whose encouragement is the singular reason for this paper's completion and to concluding my educational journey.

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Abstract

Since 1999 when the Institute of Medicine (IOM) highlighted medical errors in hospitals, healthcare leaders continue to pursue relevant and sustainable patient safety initiatives. Some of these initiatives include projects that increase accountability while encouraging enhanced teamwork and communication between team members. The lack of consistent communication results in decreased patient outcomes and patient dissatisfaction. Decreased camaraderie in organizations, results in fiscal waste associated with employee tardiness and call-outs. This paper reviews the process and impact of implementing change of shift huddles in an urban medical center. Literature reviews concluded that positive outcomes were associated with implementation of huddles during change of shift. Prior to implementation, an education program was conducted for 210 employees in five medical-surgical units. Two hundred fifteen huddle observations were conducted by designated observers. Post-implementation evaluation and data collection were completed over a three-month period. The review of patient satisfaction scores and timekeeping records concluded that implementing huddles increased staff satisfaction, teamwork and collaboration, while reducing staff call-outs and on-shift tardiness. Sustained communication between staff increases the occurrence of positive patient outcomes in acute healthcare organizations.

Key words: Change of shift huddles, designated observers, SCENE, huddles.

SECTION I: BACKGROUND

According to the Institute for Healthcare Improvement (IHI, 2018), huddles are key in establishing baselines in every clinical setting, before initiating patient care. Huddles are often conducted in the beginning of each workday for nurses and clinicians to be fully aware of the patients' conditions. Such pre-conference meetings insure a continuum of care. The exchange of important health information between staff during shift changes occurs in huddles. Information such as changes in patient status is typically reported at the end of each shift to the incoming nurse. As such, it is important for nurses to have a solid understanding of the huddle process in order to facilitate a continuum of quality care to patients and insure their safety.

Effective communication is a key factor in ensuring the implementation of quality patient care during the course of hospitalization. Meaningful interactions during huddles are facilitated by a direct observer. The unit's direct observer is typically a nurse manager or a resource nurse with specialized training in monitoring activities during team huddles. Direct observers assist in guiding the course or content of the huddle but should not lead or influence clinical decision-making during this process. A PowerPoint presentation to discuss the meaning of huddling and utilizing a standardized huddle observation form was presented during the training. Other significant aspects of the process involved analysis of the unit's staffing, census, equipment and events (SCENE). SCENE is an integral component that standardizes huddling transactions.

Description of the Project

The quality improvement project was implemented at a large urban hospital located in northeast New Jersey. This organization is renowned for producing high-quality patient outcomes. It is accredited by Det Norske Veritas (DNV), which is approved by the Centers for Medicare and Medicaid Services (CMS), to insure compliance with the CMS conditions of

participation for hospitals. The organization received the prestigious ISO 9001:2008 certification, which highlights a focus on increased quality outcomes. The organization is a NJ State designated Trauma center, comprehensive stroke center and regional perinatal care center. This organization also has received the prestigious Magnet Recognition award from the American Nurses Credentialing Center (ANCC).

The initiative was implemented on five medical-surgical units. Unit A was a 36-bed infectious disease unit with 59 employees. Unit B was a 33-bed neurology unit with 58 employees. Unit C was a 33-bed oncology service with 49 employees. Unit D was a 33-bed respiratory/chronic ventilator unit with 60 employees and Unit E; a 38-bed geriatric unit with 70 employees. The principal implementer created the acronym "SCENE" to discuss various issues during each huddle.

"S" - Staffing was a quick check on whether staffing issues exist.

"C" - Census was a quick glimpse at incoming vs. outgoing admissions, transfers, etc.

"E"' - Equipment; presented as a review synopses of equipment issues and/or needs.

"N"- News, reviewed upcoming in-services, birthday wishes, etc.

"E" - Events included a discussion of medication errors, previous falls, etc.

Each huddle began promptly at the top of the change of shift hour, at a designated central location. According to Di Vincenzo (2017, p. 59) adequate huddles should last long enough for staff to review pertinent patient information, should begin at a centralized location and are succinct. The duration of each huddle was 2-minutes in length. According to Yu (2015, p.3), huddles should "last about five to 15 minutes, maximum" and "that initial experimentation with times may be necessary". The 2-minute goal was achieved after the principal implementer completed the literature review and conducted organizational readiness. This time limit was

positively received by various stakeholders during the marketing phase and by staff during education.

Purpose of the Project

The purpose of this implementation project was to improve communications between staff, create an atmosphere where broader issues could be escalated on the units and continually reinforce processes that would contribute to quality outcomes. Existing quality outcomes were assessed using pre and post-implementation data. These included decreased end of shift overtime, increased patient and staff satisfaction scores. According to Di Vincenzo (2017, p. 60), decreased hospital length of stay, increased patient satisfaction and improved quality outcomes occur in organizations with effective communication between staff.

Goals and Objectives

Once implemented, this quality improvement project was expected to enhance patient outcomes, as well as augment staff camaraderie and teamwork. According to Cooper and Lee (2013, p.50), huddle implementation results in increased collaboration of interdisciplinary teams, increased transparency and the ability to escalate problems. Other positive outcomes included positive patient satisfaction as well as an enhancement in accountability. The focus of this process was on efficiency, safety and quality. Due to the enhanced focus on staff communication, this project produced the following results:

1. Increased staff satisfaction
    - Better understanding of unit issues/processes
    - Increased communication between staff
2. Increased patient satisfaction
    - Increased perception of communication by nurses

- Maintained HCHAPS with implementation of a new Electronic Health Record, Magnet and D.N.V. Visits

3. Decreased fiscal waste
    - Decreased late punch-in
    - Decreased late punch-out
    - Decreased call outs

Significance of the Project

It was imperative for the incoming and outgoing staff to effectively communicate and provide consistently high-quality care to patients. At the beginning of every shift, nursing staff shared information regarding patients' conditions, medication and laboratory updates. The units' Patient Care Associate discussed activities of daily living and patients' intake and output during the shift. Nurse Managers routinely conducted in-services that updated the staff on news or events within the healthcare organization. Medical-surgical units have staffs that work eight or twelve hour shifts. The exchange of pertinent information that occurs during shift changes ensures that patient care continues uninterrupted, regardless of staff work hours.

SECTION II: REVIEW OF THE LITERATURE

Prior to the initiation of this quality improvement project, a thorough literature search was conducted to review current evidence, examining the implications of implementing huddles in various clinical settings. By utilizing the electronic database from Seton Hall University's library, various scholarly search engines such as PubMed, CINAHL, Academic Search Premier, MEDLINE, and ClinicalKey were available to help gather pertinent articles. The following keywords were utilized within each search engine: health care huddles, huddling, communication, improving communications, communication improvement, communication among caregivers, debriefing, patient safety, interdisciplinary collaboration, multidisciplinary group meetings, shift-to-shift reporting and bedside reporting. Out of 784 published reports,14 met criteria to be included in the final analysis.

In order for an article to be included within the final literature review, each had to meet inclusionary criteria. Articles published after 2013 were included. Any articles that were not available or obtainable in English were excluded from the search. Furthermore, each final article had to be published by a reputable academic journal related to nursing practice or healthcare related disciplines. After excluding articles that did not meet inclusion criteria, pertinent articles were critiqued and categorized according to the level of hierarchy of evidence established by the Joanna Briggs Institute (Joanna Briggs Institute, 2014). Each article was ranked from levels one through five in terms of study design and quality. For example, any articles containing a systematic review or randomized controlled trial were designated a level one, according to the hierarchy of evidence. Systematic reviews of quasi-experimental studies and retrospective group studies involving pre- and post-testing were designated a level two. Case-controlled and observational cohort studies were designated a level three, according to the hierarchy of evidence

set forth by the Joanna Briggs Institute (JBI). Case studies and cross-sectional studies were classified as level four. Lastly, expert opinion and bench research articles produced by hospitals were ranked in the lowest level of evidence, a level five.

At least one article from each level of evidence was included in the final literature review in order to establish a well-rounded understanding of healthcare huddles, based on various qualitative, quantitative and multidisciplinary study designs. Each article was evaluated and analyzed for bias by utilizing the JBI Critical Appraisal Tool. The purpose of utilizing the JBI tool within this quality improvement project was to determine the methodological quality of each study, as well as assess the caliber of the study design indicated in each article (JBI, 2014). Some of the questions that were asked during the appraisal process were as follows: (1) Is the study question clearly and explicitly indicated? (2) Were the inclusions criteria appropriate for the study design? (3) Were there strategies or methods to reduce errors in data collection? (4) Were recommendations for health policy and/or practice supported by the reported results? (5) Did the implementers obtain approval from an Institutional Review Board?

From the final literature review selection, there were two articles involving random controlled designed experiments analyzing the implications of staff huddling at a healthcare setting. Glymph et al., (2015) conducted a systematic literature review of studies that explored preoperative briefing between clinical staff and nurse anesthetists from various surgical units, ranging from general surgery to orthopedics and gynecology. The authors revealed how nurse anesthetists, by utilizing the huddle, can collaborate with other members on the surgical team as a strategy to improve inter-professional communication and promote teamwork (Glymph et al., 2015, p. 185).

Im, Cho, Kim and Heo (2016) conducted a Randomized Control Trial (RCT) with a pre- and post-test experimental-group design to explore the effects of introducing a huddling program to 49 newly hired graduate nurses from two different metropolitan hospitals. The group of researchers concluded that implementing a huddling program enhanced collaboration between seasoned and new graduate nurses; it also reduced high turnover rates in staffing (Im et al., 2016, p. 1377). Since both articles utilized comprehensive RCT study designs, these two articles were designated a level one in accordance with the hierarchy of evidence.

In an article representing level two evidence, a team of nurse researchers conducted a quasi-experimental study; it examined the quality of communications among surgical ward nurses in a post-anesthesia care unit (PACU) (Lee, Cumin, Devcich & Boyd, 2014, p.160). The randomized quasi-experimental study involved 157 nurses who incorporated documentation during handover communications in between shifts (Lee et al., 2014, p. 164). Lee et al., (2014) determined that utilizing written notes may not be adequate in transferring pertinent health information among nursing staff (p. 165). Although the study team had limitations due to budgetary and time constraints, it was ultimately included in the final literature review due to the large sample size used in the study. Such findings imply that implementing huddles prior to patient care may promote positive changes in nursing practice, as well as improve patient safety.

According to three observational studies, researchers revealed the importance of allocating more time in patient safety huddles, as part of a clinician's daily routine (Guo, Tardif, & Bayley 2017; Melton et al., 2017; Wagner et al. 2014). A group of medical scientists conducted a single-center observational study exploring how implementing medical safety huddles may enhance patient well-being in an adult rehabilitation hospital (Guo et al., 2017, p.

1217). The authors determined that incorporating team safety huddles engaged physicians in quality improvement and enhanced overall patient safety (p. 1219).

Wagner et al. (2014) conducted a descriptive phenomenological study of huddle implementation in long-term care unit. The goal of the huddles was to support staff in discussing and managing client-responsive behaviors in long-term care. The research found that huddles resulted in improved staff collaboration, teamwork, support, and communication when discussing specific responsive behaviors (pp.237-238). In a study published in *The Health Care Manger*, a team of nurse researchers revealed that spending more time during staff huddles may lead to more timely communication between nurses and efficient problem-solving strategies in patient care (Melton et al., 2017, p. 285). The study team monitored a group of clinical staff members working in a dementia unit for twelve weeks. It demonstrated that implementing mental health huddles promoted positive teamwork among nurses, improved staff collaboration and enhanced patient safety (Melton et al., 2017, p. 243). At the end of the literature review, these three studies were designated a level three, in terms of study design caliber; they were ultimately included in the final selection.

In terms of qualitative research, two articles were included in the final literature review. Goldenhar, Brady, Sutcliffe and Muething (2013) conducted semi-structured interviews and focus groups to investigate the implications of using huddle systems in a pediatric hospital (p. 899). Results from this qualitative study revealed how the huddle system can yield the following five beneficial outcomes: (1) improved efficiencies and quality of information sharing, (2) accountability among clinicians, (3) empowerment among charge and bedside nurses, (4) establish a sense of community and (5) promote a culture of collaboration among pediatric nurses (Goldenhar et al., 2013, pp. 902-904).

According to an article published in the *Health Care Management Review*, a qualitative study explored how health care huddles improved patient safety outcomes at three different clinical settings: (a) an outpatient setting, (b) a medical-surgical unit and (c) a pediatric inpatient setting (Provost, Lanham, Leykum, McDaniel, & Pugh, 2015, p. 5). Provost et al., (2015) indicated how huddles improved patient safety outcomes by enhancing staffing relationships and promoted a safety culture (pp. 9-10). Such implications further emphasized the importance of implementing healthcare huddles across diverse clinical settings.

Lastly, four expert opinion articles and two research studies were included in the final part of the literature review. The utilization of safety huddles in addition to the implementation of communication boards ultimately reduced the occurrence of medication errors within labor and delivery units, reduced the occurrence of pressure injuries, as well as healthcare acquired infections (Foster, 2017; Kylor, Napier, Rephann, & Spence, 2016; McQuaid-Hanson &Pian-Smith, 2017). Furthermore, Di Vincenzo (2017) outlined how setting huddle goals can enhance patient safety by addressing problems before issues occur (p. 59). Other bench research articles concluded that implementing safety huddles may reduce wasteful hospital spending on hospital acquired infections and preventable medical errors (Cooper and Lee, 2013; Donnelly, 2017). Although these expert opinion articles and bench research studies are ranked low level in caliber according to the JBI's hierarchy of evidence, such articles produced consistent findings that purported the basis for this quality improvement project.

SECTION III: PROJECT METHODOLOGY

Implementation Steps

After obtaining Institutional Review Board (IRB) approval (see Appendix A), the implementation of the quality improvement project followed a specific timeline. The education attendees were given a standard pre-survey questionnaire that took two to three minutes of allotted time to complete. This pre-implementation survey (Appendix B), which was created by the principal implementer, was conducted prior to each educational session. The survey asked employees to strongly agree-agree-neutral-disagree or strongly disagree on nine specific questions. The pre-implementation surveys were anonymous, confidential and stored solely by the author. The principle implementer omitted number 6 on the pre and post-implementation questionnaire. This was an error during the creation of the questionnaire. The omission did not affect the data collection process or any part of the implementation process.

For record keeping purposes, a notation of the unit and date of the survey was documented after each pre and post-implementation survey, prior to being stored. Staff education was conducted on various day, evening or night shifts, including weekdays and weekends. The extensive flexibility in education periods was needed in order to reach the pre-implementation education goal of 80%. For accountability, a sign-in sheet was utilized during each huddle period.

Staff education was conducted over a one-week period, immediately followed by implementation. Post-implementation observation was conducted for three months, followed by a review of pre and post-implementation data. Implementation began on April 16, 2018, at Unit A's nursing station at 7 am. A call was placed to the 7pm – 730am shift charge nurse at 11pm on April 15, 2018 for coaching on what to include in the SCENE document (see Appendix C). The

principal implementer arrived on each unit thirty minutes prior to the first shift of implementation, insuring that the leader of the huddle had all pertinent information inscribed on the SCENE document and staff questions could be answered.

Random unit observation was conducted post-implementation by the principal implementer or the designated observers. This was to ensure that the process was progressing as designed. During the marketing phase, the direct observers were trained by the principal implementer on how to utilize the standardized designated observer form (Appendix D). The standard designated observation, which was created by the principal implementer, evaluated the duration, attendance and behavior of staff during the huddle. Implementation on the rest of the medical-surgical units occurred systematically at 7 am. Unit B's huddles project commenced on April 30, 2018: Units C and D on May 14 and Unit E on May 29, 2018.

This outcome driven project was unique in that it included Unit Associates (UA) and Patient Care Associates (PCA) functioning as huddle leaders. Historically, huddles are led by charge nurses, nurse clinical specialists or nurse managers. The UA and PCA staff work eight-hour shifts; they were tasked to lead the 3 pm and 11 pm huddles, respectively. The 7 am and 7 pm huddles were led by the night and day shift charge nurses, respectively. By including the UA and PCA staff, there was an expected increase in unit camaraderie, increased unit activity awareness, participation and buy-in. The huddle was also unique in its proposed timeline. The 2-minute limit insured that the huddle focused on relaying information pertinent to the unit and patients, without having digressions or sidebar conversations.

Theoretical Framework

According to nurse theorist, Betty Neuman, the Systems Model addresses the importance of cultivating a strong nurse-to-patient relationship at five different levels: (a) the individual, (b)

the family, (c) the group level, (d) the community and (e) the social environment. Such variables are key components in preventative healthcare practice (Ahmadi & Sadeghi, 2017). This model primarily focused on the interpersonal relationship between the nurse and patient. It also served as the theoretical framework that explored the intrapersonal relationship between nurses, during patient communication handoffs and healthcare huddles (Memmott, Marett, Bott& Duke, 2000). This quality improvement project analyzes how nurses interact with one another, based on the patients' psychological, physical, social, spiritual and developmental profiles. Since nursing practice aims to treat patients holistically, it is vital that all aspects of patient care be included in healthcare huddles.

Communications and the actual work experience of each nurse involved in this quality improvement project played an integral role in ensuring the continuum of patient care during shift changes. Nurses must be cognizant of any potential external factors negatively impacting effective staff communications; thus, reducing patient safety. As such, the Neuman Model served as the theoretical basis for fostering effective staff communications during safety huddles.

Risk Analysis

Prior to the implementation of this project, risks and benefits were evaluated. Notable risks were identified and prioritized, based on the risk management matrix (see Appendix E). Lack of adequate resources carried a severity score of 25; it was identified as the highest risk. The principal implementer was the sole educator and implementer of this project on five medical-surgical units. In order to mitigate this risk, designated observers were trained to offer a consistent post-implementation evaluation of the huddling process.

The second highest risk, with a severity score of 12, involved the overall timeline of education and implementation. Prior to implementation, unit staffs were educated on the need for

the change of shift initiative. The education discussed definition, rationale and evidence of huddles being effectively used in acute healthcare organizations. The education highlighted expected positive outcomes that would affect staff and patients. In order to ensure that the education and implementation timelines were standardized, a one-week education period was completed, followed by implementation and observation.

The communication teaching style illustrated a risk severity index of 10. In order to have a higher percentage of early adopters, the staff needed to understand how the change of shift huddles would be of benefit to them. Incorporating education methods and illustrations that drew attention to staff benefits were employed. PowerPoint presentations, handouts and open discussion during the education sessions were used. Due to the lack of a consistent huddling process at the organization, cultural and leadership buy-in were substantial implementation issues; resulting in a risk analysis score of four. Increasing the amount time spent marketing the project to leadership and clearly explaining huddling benefits to staff, helped to overcome this identified risk. As an independent quality improvement project, budgetary issues existed, such as the purchase visual of boards, computers, projectors and printing handouts. As a scholarly project, use of the principal implementer's free time and using allocated resources productively helped to mitigate the risk.

SWOT Analysis

A SWOT analysis was used; a planning technique that assists in the identification of internal or external Strengths, Weaknesses, Opportunities and Threats. (See Appendix F).

- Strengths: The strength of the projects was the support from the director of medical-surgical division and the unit nurse managers. Strengths of the project also included the understanding of

the clinical site and the renowned reputation of positive outcomes after project implementations by the principle investigator.

- Weakness: The weaknesses included the availability of one principle implementer at the clinical site. Another weakness was the limited number of designated observers.
- Opportunities: The availability of the principle investigator as a designated observer allowed for remediation to the process during the implementation period. The principle implementer also listened to staff feedback and looked for ways to improve the project.
- Threats: The major threat was non-compliance from staff huddle participation, through lack of staff or leadership buy-in.

Marketing

A successful marketing campaign with emphasis on positive outcomes was paramount to having a successful implementation. This process includes the identification, selection and development of the change of shift huddle process, and the implementation of a promotional strategy. Since the audience was the organization' administrators, the marketing process strategically focused on increased patient satisfaction, staff satisfaction and fiscal advantages. When discussing the implementation of huddles to frontline staff, there was a focus on staff satisfaction, increased communication and increased team camaraderie.

Administrative marketing began with a meeting with the director of medical-surgical services. Expected outcomes of the study and project implementation timelines on the five units were discussed. A meeting with the unit nurse managers and their resource nurses followed. For this project to be successful, buy-in from this group was essential. As this was the designated observer group, teaching how to conduct huddle observations was simultaneously completed. A PowerPoint presentation to discuss the meaning of huddling, its importance to the organization,

and the implementation timelines were presented. Emphasis on use of the direct observer form and buy-in regarding the 2-minute huddle timeline were completed at this time, as well.

Budgeting

The huddle implementation incurred a variety of expenses necessitating a rigid focus on budget. Departmental expenses must be known and planned for an organization to ensure sustainability with the limited resources available. (See table 1).

Table 1

Proposed budget for the implementation of huddles in an urban hospital

Resources	**Estimated Expense**	**Actual Expense**
Principal implementer; estimated 500 hours at $50/hr	$25,000	$0
Data Analyst: Estimated 8 hours at $35/hr	$280	$0
Educational material: Handouts (used projector instead).	$300	$0
Printouts for: sign in sheets, observer documentation and survey sheets.	$100	$100
Internet (Wi-Fi) cost (Used hospital Wi-Fi)	$90	$0
Projector and laptop .	$1,500	$0
Principal implementer travel: 54 cents per mile multiplied by 230.4 miles	$241.92	$241.92
Designated observer costs: 45 hours at $50/hr	$2,250	$0
Total	$29,761.92	$341.92

Note .Additional hours such as time spent on phone coaching staff were not taken into account.

Other expenses include purchases of equipment and supplies that are utilized on the units. Each unit leader utilizes the budget to translate their goals and objectives into a formal plan that can be followed (Kolakowski, 2016). The largest expense in acute care organizations is salaries and employee benefits. The entire project implementation was done on a voluntary basis by the principal implementer, thus the institution did not incur any additional expenses. A laptop computer and a projector, as well as educational and printed materials were utilized for staff education. The majority of labor hours were spent on education, implementation and observation. The five medical-surgical units had 296 employees who worked 7am-7:30pm, 7 am-3:30 pm, 3 pm-11:30pm, 7pm-7:30am or 11 pm-7:30am. The goal of education was to provide education to 80% of each department's staff. Other training presented to the designated observers was essential in mitigating the implementers' responsibility, thereby enhancing its success.

SECTION IV: PROJECT OUTCOMES

The principal short-term goal was the successful implementation and education of staff on the medical-surgical units about the process and benefits of the daily shift huddles. Post-implementation consistency in huddling was expected to occur after complete buy-in by staff and administration. Long-term goals included a complete change of culture and sustainability of change of shift huddles. In order to measure post-implementation success or failure, variables including staff satisfaction, patient satisfaction and end of shift overtime data were evaluated.

Huddle Education

The combined average huddle education for the five units was 71%. While not as high as the expected percentage, it remains higher than the 70% standard acceptable rate of the Center for Education and Development at the hospital. Seventy-three percent of the Unit A staff were educated, 74% from Unit B, 78% from Unit C, 63% from Unit D and 69% from Unit E. It took a total of 547 minutes (9.12 hours) to educate the 210 employees on their respective units. A projector, laptop and Power Point software were used during most of these sessions. There were noted technical difficulties with the laptop during two separate occasions. The first incident occurred on April 26, 2018 at 11:30 am while educating Unit B staff. The last incident occurred on May 11, 2018 while educating Unit D and Unit C staff. On both occasions, pre-printed education materials were readily available and served as a backup.

Huddle Attendance

Staff was required to sign in during the change of shift huddles to ensure consistency and accountability among units. The combined average huddle attendance for the five units was 46.6%. Unit A had an average attendance of 56%, Unit B averaged 29%, Unit C averaged 52%, Unit D averaged 55% and Unit E averaged 41%. The huddle attendance record was validated by

the number of signatures on the huddle sign-in sheet. Unit B's increasing lateness in coming to work resulted in decreased huddle attendance of 29%.

Huddle Observation

The huddle observation process was conducted by either the principal implementer or the designated observers; 215 observations were chronicled. See Table 2 below.

Table 2

Huddle observations

Unit	**Total observations**
Unit A	63
Unit B	6
Unit C	13
Unit D	75
Unit E	58
Total Observations	215

Due to scheduling conflicts, designated observers arrived after the change of shift huddle had occurred. On Unit B, this led to the designated observer's inability to observe the majority of huddles. Some comments noted in the post-huddle observations included code blues, interruptions and staff meeting attendance during change of shift. These interruptions contributed to the average huddle attendance of 46.6%. Keywords that were consistently documented included workstation on wheels (W.O.W.), electronic health record brand Cerner, and Dinamap blood pressure machines. A major negative that was consistently documented was the frequency

of broken equipments such as Dinamap machines, microwaves and medication barcode scanners. For example, Unit A initially commonly mentioned the Dinamap machine as being broken, repaired then broken again. A major positive was the acknowledgement of the consistent staff presence during the huddles. This was a common theme on all units.

Staff Satisfaction

Pre and post-implementation survey data was analyzed by a statistician. The results were generated by a quality management statistician with the use of IBM SPSS V.24. The nominal data calculated with the intervals of Time one (pre-implementation) and Time two (post-implementation, necessitated the use of independent sample T-Test procedure to determine the significance of the difference between two sample means. Descriptive statistics for each test variable were displayed. There were 202 total inpatient pre-implementation surveys and 154 post-implementation surveys collected (see table 3 and 4).

On question 2 knowing which Dinamap equipment was being repaired, increased post-huddle implementation from 24.7% to 72.1 % (see Appendix G1). Pre-implementation 29.2% of the staff agreed or strongly agreed that they always knew when broken equipment was being repaired and returned, post-implementation showed an increase to 68.8% (see Appendix G1). The perception of unit efficiency increased from 75.8% to 83.1% post implementation (see Appendix G2). The sharing of relevant information increased from 74.8% to 83.1% post implementation (see Appendix G3). Lastly, knowing when the next in-service or classes were being held, 52.9% of the staff either agreed or strongly agreed during pre-implementation; post-implementation increased to 76.6% (see Appendix G3).The independent samples T-Test scores pre and post-implementation showed that there were statistically significant differences, on pre- and post-survey questions 2,3,7,9 and 10 $P =/< 0.05$ (See Appendix G).

Table 3

Pre-Implementation Survey Overall Scores

	N	Average score	Std. deviation
1. There is a culture of collaboration and teamwork on my unit.	201	4.17	.815
2. Before I begin my shift, I know which Dynamap machine is being repaired by bio-med.	197	2.68	1.128
3. I always know when broken equipment is being repaired and returned to the unit.	198	2.72	1.174
4. Before I begin my shift, I know in which rooms the unit's high fall risk patients are located.	201	4.02	.82
5. I leave work on time because my team communicates very well with each other.	199	3.62	.981
7. My unit operates at a high level of efficiency.	199	3.94	.851
8. A huddle at the beginning of my shift would help my day run smoother.	200	2.91	.886
9. Staff on my unit shares relevant information in a timely manner.	202	3.87	.845
10. I am always aware of when the next in-service or classes will be held.	200	3.47	1.075

Table 4

Post-Implementation Survey Overall Scores

	N	Average score	Std. deviation
1. There is a culture of collaboration and teamwork on my unit.	154	4.28	.700
2. Before I begin my shift, I know which Dynamap machine is being repaired by bio-med.	154	3.83	1.059
3. I always know when broken equipment is being repaired and returned to the unit.	154	3.75	1.039
4. Before I begin my shift, I know in which rooms the unit's high fall risk patients are located.	154	4.19	.730
5. I leave work on time because my team communicates very well with each other.	154	3.75	.987
7. My unit operates at a high level of efficiency.	154	4.12	.778
8. A huddle at the beginning of my shift would help my day run smoother.	154	3.95	.873
9. Staff on my unit shares relevant information in a timely manner.	154	4.05	.782
10. I am always aware of when the next in-service or classes will be held.	154	3.94	.845

Overall the independent samples T-Test survey questions 2, 3, 7, 9, 10 showed that there were statistically significant differences in the overall scores, pre and post-implementation, P = 0.000 (see Appendix G4).

Patient Satisfaction

Pre and post-implementation patient satisfaction data was analyzed by a statistician. The results were generated by a quality management statistician with the use of IBM SPSS V.24. The nominal data calculated at interval necessitated the use of independent sample T-Test procedure to test the significance of the difference between two sample means. Descriptive statistics for each test variable were displayed. The HCAHPS data from April - August 2017 vs. April - August 2018 was analyzed. The HCHAPS questions analyzed focused on communication with nurses and response of hospital staff. During the implementation of this project, an "all hands on deck" approach was needed for the DNV accreditation visit and Cerner EHR implementation. This external factors ensured staff had a tough time keeping focus on patients. There was a statistically significant difference between 2017 and 2018 HCAHPS data for Unit A "Communication with nurses" with $P = 0.045$ (see Figure 1).All other Units had no significant change between "communication with nurses" 2017 and 2018 scores. Notable - 2 units (Unit C and D) had increased scores and this was perceived to be because of huddles project refocused attention back on the patients.

Figure 1

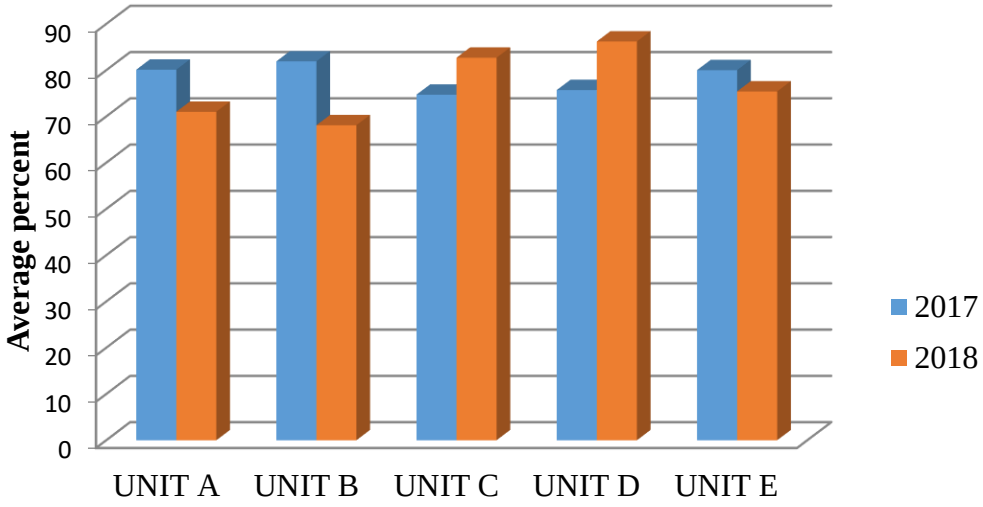


Figure 1. There was a Statistically Significant Difference between 2017 and 2018 HCAHPs Data for Nurse Unit A for Question "Communication with Nurses" *P* = 0.045.

The HCAHPS data (response of hospital staff) from April - August 2017 vs. April - August 2018 was compared. These specific questions ask for patients' perception to staff responsive regarding the patients needs. The HCAHPS data during the huddle implementation project was un-affected by organization focus on DNV, Magnet and Cerner implementation. Following analysis of all unit scores, there was no statistically significant difference in HCAHPS scores by nurse unit, 2017 and 2018 *P* =/> 0.05 (see Figure 2). Notable - 2 units (Unit C and D) had increased scores and 1-unit (Unit E) had same scores because of huddles project refocused attention back on the patients.

Figure 2

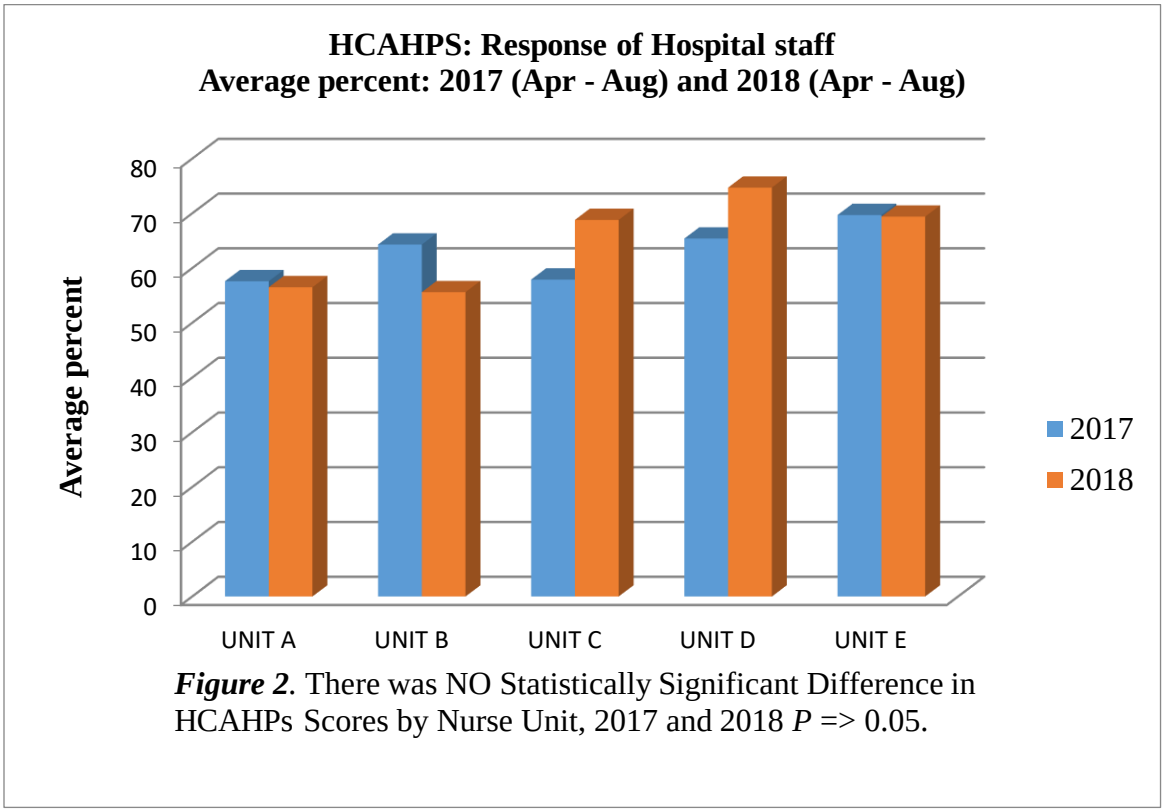


Figure 2. There was NO Statistically Significant Difference in HCAHPs Scores by Nurse Unit, 2017 and 2018 *P* => 0.05.

Decreased fiscal waste

a). Decreased late punch out.

The employee timekeeping exceptions report, which chronicled each employee's late punch-outs, was evaluated. These productivity reports examined data three months pre-implementation and three months during implementation. This specific period was selected in order to evaluate whether the implementation of huddles would reduce end of shift overtime. A late punch out report is created when an employee leaves work after their scheduled time. For example, a 7 am - 7:30 pm nurse would create a late punch out report if they punched out, on or after 7:31 pm.

The data comparing three months pre-implementation and three months post-implementation demonstrated a 4% and 29% decrease respectively in Unit E and C's staff leaving work late (See table 5). Unit A, B and D demonstrated between 5%-25% increase in number of staff leaving late during the sample respective timeline.

Table 5

Late-Out Exceptions Report

		Pre-Implementation Total # of exceptions	Post-Implementation Total # of exceptions	
Unit A	Late out	600	799	25% increase
Unit B	Late out	1275	1339	5% increase
Unit C	Late out	1027	733	29% decrease
Unit D	Late out	655	743	12% increase
Unit E	Late out	1148	1199	4% decrease

Note: The late-out report pre and post implementation demonstrated an increase in staff leaving work late in three of the five medical surgical units.

Most of the increases in employees leaving late from work coincided with the timeframe surrounding education and implementation of the new Cerner EHR (electronic health record) at the organization. Following analysis of all unit late-out exception reports data, there was no statistically significant difference pre and post implementation P = 0.4 (see figure3). This finding was significant due to the expected increase in staff leaving late that would coincide with implementation of a new EHR System.

Figure 3

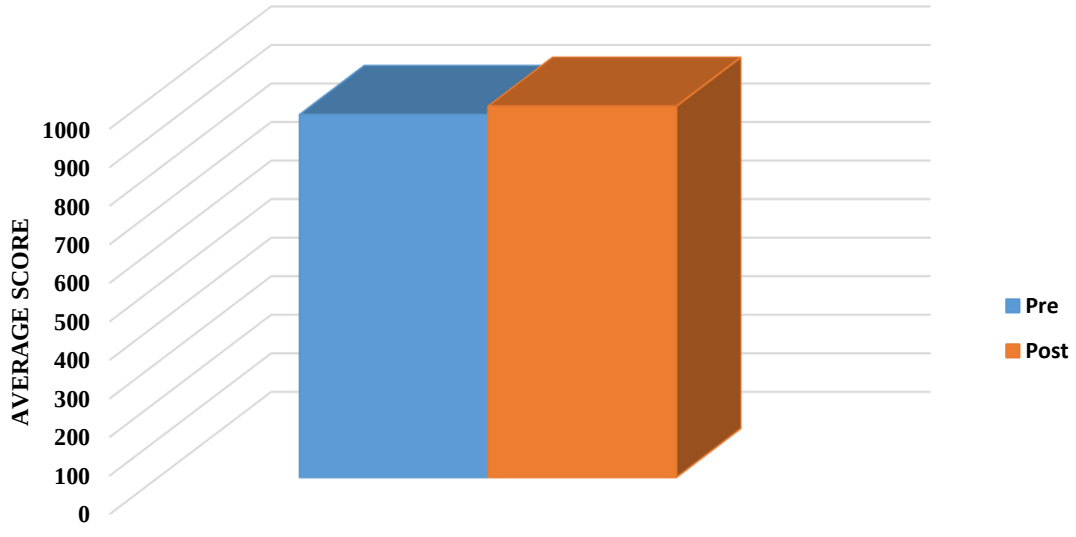


Figure 3. There was no statistically significant difference between pre and post implementation data on late-out exceptions report for all units $p = 0.4$

b). Decreased late punch in.

Total exceptions reports, which focused on employee late punch-ins, were also evaluated. The tardiness reports identified employees who punched in, either on or after their scheduled time to begin the shift. For example, a 7am-7:30pm nurse would create a late punch in report if they punched in on or after 7:01 a.m. (See table 6). This productivity report was evaluated three months pre-implementation and three months during implementation timelines. This specific period was selected in order to evaluate whether the implementation of huddles reduced tardiness, resulting in reduced end of shift overtime. The principal implementer compared three months pre-implementation and three months post-implementation results.

Table 6

Late-In Exceptions Report

		Pre-implementation Total # of exceptions	Post-implementation Total # of exceptions	
Unit A	Late In	115	106	8% reduction
Unit B	Late In	150	137	9% reduction
Unit C	Late In	122	91	25% reduction
Unit D	Late In	74	93	20% increase
Unit E	Late In	117	112	4% reduction

Note: The late-in report pre and post implementation demonstrated a decrease in staff tardiness in four of the five medical surgical units.

This data demonstrated a 4% to 25% decrease in staff arriving late on Units A, B C & E. There was a 20% increase on Unit D. The huddles on Unit D were conducted at the nurses' station, next to the time clock. During the initial implementation period, staffs were noted attending huddle first then punching-in. The staffs were appropriately coached to punch in first, for greater accuracy. Following analysis of all unit late-in exception reports data, there was no statistically significant difference pre and post implementation $P = 0.2$ (see figure 4).

Figure 4

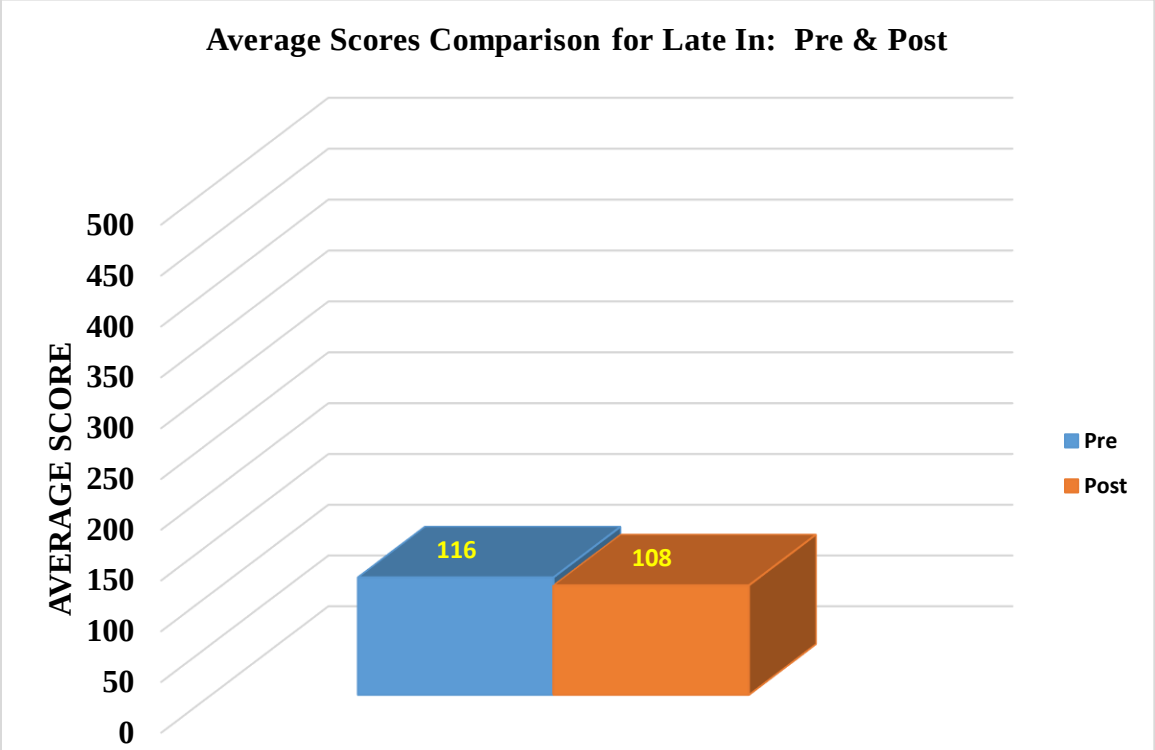


Figure **4: There was no statistically significant difference pre and post implementation p = 0.2**

c). Decreased call-outs.

Total exceptions reports, which focused on employee call-outs, were also evaluated. This report identified employees who had unscheduled absences on their time sheets. For example, a 7am-7:30pm nurse would create a call-out report if they called the staffing department and stated that they were unable to work on their shift due to unavoidable circumstances such as illness, family emergencies, etc. (see table 7). The data comparing three months pre-implementation and three months post-implementation demonstrated a 21% to 25% decrease in staff call-outs on Units A, B C & D. The principle implementer was unable to identify the reason for a 9% increase in call outs on Unit E.

Table 7

Call-Outs Exceptions Report

		Pre-implementation Total # exceptions	Post-implementation Total # exceptions	
Unit A	Call outs	1181.72	933.27	21% decrease
Unit B	Call outs	757.17	496.00	34% decrease
Unit C	Call outs	685.70	387.33	44% decrease
Unit D	Call outs	846.48	524.88	38% decrease
Unit E	Call outs	451.00	497.71	9% increase

Note: The late-in report pre and post implementation demonstrated a decrease in staff tardiness in four of the five medical surgical units.

Following analysis of all unit call-out exception reports data**,** there was a statistically significant difference between pre and post implementation data on call-outs exceptions report for all units $p = 0.02$. See figure 5.

Figure 5

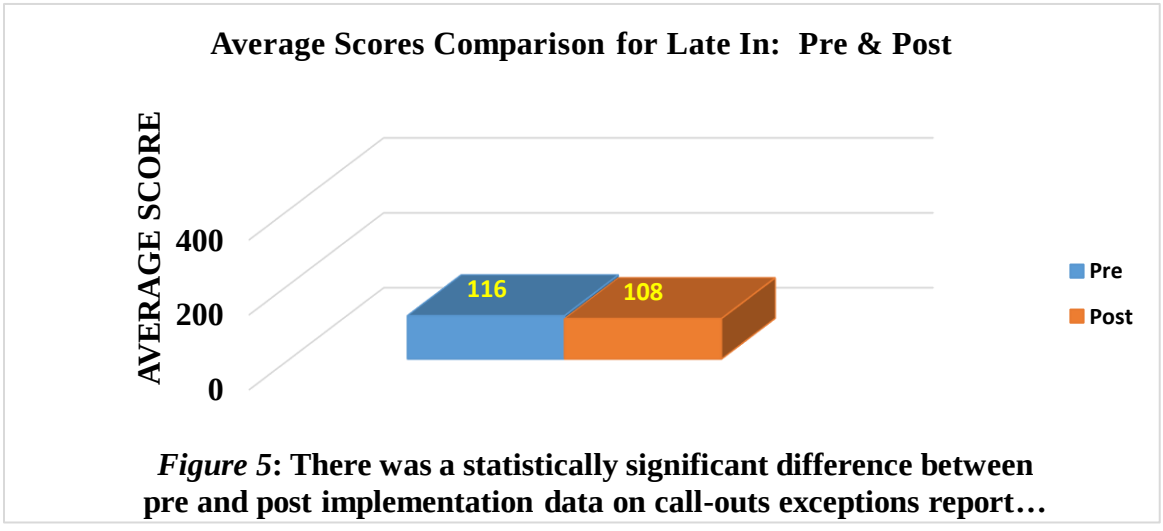


***Figure 5*: There was a statistically significant difference between pre and post implementation data on call-outs exceptions report…**

Conclusion

At an urban hospital, the implementation of change of shift huddles involved one principal implementer, who educated 71% of the staff; an average below the 80% goal. The principal implementer educated two hundred and ten employees; spending 547 minutes with onsite instruction. The overall huddle attendance rate was 46.6%. A noted decrease in attendance occurred post-implementation on each unit, from months 1 to 3. Several factors were thought to have played a role in distracting staff from and limiting success of the huddle process, including a change in the hospital's electronic healthcare record (EHR), preparation for a Magnet accreditation visit and an on-site visit by Det Norske Veritas (DNV). These external factors resulted in 'an all hands on deck' focus by the implementer and designated observers; less concentration was placed on huddling and other implemented projects. The new EHR served as a confounder to expected project results, resulted in an increase late staff punch-out in 3 out of 5 units.

Pre and post-implementation surveys showed that there was a significant difference in staff perception regarding the positive impact of huddles. One impact was the staff increased awareness of equipment issues, in-services and relevant education opportunities. These results validated the sufficiency of the 2-minute huddle timeline, based on the positive staff satisfaction results and initial staff attendance. The culture begun to shift as noted by staff survey responses that indicated by increased knowledge about patients on the unit, processes, equipment and supplies which improved their overall job effectiveness. Post huddle implementation showed a statistically significant decrease in call-out rates. Also noted was the decrease in tardiness associated with staff coming late to work.

During implementation of this project, the organization changed its EHR to Cerner, prepared and went through DNV accreditation and Magnet re-designation. All these "hand on deck" factors had no statistical significant difference in overall HCAHPS scores. The huddle implementation resulted in two units having an increase in "communication with nurses" during this tumultuous timeline in the organization. 3 units increased or maintained HCAHPS scores related to "response of hospital staff" as well.

Future recommendations to be considered during the budgeting phase include allocating telephone coaching time as well as time spent setting up for education. Other additional extra time include during staff instruction prior to implementation or time waiting for the huddle to begin. Future huddle implementations should have an education period greater than one week and more than one change agent to increase staff education and in-unit huddle observations post-implementation. Careful timing of planned projects to avoid conflicting and competing organization-wide priorities should also be considered.

Due to the positive staff perception post-implementation, there are plans to sustain the project. The principal implementer will continue educating staff, advising unit management and the director of nursing to ensure that the change of culture that occurred is sustained. The findings support that huddles have improved quality of care. These findings were presented to the director of medical-surgical service. The staff and unit managers involved in the project are committed to continuing huddles in the units. The SCENE document and change of shift huddles continue to be used on 4 out of 5 units that the project was implemented on. This quality improvement project showed that implementation of the change of shift huddles in a urban university medical center reduces staff call-outs and shift tardiness while improving both patient

and staff satisfaction, teamwork, and understanding of work issues which can positively impact nursing unit quality outcomes.

References

Ahmadi, Z., & Sadeghi, T. (2017). Application of the Betty Neuman systems model in the nursing care of patients/clients with multiple sclerosis. Multiple Sclerosis Journal – Experimental, Translational and Clinical, 3(3), 2055217317726798. https://doi.org/10.1177/2055217317726798

American Psychological Association. (2010). *Publication manual of the American Psychological Association* (6th ed.). Washington, DC: American Psychological Association.

Cooper, R. L., & Lee, J. Y. (2013).Using huddles to enhance the patient experience. Organizational huddles improve teamwork and patient care. *Healthcare Executive, 28*(6), 48-50.

Di Vincenzo, P. (2017). Team huddles: A winning strategy for safety. *Nursing, 47*(7), 59-60. doi:10.1097/01.Nurse.0000520522.84449.0e

Donnelly, L. F. (2017). Daily readiness huddles in Radiology - improving communication, coordination, and problem-solving reliability. *Current Problems in Diagnostic Radiology, 46*(2), 86-90.

Glymph, D. C., Olenick, M., Barbera, S., Brown, E. L., Prestianni, L., & Miller, C. (2015). Healthcare utilizing deliberate discussion linking events (HUDDLE): A systematic review. *American Association of Nurse Anesthetists, 83*(3), 183-188.

Goldenhar, L. M., Brady, P. W., Sutcliffe, K. M., & Muething, S. E. (2013). Huddling for high reliability and situation awareness. *British Medical Journal, Quality and Safety, 22*(11), 899-906.doi: 10.1136/bmjqs-2012-001467

Foster, S. (2017). Implementing safety huddles. *British Journal of Nursing, 26*(16), 953.

Guo, M., Tardif, G., & Bayley, M. (2017). Medical safety huddles in rehabilitation: A novel patient safety strategy. *Archives of Physical Medicine and Rehabilitation*, *99*(6), 1217–1219. https://doi.org/10.1016/j.apmr.2017.09.113

Im, S. B., Cho, M., Kim, S. Y., & Heo, M. L. (2016). The huddling program: effects on empowerment, organizational commitment, and ego-resilience in clinical nurses - a randomized trial. *Journal of Clinical Nursing, 25*(9/10), 1377-1387. doi:10.1111/jocn.13228

Institute for Healthcare Improvement (2018). Daily huddles. Retrieved from http://www.ihi.org/knowledge/Pages/Tools/Huddles.aspx

Joanna Briggs Institute. (2014). *New Joanna Briggs Institute Levels of Evidence*. [PDF]. Retrievable from: http://joannabriggs.org/assets/docs/approach/JBI-Levels-of-evidence_2014.pdf

Kolakowski, D. (2016). Constructing a nursing budget using a patient classification system. *Nursing Management*, *47*(2), 14-16.

Kylor, C.Napier, T., Rephann, A.& Spence S.J. (2016). Implementation of the safety huddle. *Critical Care Nurse*, *36*(6), 80-82.doi: 10.4037/ccn2016768

Lee, H., Cumin, D., Devcich, D., & Boyd, M. (2014). Expressing concern and writing it down: An experimental study investigating transfer of information at nursing handover. *Journal of Advanced Nursing*, *71*(1), 160–168. https://doi.org/10.1111/jan.12484

McQuaid-Hanson, E., &Pian-Smith, M. C. (2017).Huddles and debriefings: Improving communication on labor and delivery. *Anesthesiology Clinics, 35*(1), 59-67.

Melton, L., Lengerich, A., Collins, M., McKeehan, R., Dunn, D., Griggs, P., Davies, T., Johnson, B. and Bugajski, A., (2017). Evaluation of huddles: A multisite study. *The Health Care Manager, 36*(3), pp.282-287.

Memmott, R., Marett, K., Bott, R., & Duke, L. (2000). Use of the Neuman Systems Model for interdisciplinary teams. *Online Journal of Rural Nursing and Health Care.* [PDF]. Retrievable from: https://web.archive.org/web/20121128200859/http://www.rno.org:80/journal/index.php/online-journal/article/viewFile/76/73

Provost, S. M., Lanham, H. J., Leykum, L. K., McDaniel Jr., R. R., & Pugh, J. (2015). Healthcare huddles: Managing complexity to achieve high reliability. *Health Care Management Review, 40*(1), 2-12. doi:10.1097/HMR.0000000000000009

Wagner, L. M., Huijbregts, M., Sokoloff, L. G., Wisniewski, R., Walsh, L., Feldman, S., & Conn, D. K. (2014). Implementation of mental health huddles on dementia care units. *Canadian Journal on Aging, 33*(3), 235-245.doi: 10.1017/S0714980814000166

Yu, E. (2015). Implementing a daily team huddle. *Manage Rev, 40*(1), 2-12. Retrievable from https://edhub.ama-assn.org/steps-forward/module/2702506

Appendix A

Institutional Review Board

INSTITUTIONAL REVIEW BOARD
(973) 754-2768 FAX (973) 754-4355
FWA00001533 IRB00000892 IORG0000560
EXEMPT DETERMINATION 2018

March 20, 2018

Benson Kahiu, MSN,RN,CEN

Dear Mr. Kahiu,

EX# 2018-15 Benson Kahiu, MSN,RN,CEN Title: "Change of Shift Huddle" Protocol Version 2/14/18.

Your protocol and questionnaire were approved through Exempt determination by Patrick Perin, MD on March 20, 2018.

I have reviewed your aforementioned project and found that this project falls under "Categories of Research Exempt from Review." This study does not have to go before a convened meeting of the IRB and does not require any further action on behalf of the Board nor myself. Upon completion of this study, I request that a final report on your findings be submitted to the IRB to be shared with the Board.

We here at IRB wish you the best of luck with a successful completion of your project.

Yours very truly,

Patrick V. Perin, MD
Chairman, Institutional Review Board
PVP/ap

Appendix B

***Questionnaire*:** Pre and Post-Implementation Survey

Team Function	Strongly agree	Agree	Neutral	Disagreed	Strongly disagree
1. There is a culture of collaboration and teamwork on my unit.					
2. Before I begin my shift, I know which Dynamap machine is being repaired by bio-med.					
3. I always know when broken equipment is being repaired and returned to the unit.					
4. Before I begin my shift, I know in which rooms the unit's high fall risk patients are located.					
5. I leave work on time because my team communicates very well with each other.					
7. My unit operates at a high level of efficiency					
8. A huddle at the beginning of my shift would help my day run smoother.					

9. Staffs on my unit share relevant information in a timely manner.
10. I am always aware of when the next in-service or classes will be held.

Appendix C

SCENE Document

STAFFING	ISSUES RESOLVED
	RESOLVED
	DATE/TIME
CENSUS	
Poss. DC, ADMs, TRx	
IN/OUT	
EQUIPMENTS	
New, Missing, Broken (sent to Biomed), Called to ITR	
NEWS	
HCAPS, Quality Updates	
EVENTS	
In-services/ downtimes/	
Activities	
MISCELLANEOUS	

Note: The huddle process was standardized to discuss staffing, census followed by equipment issues, news and any relevant events.

Appendix D

Questionnaire: Designated Observer Form

Designated Observer: **Date:**

Time:

Observation Question	**Noted Observation**	**Comments**
1. Did the huddle start on time?	Yes/No	
2. Did the huddle go over 2 minutes?	Yes/No	
3. Did the leader of the huddle use the S.C.E.N.E. process?	Yes/No	
4. Did a majority of the staff attend the huddle?	Yes/No	
5. (a). Were there any of issues identified during the huddle?	Yes/No	
(b). How many issues were identified?	/na	
6. (a). Were any identified issues resolved in the huddle?	Yes/No	
(b). How many issues were resolved?	/na	
(c). How many issues were not resolved?	Yes/No	
(d). Did the leader discuss using the chain of command to resolve the issue?	Yes/No	

7. During the huddle a majority of the staff were:

(a). Paying attention? Yes/No

(b). Having side bar conversations? Yes/No

(c). Being interrupted by others? Yes/No

(d). Late in arriving for the huddle? Yes/No

Note: The observers' role was to document the huddle process without any interference.

Appendix E

Risk Management Matrix

Type of risk	Jeopardy	Description of risk	Expectation of the risk	Impact of the risk	Severity of the risk	Contingency plan of action
Resources	Lack of adequate manpower resources	Unable to be present in multiple units at the same time	5	5	25	Train the trainer methodology using resource nurses on all units
Timeline	Lack of adequate observation timeline	Lack of collecting adequate visual information	3	4	12	Adjust education and implementation timelines according to observed progress
Communication teaching style	Staff will not understand message	Need for huddle vs. benefit for staff may not be	2	5	10	Utilize PowerPoint, handouts, return demonstration

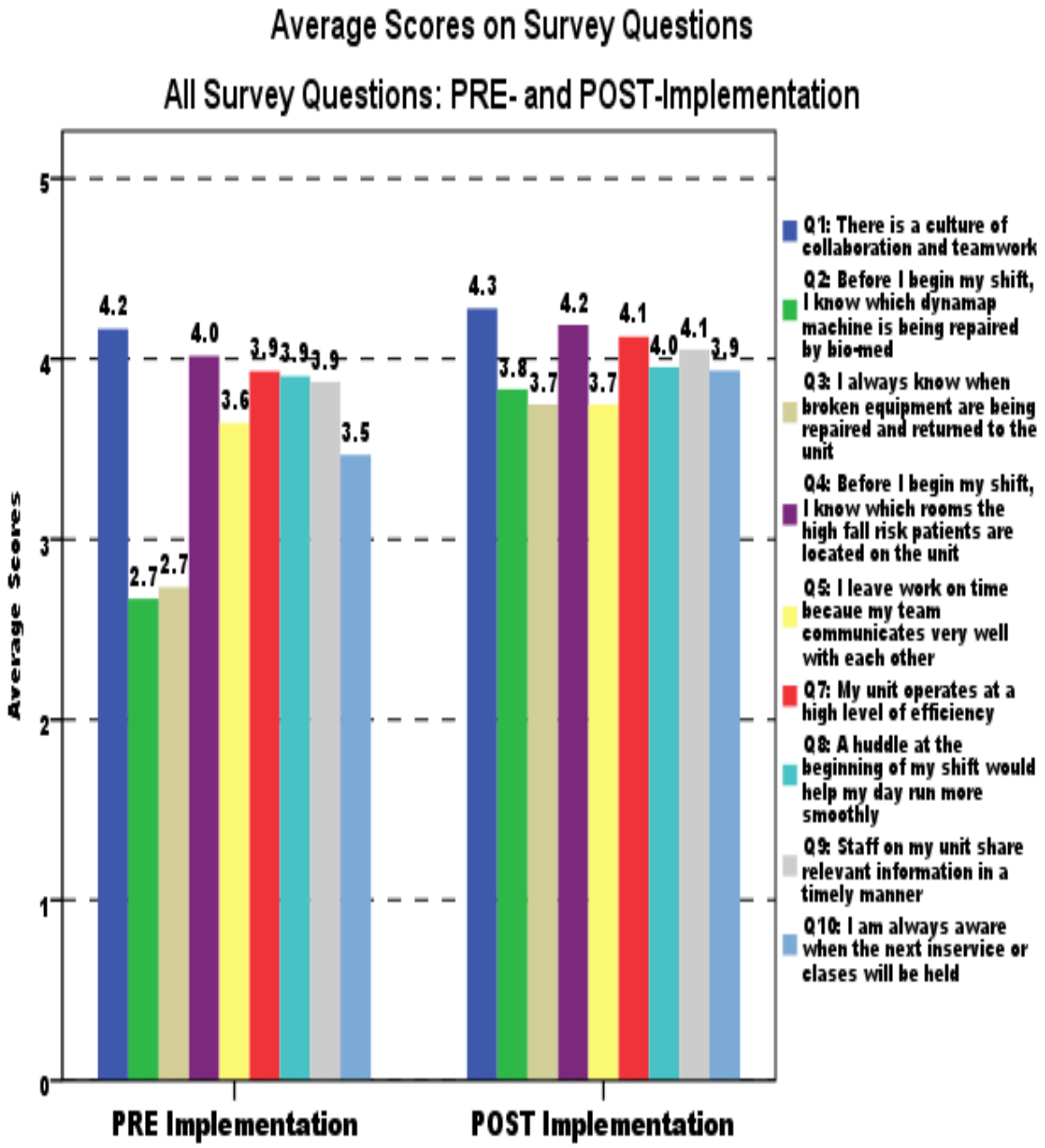
		understood by all.				for all staff
Culture	Introducing a new huddling culture	Laggards and late majority more than early adopters	2	2	4	Clearly explain benefit of huddling to staff
Leadership buy-in	Failure to see benefit of huddling and enforce change	Laggards and late majority more than early adopters	2	2	4	Increased marketing time spent on leaders
Budget	Lack of monetary resources for training	Proper funds needed for successful implementation	1	1	1	Allocate resources productively

Appendix F

SWOT Analysis

Strengths	*Opportunities*
• Support from director of medical-surgical division • Quality improvement project promotes teamwork • Close proximity and understanding of clinical site by principle implementer. • Principle implementer has a renowned reputation of positive outcomes after project implementations.	• Improvement in compliance • Improvement in patient outcomes • Improvement in staff satisfaction • Staff education
Weaknesses	*Threats*
• Lack of adequate observation time. • Limited number of designated observers. • Resources: One principle implementer educated >290 employees.	• Resistance from staff and/or leadership • Non-compliance

Appendix G



Note: Pre and post-implementation survey showing statistically significant differences on questions 2, 3, 7, 9, 10. P >0.05.

Appendix G1

Q1: There is a culture of collaboration and teamwork

PRE/POST Implementation Survey			Frequency	Percent	Valid Percent	Cumulative Percent
PRE Implementation	Valid	Strongly Agree	76	37.6	37.8	37.8
		Agree	93	46.0	46.3	84.1
		Neutral	25	12.4	12.4	96.5
		Disagree	5	2.5	2.5	99.0
		Strongly Disagree	2	1.0	1.0	100.0
		Total	201	99.5	100.0	
	Missing	No Data	1	.5		
	Total		202	100.0		
POST Implementation	Valid	Strongly Agree	63	40.9	40.9	40.9
		Agree	73	47.4	47.4	88.3
		Neutral	16	10.4	10.4	98.7
		Disagree	2	1.3	1.3	100.0
		Total	154	100.0	100.0	

Q2: Before I begin my shift, I know which dynamap machine is being repaired by bio-med

PRE/POST Implementation Survey			Frequency	Percent	Valid Percent	Cumulative Percent
PRE Implementation	Valid	Strongly Agree	13	6.4	6.6	6.6
		Agree	37	18.3	18.8	25.4
		Neutral	47	23.3	23.9	49.2
		Disagree	73	36.1	37.1	86.3
		Strongly Disagree	27	13.4	13.7	100.0
		Total	197	97.5	100.0	
	Missing	Not Applicable	5	2.5		
	Total		202	100.0		
POST Implementation	Valid	Strongly Agree	43	27.9	27.9	27.9
		Agree	68	44.2	44.2	72.1
		Neutral	23	14.9	14.9	87.0
		Disagree	14	9.1	9.1	96.1
		Strongly Disagree	6	3.9	3.9	100.0
		Total	154	100.0	100.0	

Q3: I always know when broken equipment are being repaired and returned to the unit

PRE/POST Implementation Survey			Frequency	Percent	Valid Percent	Cumulative Percent
PRE Implementation	Valid	Strongly Agree	15	7.4	7.6	7.6
		Agree	44	21.8	22.2	29.8
		Neutral	37	18.3	18.7	48.5
		Disagree	75	37.1	37.9	86.4
		Strongly Disagree	27	13.4	13.6	100.0
		Total	198	98.0	100.0	
	Missing	Not Applicable	4	2.0		
	Total		202	100.0		
POST Implementation	Valid	Strongly Agree	35	22.7	22.7	22.7
		Agree	71	46.1	46.1	68.8
		Neutral	29	18.8	18.8	87.7
		Disagree	12	7.8	7.8	95.5
		Strongly Disagree	7	4.5	4.5	100.0
		Total	154	100.0	100.0	

Appendix G2

Q4: Before I begin my shift, I know which rooms the high fall risk patients are located on the unit

PRE/POST Implementation Survey			Frequency	Percent	Valid Percent	Cumulative Percent
PRE Implementation	Valid	Strongly Agree	58	28.7	28.9	28.9
		Agree	106	52.5	52.7	81.6
		Neutral	23	11.4	11.4	93.0
		Disagree	11	5.4	5.5	98.5
		Strongly Disagree	3	1.5	1.5	100.0
		Total	201	99.5	100.0	
	Missing	Not Applicable	1	.5		
	Total		202	100.0		
POST Implementation	Valid	Strongly Agree	53	34.4	34.4	34.4
		Agree	81	52.6	52.6	87.0
		Neutral	17	11.0	11.0	98.1
		Disagree	2	1.3	1.3	99.4
		Strongly Disagree	1	.6	.6	100.0
		Total	154	100.0	100.0	

Q5: I leave work on time becaue my team communicates very well with each other

PRE/POST Implementation Survey			Frequency	Percent	Valid Percent	Cumulative Percent
PRE Implementation	Valid	Strongly Agree	36	17.8	18.1	18.1
		Agree	82	40.6	41.2	59.3
		Neutral	57	28.2	28.6	87.9
		Disagree	18	8.9	9.0	97.0
		Strongly Disagree	6	3.0	3.0	100.0
		Total	199	98.5	100.0	
	Missing	Not Applicable	2	1.0		
		No Data	1	.5		
		Total	3	1.5		
	Total		202	100.0		
POST Implementation	Valid	Strongly Agree	38	24.7	24.7	24.7
		Agree	58	37.7	37.7	62.3
		Neutral	42	27.3	27.3	89.6
		Disagree	13	8.4	8.4	98.1
		Strongly Disagree	3	1.9	1.9	100.0
		Total	154	100.0	100.0	

Q7: My unit operates at a high level of efficiency

PRE/POST Implementation Survey			Frequency	Percent	Valid Percent	Cumulative Percent
PRE Implementation	Valid	Strongly Agree	48	23.8	24.1	24.1
		Agree	105	52.0	52.8	76.9
		Neutral	36	17.8	18.1	95.0
		Disagree	6	3.0	3.0	98.0
		Strongly Disagree	4	2.0	2.0	100.0
		Total	199	98.5	100.0	
	Missing	Not Applicable	1	.5		
		No Data	2	1.0		
		Total	3	1.5		
	Total		202	100.0		
POST Implementation	Valid	Strongly Agree	51	33.1	33.1	33.1
		Agree	77	50.0	50.0	83.1
		Neutral	20	13.0	13.0	96.1
		Disagree	6	3.9	3.9	100.0
		Total	154	100.0	100.0	

Appendix G3

Q8: A huddle at the beginning of my shift would help my day run more smoothly

PRE/POST Implementation Survey			Frequency	Percent	Valid Percent	Cumulative Percent
PRE Implementation	Valid	Strongly Agree	52	25.7	26.0	26.0
		Agree	92	45.5	46.0	72.0
		Neutral	46	22.8	23.0	95.0
		Disagree	6	3.0	3.0	98.0
		Strongly Disagree	4	2.0	2.0	100.0
		Total	200	99.0	100.0	
	Missing	No Data	2	1.0		
	Total		202	100.0		
POST Implementation	Valid	Strongly Agree	44	28.6	28.6	28.6
		Agree	69	44.8	44.8	73.4
		Neutral	32	20.8	20.8	94.2
		Disagree	8	5.2	5.2	99.4
		Strongly Disagree	1	.6	.6	100.0
		Total	154	100.0	100.0	

Q9: Staff on my unit share relevant information in a timely manner

PRE/POST Implementation Survey			Frequency	Percent	Valid Percent	Cumulative Percent
PRE Implementation	Valid	Strongly Agree	41	20.3	20.3	20.3
		Agree	110	54.5	54.5	74.8
		Neutral	36	17.8	17.8	92.6
		Disagree	13	6.4	6.4	99.0
		Strongly Disagree	2	1.0	1.0	100.0
		Total	202	100.0	100.0	
POST Implementation	Valid	Strongly Agree	42	27.3	27.3	27.3
		Agree	86	55.8	55.8	83.1
		Neutral	19	12.3	12.3	95.5
		Disagree	6	3.9	3.9	99.4
		Strongly Disagree	1	.6	.6	100.0
		Total	154	100.0	100.0	

Q10: I am always aware when the next inservice or clases will be held

PRE/POST Implementation Survey			Frequency	Percent	Valid Percent	Cumulative Percent
PRE Implementation	Valid	Strongly Agree	34	16.8	17.0	17.0
		Agree	73	36.1	36.5	53.5
		Neutral	55	27.2	27.5	81.0
		Disagree	29	14.4	14.5	95.5
		Strongly Disagree	9	4.5	4.5	100.0
		Total	200	99.0	100.0	
	Missing	Not Applicable	1	.5		
		No Data	1	.5		
		Total	2	1.0		
	Total		202	100.0		
POST Implementation	Valid	Strongly Agree	37	24.0	24.0	24.0
		Agree	81	52.6	52.6	76.6
		Neutral	27	17.5	17.5	94.2
		Disagree	7	4.5	4.5	98.7
		Strongly Disagree	2	1.3	1.3	100.0
		Total	154	100.0	100.0	

Appendix G4

Group Statistics: Responses to All Survey Questions by PRE- & POST-

	PRE/POST Implementation Survey	N	Average/Mean Score	Std. Deviation	Std. Error Mean
Overall Score (Sum of Responses to All Questions)	PRE Implementation	202	32.0545	5.39227	.37940
	POST Implementation	154	35.8571	5.35099	.43119

Independent Samples Test: Responses to All Survey Questions by PRE- & POST-

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Overall Score (Sum of Responses to All Questions)	Equal variances assumed	.297	.586	-6.614	354	.000	-3.80269	.57494	-4.93342	-2.67195
	Equal variances not assumed			-6.621	330.719	.000	-3.80269	.57435	-4.93252	-2.67286

Note. Independent samples T-Test survey questions 2, 3, 7, 9, 10 showed a statistically significant differences in the overall scores, pre and post-implementation P = 0.000