Huddle Implementation in the Perioperative Setting

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Huddle Implementation in the Perioperative Setting

Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Nursing Practice at the University of Kentucky

By
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Lexington, Ky
2022
Abstract

Background: Communication is essential for safe and effective patient care. In the perioperative setting, information sharing is critical to care coordination. Lack of communication between caregivers can lead to medical errors. Evidence shows that huddles lead to increased communication, satisfaction, and engagement between team members resulting in better patient outcomes. Huddles are short, less than 10-minute gatherings that focus on the daily schedule, identify potential obstacles, explain unique needs, and discuss preceding day issues.

Objectives: This project aimed to evaluate the effectiveness of huddles on employee satisfaction, engagement, and communication of healthcare workers while also determining if huddles were seen as valuable in the perioperative setting.

Methods: This Quasi-Experimental, pretest-posttest design study was conducted at an academic medical center in the midwestern part of the United States. Huddles were done twice a week. Healthcare worker satisfaction, engagement, and communication practices were measured utilizing the Communication Assessment Questionnaire (CAQ), the Work and Well-being Survey (UWES-17), and some open-ended descriptive questions.

Results: A total of 61 participants completed the pre-survey, and 24 completed the post-survey. The UWES-17, CAQ, and employee satisfaction subscale scores all increased post-implementation. Clarity of messages, a CAQ domain, was the only variable noted to be statistically significant. Study participants acknowledged the value of huddles in the perioperative services department.

Conclusion: Employee satisfaction and engagement increased post-huddle implementation, although not to a significant amount. Communication effectiveness improved post-implementation and employees acknowledged the value of huddles for the perioperative team.
Acknowledgments

I would like to specifically recognize my DNP advisor, Dr. Debra Hampton, for having confidence in me throughout this doctoral journey. Her guidance, leadership, and motivation have inspired and challenged me to be the best executive leader. Dr. Karen Butler, DNP committee member, has motivated and encouraged me many times over the last three years. Dr. Julie Hudson, my clinical mentor, has always guided me with honesty and integrity and shown me the characteristics of a true leader. I would also like to acknowledge Dr. Amanda Thaxton-Wiggins helped guide and support me through my data analysis. Lastly, I offer my sincere appreciation to all my DNP professors who took the time to answer one more question or email to ensure I had all the needed information.
Dedication

I want to dedicate this project and my DNP to my dad, who recently passed away during the final semester of my DNP journey. He always encouraged me to work hard and never give up on my dreams. I know he would be so proud of these professional and personal accomplishments. This is also dedicated to my mom, husband, and children, who have all gone out of their way to make this achievement possible. My mom has been my cheerleader throughout my whole professional career. No matter how many times I wanted to give up, she was encouraging from the sidelines. My husband has spent many hours doing laundry and cooking meals so that I could focus on my own professional and personal development. My son, a nurse also, has been a great source of support and a listening ear. I hope I have set an example for him to further his nursing education. I cannot forget my daughter, whose many softball games I missed, but she always told me it was ok; I am proud of you, mom. This is also for my sister, who never lets me forget I am older, and I cannot wait until we are partners in our pool cleaning business. Lastly, I cannot forget my amazing friends and colleagues who have always supported me and kept me laughing through this journey.


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Implementing Huddles in the Perioperative Setting

Background and Significance

Communication is a critical component of safe patient care and effective teamwork in the ever-changing healthcare world. Lack of communication generates situations where medical errors can occur. Perioperative services is no stranger to mishaps due to communication breakdowns. According to Joint Commission, communication errors have been identified as the most common behavioral factor leading to wrong-site surgery, retained objects, incorrect procedures, and inaccurate implants leading to over 70 percent of sentinel events (Etherington et al., 2019). The absence of effective communication in the healthcare environment leads to unsafe and inadequate care and coordination (Tiwary, 2019).

Communication is a vital skill in all facets of life. It is the key to successful relationships, from interpersonal to professional. In the healthcare arena, efficient and effective healthcare is critical to patient safety, teamwork, satisfaction, and engagement (Di Vincenzo, 2017). As healthcare becomes more complex and stressed, accurate and precise information sharing has never been more significant.

Context, Scope, and Consequences to Problem

While all areas of an organization require successful communication, the operating room is globally recognized as an area where communication failures can result in severe consequences (Espin et al., 2020). Communication errors in perioperative services have been shown to be contributory factors in 56% of operative complications, 63% of retained foreign bodies, and 68% of wrong-site surgeries (Kirschbaum et al., 2018). The operating room staff is faced with many barriers and distractions that can impede communication. An analysis of 421
communication interactions in the operating room revealed communication breakdowns in approximately 30% of team exchanges; consistent themes identified were inaccurate, untimely, inconsistent, and incomplete communication (Dingley et al., 2018).

In an area where interdisciplinary teamwork is essential, communication breakdowns have been shown to not only increase errors but decrease employee satisfaction and team performance (Vermeir et al., 2018). Noise and distractions, multiple competing responsibilities, and staff’s reluctance to speak up are deterrents to effective communication in the perioperative setting (Link, 2018). Anyone undergoing surgery is in a critically vulnerable state. Since perioperative suites are closed and restricted to family and friends, it is the primary role of the perioperative team to advocate for the patient during this defenseless time (Munday et al., 2014). An essential part of advocacy is clear and effective communication. All perioperative team members must feel empowered to speak up when a patient's safety or well-being is compromised, as they are the patient's voice.

**Current Evidence-based Interventions/Strategies Targeting the Problem**

One mechanism that has been endorsed for improving patient safety, teamwork, collaboration, and communication is huddling (Rowan et al., 2022). Huddles reinforce commitment and teamwork, allowing team members to work together rather than in silos (Institute for Healthcare Improvement, 2021). With the fundamental goal of delivering safe and quality care, identifying tactics to help team members stay engaged needs to be addressed. The implementation of huddles has been associated with increased employee resilience, engagement, and performance leading to better patient outcomes (Ellrich & Vanasse, 2020). Huddles are short, less than 10-minute gatherings that focus on the current daily schedule, identify potential obstacles, explain unique needs, and discuss preceding day issues. Standardization of time and
location encourages satisfaction, importance, and engagement of participants (Di Vincenzo, 2017). Huddles engage and empower staff to speak up, creating a culture of safety and opportunity for collaboration for frontline staff (Shaikh, 2020). In the high-risk, uniquely challenged operating room environment where the delivery of messages can be time-sensitive, effective communication is a critical and essential tool for perioperative staff.

**Purpose and Objectives**

The purpose of this project was to implement and measure the effectiveness of huddles in the perioperative setting. The specific aims of this study included:

- Evaluate the effectiveness of huddles on employee satisfaction
- Determine if huddle implementation improves employee engagement
- Evaluate the effectiveness of departmental communication
- Determine the value of huddles in perioperative services

**Theoretical Framework**

Watson's Theory of Human Caring provides a framework for implementing research and practice. Jean Watson's Theory was introduced in the late 1970s, influenced by her personal teaching experiences to create shared meaning worldwide for nurses (Watson, 2002). Watson's Theory revolves around the treatment and healing of the whole person, not just as individual parts (Petiprin, 2020). Watson also recognizes the healthcare system as a complicated entity where relationships, caring, and science converge (Melton et al., 2017). Watson pinpoints core concepts that support the role of caring nurse-patient relationships and positive provider to provider relationships. Concepts such as safety, communication, presence, education, and trust are identified as components to support the theory in practice (Pajkihar et al., 2017). Huddles are designed to improve communications, safety, and teamwork in the health care
setting. As such, the goals of huddle implementation align with Watson’s Theory of Human Caring to promote continuously improved care, teamwork, and interpersonal relationships (Melton et al., 2017).

**Review of Literature**

To locate literature related to huddle implementation, The Cumulative Index of Nursing and Allied Health Literature (CINAHL) and Medline databases were searched with the following search terms: "huddles", "perioperative or operating room or operating theatre", "healthcare team ", "communication ", "engagement ", and "satisfaction." The initial search obtained 6,540 articles.

The inclusion criteria were limited to studies since 2011 to ensure that the most relevant and current literature was analyzed. The search was reduced to peer-review, full text-only, English-only nurse-focused articles. By excluding all articles related to patient or family communication and satisfaction, intraoperative briefings, and surgical safety checklists, the search was reduced to 303. Upon further review of abstracts, 40 articles were selected for a full review. The evidence searches yielded a mixture of systematic reviews, quasi-experimental, single qualitative studies, and expert opinions.

According to the Association of Operating Room Nurses (2017) position statement, a healthy perioperative work environment consists of a safe, respectful, and healing environment where all members can communicate and collaborate. Effective communication and teamwork are essential for a positive practice environment in the perioperative area.

Research has shown that an effective strategy for a positive work environment is huddle implementation (Goldenhar et al., n.d.). The levels of evidence related to the value of huddles ranged from one quasi-experimental to four Level V quality improvement studies. Two
systematic reviews were conducted (Buljiać-Samardžič et al., 2020 & Ryan et al., 2019); these articles offer the most compelling compilation of research to demonstrate how structured communication tools and huddles enhance team effectiveness and improve communication and collaboration. Other studies reviewed identified either an improvement in communication or care coordination (Martin & Ciurzynski, 2015; Randmaa et al., 2014; Mullan et al., 2015; Newman et al., 2016; Saysana et al., 2014). Studies focused on the value of huddle implementation showed that huddles lead to collaborative team communication and increased quality and quantity of communication between team members (Etherington et al., 2019).

Huddle implementation has also demonstrated increased satisfaction and engagement among healthcare teams. According to Pimental et al.’s (2020), scoping review, increased team engagement, and employee satisfaction were identified in 29.7% of articles after huddle implementation. The majority of studies identified either an increase in job satisfaction, trust among team members, or improvement in the work environment (Goldenthal et al., 2013; Melton et al., 2017; Weaver, 2015; Townsend et al., 2017; Lubinesky et al., 2015; Criscitelli, 2015). Several studies addressed the effectiveness of huddle implementation on engagement and satisfaction (Martin & Ciurzynski, 2015, & Bourgault et al., 2018).

The literature gap identifies the needs for the effects of huddle implementation development, process, and maintenance of proven interventions in everyday practice (Pimentel et al., 2021). While the effects of huddles have been studied in the perioperative area, the primary focus included huddles during the intraoperative phase. Past research has included pre-procedural, intraoperative, and post-procedural briefings and debriefings, where the concentration for this project is an overview of the operational side of the operating room. The focus of huddles for this study will be an information-sharing tool to include patient safety
issues, scheduling concerns, potential problems, or departmental issues. Huddles align with Watson's theory as they are both designed to support organizations in providing safe, consistent, and high-quality care (Melton et al., 2017). The huddle process will provide a platform to elevate issues or obstacles that may be disruptive to patients or staff (Fenci & Willoughby, 2019). The lack of high levels of evidence and context in the reviewed literature surrounding huddle implementation and its effects on team members paves the way for further research to adopt huddles, especially in the perioperative setting.

**Methods**

**Design**

This study utilized a quasi-experimental pre/post-test design. A waiver of documentation of informed consent was requested from the University of Kentucky Institutional Review Board for this study. Subjects completed an anonymous survey on the Research Electric Data Capture (REDCap) system.

**Setting**

This project took place at a large urban academic medical center in central Kentucky. The affiliated hospital was a 945-bed acute care facility with access to many specialties, including perioperative services. The perioperative services department has 32 operating rooms and 24-surgical specialties including orthopedic surgery, neurosurgery, and general surgery.

**Congruence of Project to Organization's Mission**

The project's site mission statement is outlined as "we are dedicated to the health of the people of Kentucky and will provide the most advanced patient care and serve as an information resource. We will strengthen local health care and improve the delivery system by partnering with community hospitals and physicians" (University of Kentucky, 2022).
This project will support the hospital's mission by improving communication within the perioperative services department. Essential to the mission is excellence in promoting well-being through research and knowledge for optimal patient outcomes. In addition, this project aimed to improve the environment and safety within the healthcare arena.

**Description of stakeholders**

This project's stakeholders are staff who work in perioperative services in the main operating room. Their participation was critical in huddle implementation. Perioperative staff may be both supporters or barriers to huddle implementation. Supporters may feel empowered to have the opportunity to speak up, while staff who are barriers may feel huddles are additional tasks to be completed. The feeling of increased workload may deter staff from attending. Patients having surgery at the setting where this study was done were also stakeholders of huddle implementation. Identifying safety and quality issues before surgery can lead to an enhanced, safer outcome. Finally, leaders have a vested interest in this project as increased staff engagement and satisfaction are quality metrics that fall under leaderships' umbrella of overall performance initiatives.

**Sample**

All perioperative services employees were invited to participate in the study. Approximately 125 registered nurses, 75 surgical technologists, 40 operating room assistants, and ten surgical support associates received the survey utilizing the perioperative services email list-serve. Inclusion criteria included hospital perioperative services staff and contracted agency staff with a valid University of Kentucky email address.
Procedures

IRB Approval

Approval for the evaluation project was obtained from The University of Kentucky Office of Research Integrity. Approval was also requested and approved by The University of Kentucky Nursing Research Council. The project was a unit-based practice improvement evaluation, so approval was obtained from Perioperative Services Director Sherry Rosenacker.

Measures and Instruments

The pre-survey included demographic information and items that measured engagement, communication and employee satisfaction. Demographic items included age, gender, race, ethnicity, years worked as a healthcare employee, and healthcare worker role. The healthcare worker categories available were clinical and non-clinical. Work engagement was measured utilizing the Utrecht Work Engagement Scale (UWES-17). The UWES-17 is a 17 question Likert scale (0=never, 1=almost never, 2=rarely, 3=sometimes, 4=often, 5=very often, 6=always) (Schaufeli & Bakker, 2004). According to Schaufeli and Bakker (2004), vigor is defined as "having high levels of energy and resilience, "dedication involves" deriving a sense of significance from one's work, and absorption refers to "being totally and happily immersed in one's work." The reported Cronbach range for UWES-17 is .91-.96 (Schaufeli & Bakker, 2004).

The effectiveness of departmental communication was measured using the Communication Assessment Questionnaire (CAQ) (Farley, 1989). The CAQ is a 12 question Likert 6- Point scale (1=statement is entirely inaccurate to 5=statement is entirely accurate) that measures communication perception (Moore et al., 2020). The CAQ was grouped into six areas of critical importance based on the guidance from the original article (Farley, 1989). They include: accessibility of information (2 items), communication channels (4 items), clarity of
messages (1 item), span of control (1 item), flow control, and communication load (2 items), and
lastly, communication effectiveness (1 item). Moore et al. (2020) determined content validity to
be at 0.98 for Farley's Communication Assessment Questionnaire. Permission to use the CAQ
was obtained from Dr. Mary Farley (Farley, 1989). In determining the overall communication
score, the CAQ score and subscales were calculated as the mean of the items within each
construct, creating a potential range of 1-5. Employee satisfaction was measured using two
Likert style scales adapted from the Press Ganey Survey (1=strongly disagree, 2=disagree,
3=neutral, 4=agree, 5=strongly agree). The questions asked were, "Overall, I am a satisfied
employee," and "Overall, I am happy at work." These two items were pulled from the facility's
much larger 89 items Press Ganey employment survey. Press Ganey partners with more than
41,000 healthcare facilities to help organizations transform the patient care experience by
providing services for both patient and employee surveys (Press Ganey, 2022).

Data Collection

After participants were given 14 days to complete the pre-survey, huddles were initiated
on Tuesday and Thursday mornings at 0650 am in the employee lounge. Huddles were facilitated
by the principal investigator and followed a standardized format that included: (a) safety and
quality issues from the past day to include patients, surgeons, and staff; (b) identification of
issues for today; (c) review of tracked issues; and (d) staff inputs and announcements and
updates. Using a standardized format allowed staff to be prepared, understand their role, and set
agendas and meeting rules (Institute for Healthcare Improvement, 2021). A permanent board was
placed in the employee lounge to display the content discussed during the information-sharing
event. Huddle specifics remained on the board until the next huddle. Huddles were also recorded
via Zoom and were sent electronically through email utilizing the perioperative services list-
serve. Huddles were done for two months, and then the post-survey was sent out. To determine the value of huddles, the question, "Can you think of any improvements that have been made because of the huddles?" was added to the post-survey.

Data Analysis

Demographic survey data were analyzed using descriptive statistics, including means, standard deviations, and/or frequency distributions. Differences between pre-intervention the Communication Assessment Questionnaire (CAQ), Utrecht Work Engagement Survey (UWES-17), and employee satisfaction items were assessed using an independent t-test. Due to the anonymity of the surveys, survey responses could not be linked, and a two-sample t-test was utilized. Qualitative data was reviewed, analyzed, and categorized by themes. SPSS version 27 was used to perform statistical analysis, and statistical significance was considered a p-value less than or equal to .05.

Results

Sample Characteristics

A total of 61 participants completed the pre-survey. Of these participants, the majority were Caucasian (88.5%) and female (78.7%; see Table 1). The average age was 43.5 years (SD=13.8) and nearly half (41%) had over 20 plus years of healthcare worker experience. The majority of participants (88.3%) identified as being in a clinical staff role.

A total of 24 participants completed the post-survey. The participant's ages ranged from 19-65, with the median age being 43 (SD=13.8, see Table 2). The majority of participants were Caucasian (91.7%) and identified as females (79.2 %). Of the participants, 87% were clinical staff, with 33% having over 20 plus years of healthcare worker experience.
Work Engagement

The overall UWES-17 mean score for work engagement was 4.2 pre-intervention compared to 4.4 post-intervention (possible range 1-6). The sub-scale means pre-intervention was vigor (M = 4.20, SD = 1.30), dedication (M = 4.60, SD = 1.13), and absorption (M = 3.74, SD = 1.25), respectively. An independent t-test was performed on the three variables to assess differences between the pre and post-intervention groups. The mean scores of all the constructs increased post-intervention, but the increase was not significant. They included dedication (M = 4.95, SD = 0.99, p = .48), followed by vigor (M = 4.41, SD = 1.03, p = .82), then absorption (M = 3.80, SD = 0.90, p = .82; see Table 3).

Departmental Communication Effectiveness

The overall mean for communication pre-intervention and post the intervention was 3.42 (SD = .40) and 3.73 (SD = .42), respectively. The highest mean pre-intervention dimension was accessible information (M = 4.00, SD = 0.73), followed by the subscale span of control (M = 3.90, SD = 1.13), clarity of messages (M = 3.50, SD = 1.13), communication channels (M = 3.30, SD = 0.77), communication effectiveness (M = 3.00, SD = 1.32), and lastly, flow control (M = 2.92, SD = 0.84). Post-intervention means altered slightly with span of control increasing to the highest mean of 4.17 (SD = 0.87, p = 0.25) with the accessibility of information following at 4.13 (SD = 0.81, p = 0.36). While all mean scores increased, clarity of messages (M = 4.10, SD = 0.83, p = 0.01) was the only score noted to be significantly different post huddle implementation. See Table 4 for the breakdown of CAQ pre and post-intervention scores.

Employee Satisfaction

The overall employee satisfaction mean was 3.9 (SD = .82) pre-intervention compared to 4.1(SD = .65) post-intervention (p = 0.29). Mean scores for "Overall; I am happy at work" also
increased pre-survey (M = 3.75, SD = .89) to post-implementation (M = 4.00, SD = .93, p = 0.36). While both mean scores increased, neither was noted to be significant.

**Value of Huddles**

Sixteen participants opted to answer this question. All indicated some personal value in huddles. Four consistent themes prevailed, with two participants stating they were happy with the huddle processes. The themes included timely/consistent messaging, effective/essential information, combination of the visual huddle board and audio recording, and feelings of enhanced connection between leadership and off-shifts employees.

Specific quotes included:

- "I think that the open and honest in-person communication is improving employee satisfaction.
- "Huddles recorded and emailed are a GREAT way to communicate pertinent info we actually need."
- "I appreciate the brief connection to leadership on a more frequent, consistent basis."
- "Timely communication is helpful."

See table 4 for a breakdown of huddle themes.

**Discussion**

The focus of this study was to determine if huddles in the perioperative area increased employee engagement and satisfaction and were viewed as valuable to the perioperative services team. Concerning employee engagement, study participants in both the pre-intervention and post intervention groups scored higher for overall work engagement (4.17 and 4.4 respectively), than an average mean sample score of 3.2 (N=2,313) on the UWES (Schaufeli & Bakker, 2004).
For statistical purposes and establishment of norms, UWES uses five categories defined as "very low", "low", "average", "high", and "very high." (Schaufeli & Bakker, 2004). According to Schaufeli and Bakker (2004), the mean scores represent the overall work engagement for each of the three constructs: vigor, dedication, and absorption. High mean scores are indicative that engaged employees take initiative and create their own feedback (Schaufeli et al., 2002).

Scores for the pre and post intervention for vigor (M= 4.2 & 4.4) and absorption (M = 3.7 & 3.8) remained in the average norm range (average range =3.21 to 4.80 for vigor and 2.76 to 4.40 for absorption). Alternately, scores for dedication pre-intervention (M = 4.6) and post-intervention (M = 5.0) went from the average norm range (3.01-4.90) to the high norm range (4.91 to 5.75). All mean scores did improve post-intervention, indicating the participants in this study had a higher level of engagement post huddle implementation.

Regarding communication effectiveness, there was an increase in the mean scores from 3.5 to 3.7 post huddle implementation, suggesting that huddles resulted in increased communication effectiveness for the staff and the leadership team (Farley, 1989). The most significant increase from the pre to post-intervention groups was clarity of messages, signifying the high degree of trust and confidence between departments and levels of employees (Farley,1989).

A notable increase, while not significant, was communication effectiveness. According to Farley (1989), this represents two positive outcomes; it assists with high production and a better individual commitment to the organization. A noteworthy finding was the increase in mean scores for span of control post-implementation. This increase signifies that employees felt satisfied with the leadership teams type and frequency of communication (Farley, 1989).
As mentioned with employee satisfaction and overall happiness at work, there was an increase in the mean scores between the pre and post-intervention scores. While it was not significant in either case, there was an indication that employee satisfaction and employee happiness increased after implementing huddles.

Participants post-intervention noted the value of huddles for the perioperative services team. All responses mentioned either a personal or departmental value from the implementation of huddles, signifying the importance of departmental communication on job satisfaction, a positive work environment, and colleague collaboration (Farley, 1989).

The implementation of huddles has been a successful initiative in the perioperative department. Huddles have progressed from twice a week to daily, Monday through Friday. Huddles have continued to be recorded and sent out via email. In addition, the principal investigator educated additional leadership team members on the huddle details and format to continue the huddle process in the future.

**Limitations**

This study is not without limitations. A significant limitation was the inability to use a unique identifier. The Institutional Review Board (IRB) did not permit the principal investigator to ask invited staff to list their position or title due to concerns involving confidential data. As a result, the researcher could not pair scores for the participant's pre and post-intervention. A second limitation involved the failure to email two of the recorded meetings due to technical issues. The third limitation was the length of the study. Due to time constraints, there were only two months between the pre and post-implementation survey.
Implications for Practice

Findings from this study have implications for research, education, and leadership. Improvements in work engagement, communication effectiveness, and satisfaction scores post-implementation of huddles illustrate that huddles may have been effective as a strategy for improving communication and employee-leadership relationships in perioperative services. This is especially important in that this study took place during the COVID-19 pandemic. Perioperative services is an area where communication deficits and employee dissatisfaction can lead to significant quality issues or patient harm, so maintaining good communication, especially during times of stress, is so important. The improvement in clarity of messages post-huddle implementation in this study significantly improved, which is critically important in preventing errors and harm. Ellrich and Vanasse (2020) found that huddles led to increased engagement, which is also noted in this study.

Further research needs to be done to determine if the impact of huddles on employee engagement, satisfaction, and communication varies by position or job title. For this study, participants only had the option to choose between two healthcare worker roles, clinical staff and support staff. A more significant, diverse population would allow for assessing additional roles and demographics, providing a deeper analysis of the benefits of huddles more thoroughly. Further research is recommended to evaluate whether a similar intervention would have a more significant impact for a larger sample size or longer intervention time period.

Conclusion

The purpose of this study was to evaluate if huddles in the perioperative area increased employee engagement and satisfaction and were viewed as valuable to the perioperative services department. Overall, study participants scored higher on all subscales post huddle.
implementation. While only one statistical change was noted, increased employee engagement and healthcare worker satisfaction were indicated. Communication effectiveness between employees and leaders improved post huddle implementation, suggesting better-informed employees had a higher degree of confidence and trust in perioperative services leadership. All study participants indicated the value of huddles to the department. Further studies are recommended to evaluate whether a larger, more heterogeneous sample would make a greater impact on the variables being evaluated.


Institute for Healthcare Improvement. (2021, February 2). *Use regular huddles and staff meetings to plan production and to optimize team communication*. Retrieved from Institute for Healthcare Improvement: www.ihi.org/resources/pages/changes


doi:https://doi.org/10.12688/wellcomopenres.15042.1


doi:10.1097/NCM.0000000000000200


### Table 1: Summary of Demographic Information for Pre-survey Respondents (N=61)

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>Mean (SD), n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>43.5 (13.8)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>• Female</td>
<td>48 (78.7%)</td>
</tr>
<tr>
<td>• Male</td>
<td>12 (19.7%)</td>
</tr>
<tr>
<td>• Prefer not to answer</td>
<td>1 (1.6%)</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
</tr>
<tr>
<td>• White or Caucasian</td>
<td>54 (91.5%)</td>
</tr>
<tr>
<td>• African American or Black</td>
<td>4 (6.6 %)</td>
</tr>
<tr>
<td>• American Indian or Alaskan Native</td>
<td>1 (1.6%)</td>
</tr>
<tr>
<td>Years as Healthcare Worker</td>
<td></td>
</tr>
<tr>
<td>• 0-2</td>
<td>7 (11.5%)</td>
</tr>
<tr>
<td>• 3-5</td>
<td>6 (9.8%)</td>
</tr>
<tr>
<td>• 6-10</td>
<td>11 (18.0%)</td>
</tr>
<tr>
<td>• 11-15</td>
<td>9 (14.8%)</td>
</tr>
<tr>
<td>• 16-20</td>
<td>3 (4.9%)</td>
</tr>
<tr>
<td>• 20+</td>
<td>25 (41%)</td>
</tr>
<tr>
<td>Healthcare Worker Role</td>
<td></td>
</tr>
<tr>
<td>• Clinical Staff</td>
<td>53 (87.0%)</td>
</tr>
<tr>
<td>• Support Staff</td>
<td>7 (11.5%)</td>
</tr>
</tbody>
</table>
Table 2: Summary of Demographic Information for Post-survey Respondents

<table>
<thead>
<tr>
<th>Demographic Variable</th>
<th>Mean (SD), n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>43.0 (13.8)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>• Female</td>
<td>19 (79.2 %)</td>
</tr>
<tr>
<td>• Male</td>
<td>5 (20.8 %)</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
</tr>
<tr>
<td>• White or Caucasian</td>
<td>22 (91.7%)</td>
</tr>
<tr>
<td>• African American or Black</td>
<td>2 (8.8%)</td>
</tr>
<tr>
<td>Years as Healthcare Worker</td>
<td></td>
</tr>
<tr>
<td>• 0-2</td>
<td>2 (8.3%)</td>
</tr>
<tr>
<td>• 3-5</td>
<td>2 (8.3%)</td>
</tr>
<tr>
<td>• 6-10</td>
<td>7 (29.2%)</td>
</tr>
<tr>
<td>• 11-20</td>
<td>1 (4.2%)</td>
</tr>
<tr>
<td>• 16-20</td>
<td>4 (16.7%)</td>
</tr>
<tr>
<td>• 20+</td>
<td>8 (33.3%)</td>
</tr>
<tr>
<td>Healthcare Worker Role</td>
<td></td>
</tr>
<tr>
<td>• Clinical staff</td>
<td>20 (87.0%)</td>
</tr>
<tr>
<td>• Support Staff</td>
<td>3 (13.0%)</td>
</tr>
</tbody>
</table>
Table 3: Change in UWES, CAQ, and Employee Satisfaction Scores Pre / Post-Huddles

<table>
<thead>
<tr>
<th></th>
<th>Pre-implementation mean (SD) n=61</th>
<th>Post-implementation mean (SD) n=24</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UWES &amp; Subscales</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vigor</td>
<td>4.2 (1.3)</td>
<td>4.4 (1.0)</td>
<td>0.48</td>
</tr>
<tr>
<td>Dedication</td>
<td>4.6 (1.1)</td>
<td>5.0 (.96)</td>
<td>0.24</td>
</tr>
<tr>
<td>Absorption</td>
<td>3.7 (1.3)</td>
<td>3.8 (.90)</td>
<td>0.82</td>
</tr>
<tr>
<td><strong>CAS Domain</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accessibility of information</td>
<td>4.0 (.73)</td>
<td>4.1 (.81)</td>
<td>0.36</td>
</tr>
<tr>
<td>Communication channels</td>
<td>3.3 (.77)</td>
<td>3.5 (.65)</td>
<td>0.23</td>
</tr>
<tr>
<td>Clarity of messages</td>
<td>3.5 (1.1)</td>
<td>4.1 (.83)</td>
<td>0.01</td>
</tr>
<tr>
<td>Span of control</td>
<td>3.9 (1.1)</td>
<td>4.2 (.87)</td>
<td>0.25</td>
</tr>
<tr>
<td>Flow control and overload</td>
<td>3.0 (.84)</td>
<td>3.1 (.47)</td>
<td>0.35</td>
</tr>
<tr>
<td>Communication effectiveness</td>
<td>3.0 (1.3)</td>
<td>3.4 (1.3)</td>
<td>0.14</td>
</tr>
<tr>
<td><strong>Employee satisfaction</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am a satisfied employee</td>
<td>3.89 (0.82)</td>
<td>4.1 (0.65)</td>
<td>0.29</td>
</tr>
<tr>
<td>I am a happy at work</td>
<td>3.75 (0.89)</td>
<td>4.0 (0.93)</td>
<td>0.36</td>
</tr>
</tbody>
</table>

*Note: Response options range from 1) 'Strongly disagree' to 5) 'Strongly agree.'
Table 4: Summary of the themes identified in the post-survey regarding the value of huddle (n=16)

<table>
<thead>
<tr>
<th>Theme</th>
<th>Responses number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Timely/Consistent messaging</td>
<td>4</td>
</tr>
<tr>
<td>Effective/essential information</td>
<td>4</td>
</tr>
<tr>
<td>Coworker/leadership connection</td>
<td>3</td>
</tr>
<tr>
<td>Audio/Visual benefits</td>
<td>3</td>
</tr>
<tr>
<td>All Good</td>
<td>2</td>
</tr>
</tbody>
</table>