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### A Program to Prepare Frontline Nurse Leaders for Peer Review

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A Program to Prepare Frontline Nurse Leaders for Peer Review

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### Abstract

**Introduction:** The purpose of nursing peer review is to assess the quality of nursing care against established standards, identify strengths and weaknesses in practice, and identify knowledge gaps. Studies of nurse peer review predominantly focus on staff nurse attitudes and knowledge after an educational intervention and barriers to implementation. Frontline nurse leaders (FLNL) can influence adoption of new practices such as peer review.

**Purpose:** The purpose of this project was to engage frontline nurse leaders in a role specific peer review program, preparing them to support their staff in the implementation of peer review in the future and providing an opportunity for professional development through peer review.

**Methods:** FLNLs helped to develop practice standards for peer review. They attended a presentation on peer review implementation and participated in peer review with a FLNL colleague on their units, using a process similar to that planned for clinical nurses. They completed a pre and post-assessment of their confidence in and perceptions of peer review process.

**Results:** Paired *t*-Tests showed a statistically significant improvement in both confidence in implementation of peer review and perceptions of peer review for the participants.

Anecdotally, FLNL found value in participating in a new process they were expected to support, prior to staff implementation.

**Discussion:** Limitations included the lack of valid tools for assessing FLNL's peer review confidence and increased patient census, limiting participation of FLNL in the project. The experience of FLNLs will be used to improve the process of implementation for clinical nurses.

**Keywords:** peer review, peer feedback, Magnet, Nurse Manager.

## A Program to Engage Nurse Leaders in Peer Review

### **Introduction**

Peer review in nursing is defined by the American Nurses Association (1988) as “the process by which practicing registered nurses systematically assess, monitor, and make judgements about the quality of nursing care provided by peers as measured against professional standards” (p. 4). Participation in peer review is an expectation of nursing as a profession (Semper, Halvorson, Hersh, Torres, & Lillington, 2016). Nursing’s Social Policy Statement (Fowler, 2015a), a social contract between nursing and society, describes nurses’ responsibility and accountability for practice, including engaging in self-regulation and peer review. The Code of Ethics for Nurses states that it is a professional obligation of nurses to define, implement, and maintain standards of professional practice using review mechanisms such as peer review to safeguard patients, families, and peers (Fowler, 2015b). Regulators, professional organizations and the public expect nurses to deliver safe, high quality care to patients (Institute of Medicine, 2003, 2011) and peer review can play a role in maintaining professional autonomy and assuring quality outcomes (George & Haag-Heitman, 2015b). If considering application for American Nurse Credentialing Center’s (ANCC) Magnet® designation, organizations must have a program of peer review for nurses at all levels of practice (American Nurses Credentialing Center, 2017). Despite these professional mandates, peer review is absent in many practice environments (Haag-Heitman & George, 2011; Semper et al., 2016). The aim of this project was to prepare managers and assistant managers or frontline nurse leader (FLNL) to more confidently establish a program of peer review in the organization.

### **Problem Description**

Peer review is a methodology for reviewing the quality and appropriateness of services

ordered or performed by professionals. For nurses, the primary focus of peer review is the quality of nursing practice, as measured against professional standards. Through peer review, nurses can assess the quality of nursing care against established standards, identify strengths and weaknesses in practice, inform policy and procedures to improve nursing care and identify knowledge gaps (American Nurses Association, 1988). Peer review upholds the social contract between nursing and society to provide safe, effective, and high quality care to patients and families. It is the obligation of all professions to practice self-regulation through peer review, yet nursing continues to struggle with successful and consistent implementation of peer review programs (George & Haag-Heitman, 2015b)

Peer review can be categorized by the type of activity (publication peer review, research peer review, quality of care peer review or incident peer review), by the field or profession (nursing peer review, medical peer review, or academic peer review) or by the level of practice (student, faculty, novice or expert clinical nurse). According to George and Haag-Heitman (2015a), peer review must have a process for providing continuous feedback of data for quality improvement, feedback that is reflective of the developmental level of the practitioner, is applied systematically, and is used to create an environment of learning peer to peer. There are three contemporary domains of peer review: role actualization, practice advancement, and quality and safety (Haag-Heitman & George, 2011). Within these domain, the standards for a peer review process are developed. If the principles and processes are not fully implemented, adoption of peer review may fail (Hogston, 1995; Jambunathan, 1992; Roberts & Cronin, 2017). For this project, the contemporary peer review principles were selected and include the following:

1. Peer review involves the for the evaluation of a nurse's practice using the following evidence-based peer review principles
2. A peer is someone of the same rank.
3. Peer review is practice focused.



4. Feedback is timely, routine, and a continuous expectation.
5. Peer review fosters a continuous learning culture of patient safety and best practice.
6. Feedback is not anonymous.
7. Feedback incorporates the developmental stage of the nurse. (George & Haag-Heitman, 2012, p. 27).

The American Nurse Credentialing Center encourages organizations to seek Magnet<sup>®</sup> designation as recognition for excellence in clinical practice (American Nurses Credentialing Center, 2017). Achieving Magnet<sup>®</sup> designation indicates performance equal to or above a peer organization in quality of care, improved patient satisfaction and the work environment of nurse and others (Arthurs et al., 2018; Jayawardhana, Welton, & Lindrooth, 2014; Vila, 2016; Winslow et al., 2017; Zedreck Gonzalez, Wolf, Dudjak, & Jordan, 2015). The current Magnet<sup>®</sup> Model contains five domains based on the original fourteen forces of magnetism:

Transformational Leadership, Structural Empowerment, Exemplary Professional Practice (EP), New Knowledge, Innovations, and Improvements, and Empirical Outcomes. The EP domain requires both competency assessment and peer evaluation to “ensure that nurses deliver safe, ethical, and evidence-based nursing care” (American Nurses Credentialing Center, 2017, p. 40).

The project organization has considered pursuit of Magnet<sup>®</sup> designation at four different times in the past ten years but did not move forward because of deficiencies in the Organizational Overview sources of evidence. With the arrival of a new Chief Nursing Officer (CNO) in 2015, the hospital again considered readiness for Magnet<sup>®</sup>. An departmental assessment using Magnet<sup>®</sup> criteria identified a gap in an element of performance under the EP domain of Accountability, Competence, and Autonomy. Under the Exemplary Professional Practice domain, the 2019 Magnet<sup>®</sup> Application Manual requires that “nurses at all levels engage in periodic performance reviews that include a self-appraisal and peer feedback process for assurance of competence and continuous professional development” (American Nurses

Credentialing Center, 2017, p. 42). All nurse performance reviews include self-appraisal and nursing directors and the CNO participate in peer review. However, there is no peer review process between clinical nurse or between FLNL. The consultants identified the lack of a peer review program as a high-risk threat to achieving Magnet<sup>®</sup>. As the organization intends to apply for Magnet<sup>®</sup> designation by 2020, a program for nurse peer review that supports performance appraisal must be implemented. Nursing leadership determined that implementing peer review for clinical nurses over the next year was a priority. Regardless of the intent to pursue Magnet<sup>®</sup>, implementation of nursing peer review has been shown to create positive outcomes by “fostering a continuous learning culture of patient safety and best practice” (George & Haag-Heitman, 2015a, p. 2). Implementation of peer review was assigned as a strategic goal for the department’s Nursing Professional Governance’s (NPG) Safety and Quality Global Council (SQC).

The SQC is part of a new shared governance structure started in 2017. A literature review by members of the SQC identified peer review best practices including practice-focused feedback based on recognized standards, that is timely, routine, and continuously expected, delivered face-to-face by a peer of the same rank, and which incorporates the developmental stage of the nurse (George & Haag-Heitman, 2015a). Traditional peer review programs focus on use of checklists or event review, with limited change in outcomes (George & Haag-Heitman, 2015a; Karas-Irwin, 2015; Snyder, 2017). Through an internal pediatric quality project, the SQC became aware of kamishibai or K-cards as a tool for delivering standard-focused feedback (Jurecko, 2017; Jurecko & Liedke, 2017). Originating in Toyota Production Systems, K-cards are a visual control tool used in Lean manufacturing and behavior-based safety programs (Hart, 2017). K-card use can document compliance with work standards and imbed continuous

improvement thinking among staff. In healthcare settings, K-cards support focused rounding, improve compliance with quality bundles, and have been shown to decrease harm to patients by decreasing hospital-acquired infections (Jurecko, 2017). The SQC members felt K-cards, when utilized as the standard for nurse-to-nurse peer review, would make it easier for clinical nurses to provide structured, evidence-based, real-time, and actionable feedback.

The peer review work of the SQC is focused on bedside or clinical nurses. The main focus of shared governance and the Magnet<sup>®</sup> process is the clinical nurse, which has left the organization's frontline nurse leaders (FLNL) unsure of their role. FLNLs had verbalized frustration with the initiation of the NPG structure two years ago, because there was no guidance for them on how to support their staff or the newly formed councils. Van Dyk, Siedlecki, and Fitzpatrick (2016) stated that FLNL are largely responsible for creating a supportive work environment for clinical nurses, yet feel unsupported, overwhelmed and needing resources to meet their responsibilities. They should feel confident in demonstrating any new skills needed to successfully achieve assigned outcomes. As transformational leaders, FLNL are expected to coach and support their staff in achieving outcomes, but there is little formal guidance offered on how best to do this. Implementing peer review is another example of this dilemma for the organization's FLNLs.

FLNLs are expected to actively support change, including the adoption of peer review, with their staff. However, they have not participated in peer review as clinical nurses and they do not currently engage in peer review as FLNL. Without the opportunity to learn more about or experience peer review, FLNLs may lack the confidence or perceptions to support implementation of peer review for clinical nurses, continue to feel disconnected from steps in the Magnet<sup>®</sup> journey and miss the opportunity to grow professionally by participating in their own

peer review program. Through this project, FLNLs were offered the opportunity to engage in peer review using the same process as their staff, which may improve their confidence in and perceptions of peer review, allowing them to more effectively lead this coming change.

Thirty years after the American Nurses Association first published their guidelines for peer review, there is limited literature on how to effectively implement peer review. Without effective peer review, Haag-Heitman and George (2011) contend that nursing will struggle to achieve high reliability in quality and safety outcomes. Peer review programs for nurses at all practice levels are a requirement for Magnet<sup>®</sup> designation and at present, there is no nurse peer review program in the project organization. FLNLs have expressed frustration about their lack of preparation to support nursing department initiatives such as nurse peer review. Without FLNL support for the implementation of peer review, the process could fail, which could have a detrimental effect on patient outcomes, nursing satisfaction, and achieving Magnet<sup>®</sup> designation. To support successful implementation of peer review and for their own professional development, FLNLs should be provided the resources to improve their knowledge and the opportunity to engage in the peer review process.

### **Available Knowledge**

A systematic review of the literature was completed using the Cumulative Index to Nursing and Allied Health Literature (CINAHL), PubMed and Ovid Medline (1946 to present) and grey literature searches of Google Scholar and The Henderson Repository of Sigma Theta Tau International. Inclusion and exclusion criteria defined the population, intervention, comparison groups, outcomes, study setting, and study designs (Appendix A, Table 1). The populations of interest for the review were registered nurses, advanced practice nurses and nurse leaders (NM, ANM, or any FLNL). Physicians and other clinician populations were excluded.

The intervention included was face-to-face peer review. Excluded were studies reporting on peer review organizations, performance appraisal or assessment, journal or publication peer review, research or conference peer review, event or incident-based peer review, or committee-based peer review (Appendix A, Table 2). Outcomes examined included nursing satisfaction, patient quality outcomes, nursing sensitive indicators, patient and family satisfaction, and achieving Magnet<sup>®</sup> status. Study settings were inpatient acute care hospitals. Sources included were English language journals from any country in the databases noted or grey literature published after 1988, the year the original peer review guidelines were published (American Nurses Association, 1988). This year was chosen because of the limited number of publications related to peer review overall and the noted absence of high quality studies (Gnilka, 2018). Some studies were identified through citation chaining, using both backward and forward searching to identify citations not uncovered through keyword searches (Boland, Cherry, & Dickson, 2017). A PRISMA diagram representing the search and selection process for studies used in the qualitative review is provided (Appendix A, Figure 1).

After review and selection, sixty-four studies were appraised for the level of evidence. Studies appraised at Evidence Level I, II, or III were included and studies at Level IV or V were excluded for this review (based on the Johns Hopkins Nursing Evidence-Based Practice Model (Dearholt & Dang, 2012). Twelve studies of Evidence Level III (Appendix A, Table 3) were found, reflecting previous reviews indicating a dearth of well-designed studies on peer review (Haag-Heitman & George, 2011; Hungerford, 2001; LeClair-Smith et al., 2016; Rout & Roberts, 2007). All studies were completed in or focused on acute care hospitals. The majority looked at the experience of clinical nurses with one study by Karas-Irwin (2015) focused on nurse leaders,

a study by Roberts and Cronin (2017) focused on nurse leaders in Magnet<sup>®</sup> hospitals, and a study by Whitney, Haag-Heitman, Chisholm, and Gale (2016) that surveyed Chief Nursing Executives.

**Peer review knowledge.**

Several studies have examined nurses' perceptions of peer review (Christina, Baldwin, Biron, Emed, & Lepage, 2016; Cunningham, 2002; Hogston, 1995; Hungerford, 2001; Jambunathan, 1992; Murphy, Lung, Boerger, & Powers, 2018; Pfeiffer, Wickline, Deetz, & Berry, 2012; Semper et al., 2016; Stratton, 2017). Staff are supportive of peer review but have specific concerns about the process for performing peer review, expectations for performance appraisal, fairness in application of the process, and the time commitment needed to successfully complete peer review. The FLNL role in peer review is to address these concerns and provide the resources needed to cultivate peer review. A recent study by Whitney et al. (2016), collected information from Chief Nurse Executives (CNE) on their perceptions and the practice of peer review in their organizations. The survey was designed in collaboration with nationally known peer review experts (Haag-Heitman and George). 85 CNEs from 18 states participated. While CNEs saw peer review as important to patient safety, nurse autonomy and accountability, the actual reports of peer review in practice were lower than expected. Whitney et al. (2016) found that while CNEs believe in peer review for all levels of nursing, only 15% of feedback was offered peer-to-peer. Most models of peer review did not comply with the recommendations of the ANA (American Nurses Association, 1988) and other experts (Haag-Heitman & George, 2011). The authors concluded there is opportunity for nurse executives to clarify their vision of and expectations for peer review within their organization and to support the FLNL in obtaining the resources for peer review adoption.

Cunningham (2002) emphasized the need to engage FLNL in preparing staff for peer review, noting the absence of leadership support as a barrier to successful peer review. FLNLs need to routinely examine the peer review process and their perceptions of peer review. FLNL's limited understanding of the peer review process can impact successful implementation, indicating the need for thorough preparation in peer review for FLNL. Van Dyk et al. (2016, p. 533) note that the competency and skill of FLNLs impacts all dimensions of patient care and staff well-being through the creation of a milieu supporting "high-quality, patient-centred, holistic care," and peer review would be an important skill for FLNLs.

Obstacles to successful implementation of peer review can include a non-professional practice environment, lack of acceptance by staff, lateral violence, lack of clear behaviors for peer review, confusion between peer review and performance appraisal, and the lack of transparency regarding the use of the findings and data (George & Haag-Heitman, 2015a; Whitney et al., 2016). Several studies indicated fear of retaliation, fear of the impact on working relationships and questions about fairness as barriers to adoption (Cunningham, 2002; Jambunathan, 1992; Pfeiffer et al., 2012). The most often cited obstacle is the need for further education including: understanding the value and importance of peer review (Christina et al., 2016; Hogston, 1995; Hungerford, 2001; Jambunathan, 1992; Pfeiffer et al., 2012; Stratton, 2017; Whitney et al., 2016); training on delivering and receiving feedback (Hungerford, 2001; Pfeiffer et al., 2012; Semper et al., 2016; Stratton, 2017), and clarification of the expectations for the process, including time and frequency (Christina et al., 2016; Semper et al., 2016). In a study of CNE's (Whitney et al., 2016), specific education on peer review was offered annually for 35% of sites, quarterly for 10%, monthly for 5% and never for 50% of the organizations. While the ANA has identified the need for education regarding peer review's influence on

outcomes for nurses and patients, they have not defined a reliable educational methodology for instructing nurses on effective peer review (American Nurses Association, 1988).

One area of weakness in the peer review literature is outcome identification and measurement. Most studies of clinical nurses have looked at perceptions about the peer review process (Christina et al., 2016; Cunningham, 2002; Hungerford, 2001; Jambunathan, 1992; Murphy et al., 2018). Only two intervention studies examining outcomes were identified (Karas-Irwin & Hoffmann, 2014; Snyder, 2017). In the first study, FLNLs participated in peer review based on professional competencies and tied to developmental goals. With peer review, all NM achieved their professional goal and there were improved competency scores for the majority of participants. In a second study by Snyder (2017), falls and falls with injury were the outcome of interest. Peer review did not impact falls or falls with injury, though nurses believed that peer review would be efficacious in improving adherence to fall protocols, according to survey response. Studies by Hogston (1995) and Whitney et al. (2016) suggest that evidence of peer review's impact on outcomes relevant to clinical nurses and nurse leaders is critical to the successful adoption of peer review and should be the focus of future studies.

Haag-Heitman and George (2011) indicated there is limited literature on peer review for FLNLs, though there are general guidelines and best practices widely published. Several studies indicated the need for studies validating the effectiveness of the recommendations for implementing peer review at all levels of practice (Roberts & Cronin, 2017; Whitney et al., 2016). A nurse's practice of peer review can be directly influenced by their FLNL modeling the behaviors expected (Christina et al., 2016; Cunningham, 2002). Most articles about peer review for FLNL are expert opinion or reports of quality improvement projects (Davis, Capozzoli, & Parks, 2009; George & Haag-Heitman, 2011; Hotko & Doris, 1998; Karas-Irwin, 2015;



Lamonica, 2016; Waldo, Hofschulte, Magno, & Colleran, 1993). There is a need for further study of processes to engage FLNL and improve their skills in promoting peer review.

### **Rationale**

The rationale for a peer review intervention focused on FLNL is supported by a recent nurse satisfaction survey, literature and professional accountabilities, as well as Haag-Heitman & George's (2011) Conceptual Model for Professional Peer Review. The long-term goal for the project organization is to implement NPR across all levels of nursing practice. In identifying effective, sustainable interventions to support this work, several studies were considered. A report published by Press Ganey (Press Ganey Associates Inc., 2017) looked at the influence of nurse manager leadership on outcomes for nurses, based on analysis of data from the National Database of Nursing Quality Indicators (NDNQI) RN Satisfaction surveys completed in 2016. Results showed nurse managers have significant influence, "on performance across measures of safety, quality and patient experience, as well as indicators of nurse engagement, such as nurse job satisfaction and retention" (p.1). Eight work environment mediators across all types of units showed statistically significant positive relationships with nurse manager influence at the unit level, including autonomy, professional development and nurse-nurse interaction.

A follow-up survey of top decile NM looked more closely at roles and responsibilities. NM perceptions of their work environment included an item related to job attitude, and demonstrated that "relations among nurse managers are essential support," which had a mean score of five on a six-point scale (p. 12). Foundations of quality care was a top priority for 40% of participating managers, as they are responsible for creating a work environment that allows nurses to directly impact quality. When asked to describe best practices to achieve their top priorities, conducting peer review was a strategy mentioned to improve patient outcomes. Peer

review for FLNL could support both NM priorities as well as providing essential peer to peer FLNL support.

Implementation science has also examined the influence of “middle managers” in healthcare innovation implementation (Birken, Lee, & Weiner, 2012). The premise is that middle managers, the FLNL in the project organization, can bridge the information gap that might otherwise prevent the implementation of change. Issues with quality may be related to the failure to bridge the gap through poor communication of the rationale for change or important clinical information. FLNL can help by managing the demands associated with implementation of change, explaining rationale for change, transcending professional barriers and prioritizing steps to support implementation, assuring that clinical nurses are proficient in their use of a new process, like peer review. By participating in their own peer review process and improving their confidence in the process before implementation for clinical staff begins, the FLNL is better able to facilitate “innovation implementation.”

Caldwell, Roby-Williams, Rush, and Ricke-Kiely (2009) examined factors influencing clinical nurses’ acceptance of changes needed to achieve improved levels of excellence in a Magnet<sup>®</sup> hospital. They found that the nurse manager’s (NM) leadership behaviors had a strong contextual influence on nurses’ engagement. As transformational leaders, NM can inspire their followers, challenge them, and support them through a change process. “When leaders demonstrate to their followers that they value a change in culture and actually model behaviours consistent with the cultural change, the followers will see the change as more beneficial to them than the status quo and more appropriate for the organization” (p.1414). They concluded that preparing NMs to understand and adopt new practices associated with an organizational change could improve successful adoption by staff. Education directed at understanding upcoming

changes to the workplace can play an important role in the growth of positive beliefs about Magnet<sup>®</sup> related changes. An intervention that would prepare FLNL for face-to-face peer review could support the staff's adoption of the move to peer review as well as the journey to Magnet<sup>®</sup> designation.

The AONE Nurse Manager Competencies (American Organization of Nurse Executives, 2015) provides domains of practice for nurse managers, including their role in creating safe, healthy environments, creating a professional environment, and fostering a culture where nurses influence patient outcomes and develop professionally. In the domain of The Science, NM are responsible for promoting evidence-based practice to promote patient safety and to identify key performance indicators to promote performance improvement. Strategically, they facilitate change by involving staff in the process, communicating change and evaluating the outcomes. In The Art domain, NM influence others, by encouraging participation in professional endeavors, role modeling behaviors, acting as a change agent and promoting professional development. The Leader Within domain include personal growth and development and engaging in reflective practice. Based on the Nurse Manager Competencies, NM are uniquely suited to serve as change agents for peer review and should be participating in their own peer review as well. Based on the above rationale, an intervention to introduce the NPR process to FLNL was chosen. Introducing NPR best practices to FLNL supports an evidence-based approach to change, having them participate in NPR allows them to model new behaviors for their staff, and engaging in their own peer to peer process may provide needed support for this challenging role.

### **Theoretical framework.**

The Conceptual Model for Professional Peer Review was introduced by Haag-Heitman and George (2011). Figure 1 is a diagram of the model, which provides a framework for

engaging FLNL to support nurse peer review implementation. The framework is built on systems motivational theory and integrates concepts such as self-efficacy and person empowerment. The model assumes the professional practice outcomes of all nurses include autonomy and accountability and these outcomes influence patient outcomes like quality and safety. The model’s four components (a Responsive Environment, Management, Shared Leadership Development, and Personal Empowerment) are elements of the professional practice environment and support role actualization and practice advancement (George & Haag-Heitman, 2015b). They are inter-related and should be fully implemented in all levels of nursing practice

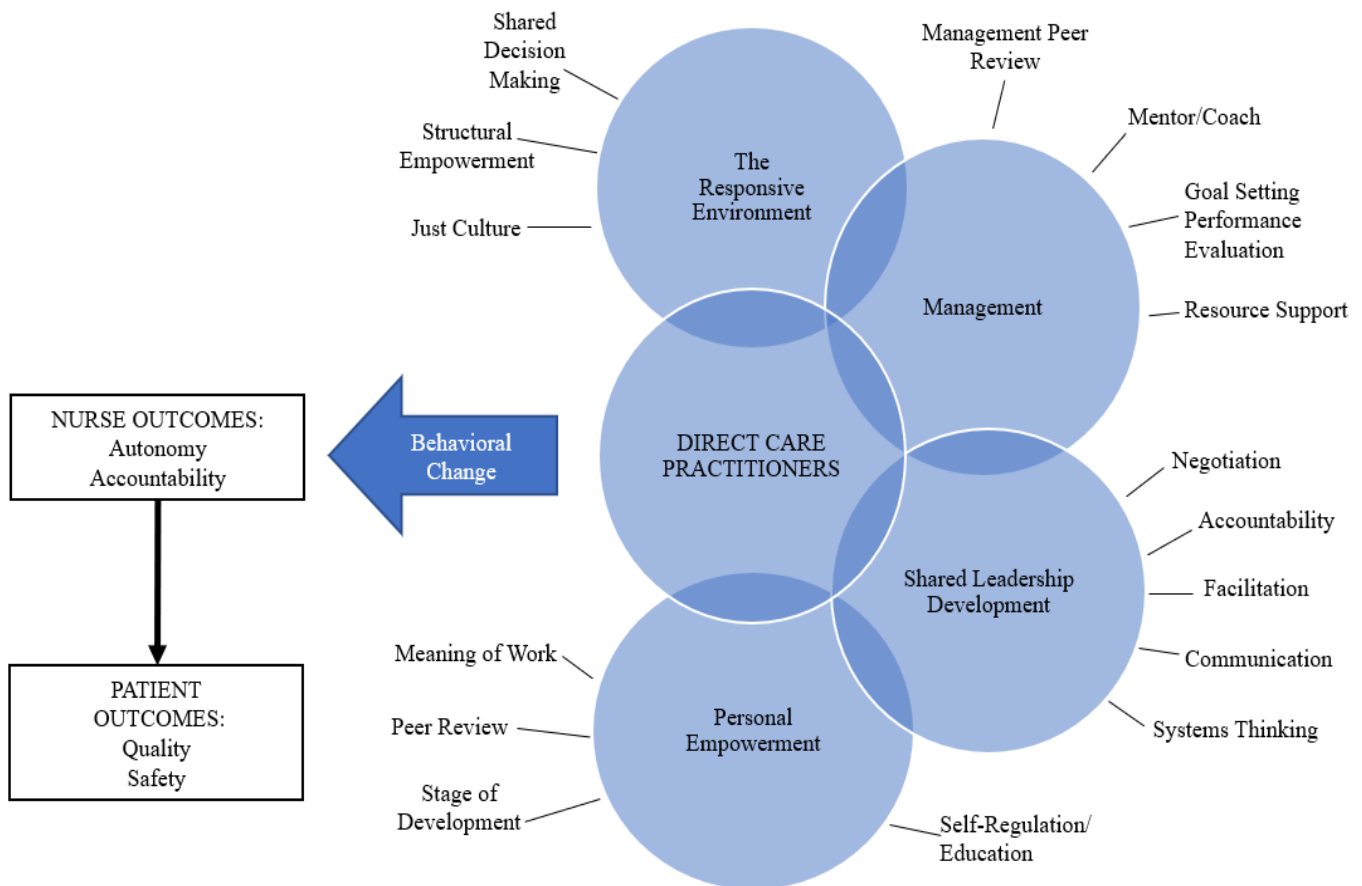


Figure 1. Haag-Heitman & George’s Conceptual Model of Peer Review. From Haag-Heitman, B., & George, V. (2011). *Peer review in nursing: Principles for successful practice*. Boston, MA: Jones and Bartlett Publishers

(Haag-Heitman & George, 2011). FLNL can use the model as a guide for creating a culture of excellence for safety and quality that includes peer review (George & Haag-Heitman, 2015b).

Peer review is essential for the Personal Empowerment component as well as the Management component of the model (Whitney et al., 2016). Personal Empowerment includes components of personal meaning of work, peer review, the novice to expert trajectory (Benner, 2001) or stages of development, and participation in self-regulation. FLNLs must create a Responsive Environment that supports peer review. As transformational leaders, they create a responsive environment when they recognize and reward early adopters of peer review, requiring them to be personally familiar with the process. FLNLs should foster shared decision-making through increased participation by staff in designing and implementing a new activity like peer review. In the Management Component, FLNLs play an instructive role when they practice a FLNL-specific peer review process. Staff begin to see peer review as a normal part of the system, applicable to all levels of practice, and not a means to punish or embarrass the nurse.

Engaging staff in principles of Shared Leadership Development will support the successful adoption of peer review. The nurse's reflections and learning from the peer review process should be used to define developmental goals in collaboration with the FLNL (Haag-Heitman & George, 2011). For instance, the nurse may become aware of a gap in their knowledge about fall prevention through peer review. During goal setting, they may ask to join in the Fall Committee or to attend a conference on fall prevention. This is a major change for many FLNLs, who have been solely responsible for the performance appraisal process and will now be collaborating with clinical nurses. Shared leadership includes influencing the expert practice of the clinical nurse through role modeling of skilled feedback delivery and acceptance (George & Haag-Heitman, 2015a). Transparency about the FLNL's experience of peer review,

and engaging staff in discussions about how best to implement unit-based peer review can also develop those skills. It will be essential to engage staff in defining the standards used for peer review, using quality outcomes for patients, families and staff, which are important to the unit.

In summary, the model illustrates that staff and FLNL need to work together to create a responsive environment through shared decision making. In the management component, FLNL should be engaging in their own peer review, mentoring and coaching staff in the peer review process, and collaboratively setting developmental goals informed by the peer review process. Personal empowerment would include appreciating the value of peer review in improving outcomes for patients, pursuing further education to support implementation of a new practice like peer review, and recognizes that stages of development need to be considered when engaging in peer review. Shared leadership development should include new skills such as peer review for staff and FLNLs to inform performance appraisal (American Nurses Credentialing Center, 2017).

### **Change Model**

The organization has adopted the Prosci Research model for change management (Hiatt, 2006). The model supports a focus on FLNLs to implement a change like peer review. The project was organized using the ADKAR model, which all FLNLs are currently learning as part of leadership preparation for major organizational initiatives. ADKAR is a framework for change, working from the perspective of what change means for the individual. The model elements are in the order of how most individuals experience change and starts after a change has been identified. The five building blocks of the model are:

A: Awareness of the need for change

D: Desire to support and participate in the change

K: Knowledge of how to change

A: Ability to implement required skills and behavior

R: Reinforcement to sustain change

The five building blocks were used as the project design as follows:

**Awareness:** Engaged the Nurse Manager Council (NMC) in learning why a peer review program is needed and how it can support outcomes important to FLNLs, including reducing turnover, improving communication between staff, assuring quality care is delivered, and preparing for Magnet® designation.

**Desire:** Involved the NMC to identify competencies or skills they see as critical to their success as FLNLs, which can serve as the content for peer review standards. Asked about their motivation and confidence in leading change, emphasizing their ability to successfully implement peer review on their units and the impact on key process indicators.

**Knowledge:** Developed content on peer review best practices relevant to FLNL. Collected demographic data and surveyed FLNL on their confidence in and perceptions of peer review processes and readiness to coach their staff. Used video from the Solutions for Patient Safety Network (Harbaugh, 2012) to demonstrate use of K-cards in practice. Focused on the skills required for successful implementation of their new knowledge.

**Ability:** Provided education on peer review best practices and engaged pairs of FLNLs to complete peer to peer K-card based peer review once over a two-week period. This provided time to practice the skills or address any fears or other barriers, and helped to identify any needed resources or process improvements.

**Reinforcement:** Debriefed with the FLNLs and collected post-intervention data. Based on qualitative and quantitative feedback from the project, the process will be rolled out to the

remaining FLNL. In the future, will provide nursing directors with a format to gather qualitative data on the new process and their FLNL readiness to roll out peer review to staff. Lessons learned and stories of success are being used to build momentum to implement the next phase: expanding peer review to clinical staff.

### **Specific Aims**

The project's aim was to improve front line nurse manager's and assistant nurse manager's confidence in and perceptions of peer review process and prepare them to support a peer review program for clinical nurses. The project objectives were to:

1. Identify content for training FLNL in peer review in collaboration with the CNO, using K-cards as the standard for practice needed for peer review.
2. Present the peer review project to the Nurse Manager Council, solicit feedback on the process.
3. Create K-cards specific to the role of the NM and ANM on inpatient units based on department strategic goals.
4. Identify or develop a tool to measure FLNL confidence in and perceptions of peer review processes.
5. After completion of a peer review process confidence and perceptions survey, provide training to FLNL on peer review best practices, K-card use, and guidelines for providing FLNL peer feedback.
6. Arrange pairings for peer review K-card rounding practice sessions for all interested FLNL, based on the process presented in training.
7. After completion of peer review practice sessions, FLNL complete a post training and practice peer review process confidence and perceptions survey.



**Outcomes:**

1. FLNL are more confident in peer review best practice implementation, the benefits for staff and patients, the process for implementation, and use of K-cards as a standard.
2. FLNL perceptions of peer review for FLNL will improve.

**Methods****Context**

The project organization is a 500-bed academic medical center in northern New England. The hospital is a Level I trauma center with Level III NICU, a Children's Hospital, two acute rehabilitation units, fifteen acute inpatient units, two inpatient psychiatric units, and over sixty ambulatory clinics throughout the state. The hospital is the flagship for a six-hospital health system serving a predominantly rural population in two states. As the only hospital in the largest city in the state, it is also the community hospital for the county. The hospital is currently the largest employer in the state.

The majority of current FLNLs have worked as clinical nurses in the organization and were promoted into their roles internally, apart from one ANM who was hired from a network hospital. Of the 43 FLNLs eligible to participate, 39% of NMs have a Master's degree in nursing (MSN), 48% have a Bachelors's degree in nursing (BSN), and 13% have an Associate's degree in nursing (ADN), and are currently enrolled in a BSN program. Among the ANMs, 10% have an MSN, 80% have a BSN, and 10% have an Associate's degree in nursing (ADN), and are currently enrolled in a BSN program. Their tenure in their FLNL roles varies from less than 6 months to greater than 20 years. 22% of NM and 25% of ANM were nursing professional development specialists prior to moving into their leadership role and were direct reports to the project leader in the past with last direct oversight ending two years prior to the project.

**Setting facilitators and barriers.**

The current CNO is committed to the implementation of peer review for all nursing staff. She successfully implemented a peer review education and competency program at her previous organization, a Magnet<sup>®</sup> designated academic medical center, during her Doctor of Nursing Practice program. She is a Magnet<sup>®</sup> Program Appraiser so appreciates the urgency in implementing peer review to successfully achieve Magnet<sup>®</sup> and understands the necessity of engaging FLNL as well as clinical nurses in the process. Two FLNLs are part of the Magnet<sup>®</sup> Champions group and were part of a team that attended the 2017 Magnet<sup>®</sup> conference, including a session on implementing peer review from two nationally known subject matter experts. They were active in the planning process for this project.

There were two projects in process during the timeframe for this project that could be barriers, including a double upgrade of the electronic health record in November 2018 and preparations to move four inpatient units to a new facility currently under construction planned for spring 2019. These projects impacted the FLNLs who serve on project committees for both initiatives and were challenged to find time to participate in the project. Summertime was the original timeframe for the project, which was when FLNLs completed performance evaluations on their clinical staff, with staff numbers ranging from 45 to over 100 individuals. While these possible barriers were anticipated, union contract negotiations begun in March 2018 had an unanticipated detrimental impact on the project timeline. The organization experienced a two-day work stoppage in mid-July. For two months leading up to the event, all efforts were directed at negotiations as well as planning for the work stoppage. After the work stoppage, contentious negotiations continued for another two months before a tentative agreement in mid-September. The nursing executive team, which included the project leader, felt that implementing the peer

review project during this time was not possible. The project leader contacted CNOs at two partner hospitals who both agreed to allow the project leader to complete the project at their organizations. Demands on leaders related to contingency planning meant the project leader could not make use of this generous offer. After the contract was settled, the project leader spoke with the CNO about completing the project in the organization, given the need to roll out peer review for clinical nurses in the next year. The CNO agreed, requesting FLNLs participating in nurse leader development programs be required to participate but to invite all FLNLs who reported to the CNO as well. A revised timeline for the project was created (Appendix A, Table 4).

### **Intervention**

An invitation was sent to all FLNLs, excluding the administrative nurse coordinators, staff assistants, and nurse leaders who did not report to the CNO. The project leader sent an electronic meeting planner (a common method of setting up meetings in the organization) inviting the FLNLs to attend one of two sessions on nurse peer review. They were asked to attend an education session on peer review and were offered the opportunity to participate in their own peer-to-peer review program using a process similar to what their staff would be learning in the coming year. The planner also indicated that this was a component of the project leader's DNP program. FLNL were asked to accept or decline the invitation, providing a rough count of who would be attending each session.

As they entered the auditorium on the day of the presentation, FLNLs signed in and took a packet in a preaddressed envelope. The envelope contained a form to create a unique identifier, the pre-assessment tool, the slides presented, the post-assessment tool, and the K-cards for use during the peer review activity. The sign-in list was used to match participants for the

peer review activity after class. The meeting started with an explanation of the project including the plan to implement nurse peer review as part of the journey to Magnet<sup>®</sup>. Their rights as participants including the minimal risk of harm, potential benefits from participation, protection of data, and their ability to withdraw and how to do so, including not completing the initial assessment, not participating in the peer review follow-up activity or not completing the follow-up assessments were provided verbally as well as in the written materials.

The project leader led the FLNL through the process of creating a unique identifier, noting it on the assessment forms and then destroying it to protect their identify. They were then asked to complete the pre-assessment documents. If they did not wish to participate in the project, they could return the pre-assessment form blank, not complete the peer review activity, or not return their post assessment form. Because of the unique identifier, the project leader would be unable to determine who did or did not participate. After the initial forms were completed, the didactic portion of the project was presented by the project leader using a slide presentation and short video. The short video demonstrated K-card use as the standard for providing feedback during peer review. It can be viewed at

<https://www.youtube.com/embed/vtI4IdWBZis?feature=oembed&wmode=opaque>

Kamishibai or K-cards literally mean “paper drama” and originated in 12<sup>th</sup> century Japanese Buddhist temples as a form of story-telling to convey morality lessons to the illiterate audience (Hart, 2017). The cards are two-sided with the same criteria or bundle on each side and a different color to show that the standard is met (green) or an abnormality or miss occurred (orange) (Appendix B, Figure 3). The value of the process is the opportunity to correct deficiencies in real-time and the ability to track performance trends in the present, if desired. They are simple to use, supportive of process standardization, inexpensive to implement and can

lead to sustainable change, all of which are important to nurse leaders looking at quality improvement in clinical practice.

The content covered is provided in Appendix . The next steps provided specific guidance for how to continue or end their participation in the project. They were polled to determine if they wanted to self-select partners for the peer review activity or want to be assigned. The choice in both groups was to be randomly assigned by the project leader. Finally, they were asked to provide any feedback or comments to the project leader about the proposed process or their participation. When the feedback period was done, they left the session with their packets for the follow-up activities, and left their pre-assessment survey at the door if they wished to continue participation. The unique identifier written on the forms by the participants would be used to match pre and post-assessments.

For the peer review activity, the FLNLs were given a set of six K-cards designed by the project leader with input for FLNL colleagues. They were based on the current K-cards under development by the Safety and Quality Council for the clinical nurse peer review process to be implemented later in the year. The FLNLs were expected to set up a time to go to the assigned unit and meet with their colleague to identify two K-cards to complete and use for peer feedback with their FLNL peer. Once they have completed the peer review activity, they were to open the post-assessment tool and complete it. Once completed, they were to return all materials including the completed assessment and completed K-cards to the pre-addressed envelope provided, and return them to the project leader via house mail or by dropping them off with an administrative assistant.

### **Data Collection Procedures**

FLNL were given a packet with the tool for creating a unique identifier and directions for

its use, the assessment tools, and K-cards for a peer-to-peer review activity (Appendix B, Figures 1-4). Completion of the initial assessment was defined as their initial consent to participate. FLNLs were asked to create a unique personal identifier using a tool provided to allow for comparison of survey results before and after participation in the peer review education and activity. They wrote the identifier on all items to be returned to the project leader. Time was provided before the start of the education session to complete the pre-assessment tool, which they could leave at the door as they exited the education session. Participants were asked to return the K-card forms and post-assessment in the envelop provided, regardless if they completed it or not, to allow them to withdraw anonymously. The post-assessment tools contained directions for completion as well as a reminder that they could return them blank if they did not want to continue participation in the project.

### **Study of the Intervention**

The project design was a before and after assessment of the effect of an intervention (participating in a role-specific peer review education and activity) on FLNL's confidence in and perceptions of the peer review process. FLNLs participated voluntarily in the process but knew that peer review adoption is planned for the coming year for clinical nurses. In this project design, there is no means of control for alternative explanations that may impact the findings, so it will not be possible to make causal connections between the intervention and the outcomes. However, the design is efficient and not onerous for the participants, which may encourage their participation. Data was also collected on the pre-assessment form on age, education, role, years in nursing, years at the organization, and years as a FLNL to determine evaluate the similarity of the groups pre and post-intervention and to examine whether these variables had an impact on the outcome of the intervention.

K-card care standards selected for the peer review activity were based on role expectations for FLNLs. They included an audit of documentation for the patient observer process, observation of staff performing hand hygiene, nurse compliance with patient-centered report guidelines (bedside nurse to nurse handoff at change of shift), nurse compliance with bar-code medication administration standards, and compliance with environment of care standards required by The Joint Commission. There were no more than five steps for each process and the K-cards contained detail on the correct steps to observe, guidance to support someone unclear on the process, and the feedback to be provided whether compliance was correct or incorrect. See Appendix B, Figure 4 for an example of the Bar Code Medication Administration K-card.

### **Measures**

The measures used included demographic data and two tools used to measure confidence in the peer review process and perceptions of peer review. Confidence is knowing how to do something (Van Dyk et al., 2016) and higher levels of confidence in individuals approaching a difficult task improve effort and persistence (Lunenburg, 2011). An intervention that increases the confidence of FLNLs in the implementation of peer review, might lead to a more successful implementation of peer review for clinical nurses. The FLNL Confidence in Implementing Peer Review Process Tool (Confidence Tool) is intended to assess FLNL confidence in the peer review process as a measure of their readiness to implement and coach peer review and was based on an example by Jambunathan (1992) and guidelines for constructing confidence or self-efficacy scales (Bandura, 2006). Bandura provides guidelines for constructing a situation-specific scale for each study, which has been done extensively with good results in other studies (Salanova, Lorente, Chambel, & Martínez, 2011). The tool examined perception of how well they can complete a course of action to improve their confidence (perception that they are

competent and capable of completing an action) and used Bandura's recommended question stem, "How confident are you that you can..." followed by a list of the key skills needed to implement and coach peer review. Respondants rated their confidence on a scale of 1 to 5 with 1 being Very Little Confidence, 3 Moderate Confidence, and 5 Highly Confident. Bandura suggested not calling the tool a "Confidence" scale or survey but labeling it an "Appraisal Inventory" to prevent response bias (Bandura, 2006).

The FLNL Perception of Peer Review Tool (Perception Tool) included questions used to measure FLNL's perceptions of peer review modified with permission from a study by Murphy et al. (2018), which looked at clinical nurse's perceptions of a new peer review process in their health system. Entitled the George/Haig-Heitman Clinical Nurses Perceptions of Peer Review survey tool, the survey was based on the Haag-Heitman and George (2011) conceptual model described earlier. The full survey included twenty-six questions with a seven-point Likert scale measuring degrees of agreement with statements about peer review. Nine questions relevant to FLNL were selected from the survey tool and permission was obtained from the publisher to use the questions with modification for the FLNL population along with a five point scale where 1 is Strongly Disagree, 3 is Neutral, and 5 is Strongly Agree. In total, there were eleven questions for the first tool, examining confidence in implementing the peer review process and twelve questions for the second, which examined perceptions of the peer review process. A question was asked about the FLNL's participation in nurse peer review prior to the education session and after the peer review activity.

Independent variables collected included age, role, years as a nurse in general and at the organization, years as a FLNL, and highest level of nursing education completed. The variables were self-reported by participants prior to the pre-intervention assessment and education session.



Age was measured using ten-year segments extending from 20 to 70 year or greater. Role options were Assistant Nurse Manager or Nurse Manager. Options for years as a nurse, as a nurse at project organization, in current role and as a FLNL in total were six ordinal levels extending from <1 year to greater the 20 years. Participants were also asked a yes-no-I don't know question regarding their previous participation in face-to-face standards-based peer review at the project organization. No data was gathered on compliance with the K-card standards. The only information collected was the type of standard used, if the FLNL chose to return the K-cards with the post-assessment.

### **Data Analysis**

Data from the completed forms was entered into a spreadsheet by the project leader and the unique identifier created by the participants and known only to them was used to match results for pre and post assessments. Demographic data was used to compare characteristics of the sample population to the larger population of FLNL for education, to compare responders to non-responders and to determine if these variables had any bearing on the results obtained. The demographic data and pre and post-intervention peer review process confidence and perception mean scores were analyzed using a paired *t*-test of the score means performed with SAS JMP software. The paired *t*-test statistic is appropriate when the first measurement of a variable is paired in some meaningful way with the second measurement (Lehman, O'Rourke, Hatcher, & Stepanski, 2013). In this project, the mean score for each participant on each scale pre-intervention was paired with the mean score on the scale post-intervention using the unique identifier created by each participant. The pairing can provide a more sensitive test due to the direct correlation between each individual's pre and post-test scores. Comparisons was also done for each individual question to identify areas for focus with follow-up interventions. There

was also a comparison of the groups based on who did and did not continue participation after the pre-test to determine if there was anything significant about the two groups that might explain findings. There was also an analysis of the change in mean scores for each question pre and post intervention.

### **Ethical Considerations**

The University of Vermont (UVM) Institutional Review Board (IRB) was contacted to determine the need for review prior to initiating the DNP project. UVM IRB serves the university as well as the University of Vermont Medical Center. UVM IRB provides an online assessment process for determining if a project requires formal review. Based on this process, it was determined this project does not need formal review because it will not generate new knowledge, does not involve experimental activities, does not require randomization of participants, and does not involve additional risks to participants to make the results generalizable (see Appendix C). University of New Hampshire (UNH) Internal Review Board (IRB) approval was not required.

### **Results**

Forty-three nurse managers and assistant nurse managers who had no current reporting relationship to the project leader were invited to participate via an email planner. Twenty-eight FLNLs accepted the emailed invitation with one tentative response. The morning of the first session, 3 FLNL contacted the project leader to indicate they had a conflict and could not attend. However, 27 of 43 or 63% attended one of the two sessions and 26 consented to participate by completing the initial assessment. Demographic data on the total group of FLNL were not available except for highest nursing degree completed. In comparing the total FLNL group to those who attended the sessions, the groups were almost identical in educational preparation.

The pre-assessment participants included 14 nurse managers and 12 assistant nurse managers. 84% of the participants had never participated in face-to-face nurse peer review, with 8% having participated and 8% unsure. The ages of the two groups showed the NM group to be slightly older than the ANM and more likely to have a Master's degree in nursing. NM had more years of RN experience and time in the role of FLNL (Appendix D, Table 1). In analyzing the pre-assessment data, it was noted that there was a statistically significant difference between the Master's and Bachelor's prepared FLNL scores on the Confidence tool, indicating the Master's prepared FLNL started with more confidence in implementing peer review than their Bachelor's prepared peers (Appendix D, Table 2).

Seventeen of the 26 participants or 65% submitted the post-assessment tools. All tools were completed correctly and no results were discarded. During the two weeks the project lasted, the organization had an unusually high census with significantly increased patient volumes both locally, within the network and within the region. FLNL had to focus all their attention on throughput of patients. Several FLNL called the project leader to ask for an extension so they could complete the activity once census normalized. The project deadline was extended for another week to allow those who would to complete the activity. An email was sent to all the FLNL who attended an education session alerting them to the extension. This brought in an extra 7 results.

Fifteen K-cards were returned, though FLNL were told this was not required during the education sessions. At the time of the education sessions, the FLNL expressed concern when they reviewed the K-card standards because they did not immediately know all the steps listed on the cards as they reviewed them. They were reminded that the results of the K cards could not be tied to them or their unit and the project leader would report only which cards were used, not

their performance. They could chose to not return the K-cards when they returned their survey. Of the 16 returned (2 cards for each FLNL activity), 12 were for bar-code medication administration, 12 were for environment of care, 5 were for patient-centered report, 2 were for patient observation, and one person evaluated hand hygiene. Anecdotally, FLNL reported the standards were not as difficult as first thought and that the peer-to-peer feedback helped them to relearn steps they had forgotten. FLNLs have asked to have the project continue to include the FLNL who did not attend the project sessions and consider the addition of more standards for the K-cards.

Data analysis was completed comparing pre and post intervention scores by question pair and by participant pair. In the first analysis, there were eleven questions for the FLNL Confidence in Peer Review Process Tool (Confidence Tool) and twelve questions for FLNL Perception of Peer Review Tool (Perceptions Tool). For the Confidence Tool, which used a 1 to 5 Likert scale, pre and post intervention data is found in Table 1. A paired t-test of the question means revealed a significant difference between the paired sample mean score observed pre and post intervention,  $t(10)=11.22$  and  $p<.0001$  (Details in Appendix D, Table 3). The questions which showed the greatest percent improvement included confidence in: explaining how to use K-cards (118%), explaining peer review principles (69%), identifying FLNL importance in achieving success with peer review implementation (68%), and using techniques to provide peer review (72%).

The Perceptions Tool had twelve questions and 1 to 5 Likert score. Pre and post-interventions scores are found in Table 1. A paired t-test of the question means for the Perceptions Tool showed a significant difference between the paired sample mean score

Table 1 Means and *t*-Test by Question for Confidence and Perceptions Tools

Question #	Pre Intervention Mean	Post Intervention Mean	Mean Difference	Percent Change	Confidence Interval and <i>p</i> value
1	3.192	4.118	0.925	29%	
2	3.269	4.235	0.966	30%	
3	3.077	4.294	1.217	40%	
4	2.808	4.471	1.663	59%	
5	2.500	4.235	1.735	69%	
6	2.769	4.647	1.878	68%	
7	2.500	4.294	1.794	72%	
8	3.577	4.647	1.070	30%	
9	2.577	3.882	1.305	51%	
10	2.000	4.353	2.353	118%	
11	2.692	4.353	1.661	62%	
Summary Means	2.815	4.353	1.506	57%	95% CI 1.21-1.81 Paired <i>t</i> -Test $t(10)=11.22$ $p<.0001$
12	3.154	3.176	0.023	1%	
13	1.577	1.824	0.247	16%	
14	3.769	4.235	0.466	12%	
15	3.769	3.882	0.113	3%	
16	3.000	3.438	0.438	15%	
17	3.346	4.250	0.904	27%	
18	3.923	4.529	0.606	15%	
19	4.000	4.588	0.588	15%	
20	4.577	4.824	0.247	5%	
21	4.423	4.824	0.400	9%	
22	4.346	4.824	0.477	11%	
23	4.577	4.765	0.188	4%	
Summary Means	3.705	4.097	0.391	11%	95% CI 0.24-0.55 Paired <i>t</i> -Test $t(11)=5.54$ $p=0.0002$

Note: Questions with greatest percent change for each tool highlighted

observed pre and post intervention,  $t(11)=5.54$  and  $p=0.0002$  (Details in Appendix D, Table 3).

The questions with the greatest positive change in peer review perceptions included giving colleagues feedback on the quality of care on their unit (27%), comfort giving or receiving feedback from a peer (both 15%), and receiving feedback on their unit's quality of care from their peers (15%).

Table 2. Means and  $t$ -Test for FLNL Participant for Each Tool

FLNL	Pre Mean Confidence	Post Confidence	Difference Confidence	Pre Mean Perception	Post Mean Perception	Difference Perception
1	5.000	5.000	0.000	4.083	4.083	0.000
2	3.000	4.696	1.696	3.417	4.417	1.000
3	2.636	4.304	1.668	3.667	4.167	0.500
4	1.909	3.182	1.273	3.500	4.200	0.700
5	2.273	4.364	2.091	3.500	4.250	0.750
6	3.000	4.545	1.545	3.583	4.500	0.917
7	2.182	3.609	1.427	3.083	3.417	0.333
8	2.636	3.818	1.182	3.333	3.917	0.583
9	2.909	4.545	1.636	4.000	4.333	0.333
10	2.455	4.261	1.806	3.750	4.167	0.417
11	3.000	4.000	1.000	3.583	3.833	0.250
12	4.182	4.000	-0.182	4.167	4.250	0.083
13	1.818	4.364	2.545	4.083	4.250	0.167
14	2.545	4.273	1.727	3.667	3.667	0.000
15	3.091	4.304	1.213	3.250	4.000	0.750
16	2.000	3.909	1.909	4.000	3.667	-0.333
17	3.000	4.783	1.783	3.750	4.583	0.833
Mean	2.802	4.228	1.426	3.672	4.106	0.435
Confidence Interval and $p$ value	95% CI=1.081-1.780 $t(16)=8.67$ $p<.0001$			95% CI= 0.237-0.620 $t(16)=4.74$ $p<.0001$		

A paired samples  $t$ -test was performed analyzing the paired (using the unique identifier) pre and post intervention mean scores for each participant on the two tools (See Table 2). For the Confidence Tool, there was a significant difference between the paired sample mean score

observed pre and post intervention,  $t(16)=8.67$  and  $p<.0001$ . For the Perceptions Tool, the analysis showed a significant difference between the paired scores pre and post intervention,  $t(16)=4.74$  and  $p<.0001$  (Appendix D, Table 4).

Analysis of differences in mean scores for each tool pre and post-intervention by degree completed, role, total years as FLNL, and age were completed (Appendix D, Table 5). Across group comparison by demographic trait showed there was a significant difference for Highest Nursing Degree Completed ( $\text{Prob}>F=0.031$ ) in the post-intervention means within the group (Master's vs. Bachelor's vs. Associate's degree) for the Confidence Tool, mirroring the pre-intervention difference in scores between the Master's and Baccalaureate-prepared FLNL. There was no difference for the other demographic traits. There were no significant differences pre and post-intervention (mean differences) between groups and no significant differences among means in a group for the Perceptions Tool.

## **Discussion**

### **Summary**

Nurse peer review based on modern principles measures the quality of nursing care against established standards, identifies strengths and weaknesses in practice, can inform policy and procedures and identifies gaps in nurse knowledge. Magnet<sup>®</sup> designation requires that applicants have a peer review program in place and it is an expectation of nursing as a profession. The project organization plans to implement peer review for clinical staff in the next year. There is evidence that frontline nurse leaders (FLNL) can influence adoption of new practices such as peer review by assuring they are prepared to lead the planned change (Caldwell et al., 2009). This project engaged frontline nurse leaders in their own peer review program, allowing them to experience face-to-face peer review and preparing them to support their staff in

the implementation of peer review in the future. They completed a pre and post assessment of their perceptions of and confidence in implementation of peer review. There was a statistically significant improvement in mean scores for confidence in implementing the process and perceptions of the peer review process when analyzed by question and by participant, after FLNL participated in an educational program and a role-specific peer review activity. FLNL found the activity easier than anticipated and have asked to continue the process as part of their professional development.

### **Interpretation**

One of the few articles discussing peer review for leaders (Deckert, 1990) noted that as peer review becomes part of “nursing life,” it will improve nursing care by identifying problems and deficiencies that leaders can more promptly address. Peer review education with opportunity to practice in “real life” improved the confidence of FLNL in processes needed for rolling out peer review to their staff. Having confidence in their knowledge of the process might enable FLNL to respond more quickly to address findings from peer review activities. The results of this project indicate that participating in the education and peer review activity improved FLNL confidence in peer review best practice, including knowledge of the benefits for staff and patients, the process for implementation, and use of K-cards as a standard. FLNL perceptions of peer review also improved, but to a lesser extent than their confidence.

The findings of this project reinforce earlier study findings. Jambunathan (1992) completed a survey of clinical nurses to identify perceptions and values of staff regarding the addition of a peer review program along with identifying educational needs. She developed a questionnaire with face and content validity established by expert review and administered it to 285 nurses with a return rate of 45%. 86% of respondents had participated in peer review which



mirrors the findings among the FLNL (85%). One question focused on what was needed to guide the implementation. Responses included education by well-prepared individuals and the use of objective, measureable practice standards, both of which were found in the approach used in this project. A project by Gnilka (2018) evaluated the effect of communication-focused education for peer review on perceived self-efficacy in delivering meaningful feedback during peer review with ambulatory nurses. Using a modified General Self-Efficacy Scale, the author found a statistically significant difference between pre and post intervention scores, with previous experience with peer review improving significance. Providing education can improve both perceptions of and confidence in delivering peer review for clinical nurses and this project indicates the same for FLNL.

The questions which showed the greatest improvement illustrate the findings above and provide guidance in developing future education on peer review. Improved knowledge on K-card use is expected given it is a new concept for use in peer review. The FLNLs received information on the K-cards, watched a video, and practiced the techniques themselves. The use of three different instructional modalities to introduce this concept may explain the improvement. Understanding which is the most effective would be important for efficiency in rolling out peer review to the remaining 1800 nurses in the coming year. Explaining peer review principles, understanding the importance of their role in implementation, and using techniques to provide peer review were the focus of the education session and showed improvement. It will be important to assure this information stays current in the minds of busy FLNL so they maintain confidence in their skills as the start of peer review for clinical nurses approaches. Revisiting the teaching materials may be helpful.

Improvement in the questions related to perceptions were less dramatic and may reflect the FLNL's exposure to the concept of peer review as part of the preparation for Magnet<sup>®</sup>. One question that bears further investigation was the FLNL's perceptions of receiving routine feedback from their supervisor outside their annual performance review. This scored among the lowest of the questions. FLNL's directors should be aware their direct reports are interested in more timely feedback and could actively support peer review for the FLNL as a way to provide more ongoing professional development. Comfort giving feedback to a peer scored low pre-intervention and increased 15% post. FLNL give feedback to staff regularly but indicated they need more support for peer feedback. This knowledge is useful for designing further professional development for the FLNL and supports continuing peer review for FLNLs beyond the project.

Degree completed, role, total years of experience as a FLNL and age were examined for impact on the results of the intervention on participant results. In the pre-assessment group, confidence in peer review processes was related to degree completed (Bachelor's versus Master's), with Master's prepared nurses starting the process with more confidence around peer review than their peers with a Bachelor's degree ( $p > .01$ ). This was not born out statistically post-intervention. There was no difference in the change in mean scores on either the Confidence or the Perceptions Tool related to degree completed, role, total years of experience as a FLNL or age. Degree completed influenced the mean within groups in the post intervention results significantly ( $\text{Prob} > F = 0.031$ ) which mirrors the findings in the pre-assessment group. Bachelor's prepared FLNL had the largest improvement in scores for the Confidence Tool. This disparity between the two groups may reflect a lack of preparation for practice-based peer review in Bachelor's degree programs. While the intervention was successful in improving scores for

Bachelor's prepared nurses, introducing peer review in initial nursing degree programs may promote engagement in clinical nurse peer review. There were only a few Associate's degree FLNL in the cohort and they are currently enrolled in Bachelor's degree programs. Perhaps the content is being covered in these programs, which is why the Associate's degree group did not see a difference in scores.

The introduction of the K-cards and the concern about knowing the content was of interest, given the tasks chosen are expected skills for FLNLs. This finding validated concerns among nurse executives that FLNL find their broad spans of control and the associated workload keep them from attending to quality assurance work like clinical nurse compliance with best practices. Not knowing where to find the report on bar code scanning compliance in the electronic health record meant the FLNL is not following up with staff regularly on this important patient safety measure. FLNL reflected on this during the discussion period after the education sessions. Knowing that peer review for clinical nurses will be rolled out in the next year and will include similar K-card tools, the FLNLs identified peer review as a way to engage nurses in assuring compliance with practice standards. Another outcome of peer review using this methodology may be the identification of professional development or continuing education needs or competency reinforcement. With this in mind, engaging professional development specialists in peer review in a model similar to that used with FLNL might be an important next step in process implementation.

The results of this project have several uses for the project organization. First, the findings will bolster efforts in the project organization to implement peer review in the next year and provide a source of evidence to address a gap in the elements of performance under the EP domain of Accountability, Competence, and Autonomy. Under the Exemplary Professional

Practice domain, the 2019 Magnet<sup>®</sup> Application Manual requires that “nurses at all levels engage in periodic performance reviews that include a self-appraisal and peer feedback process for assurance of competence and continuous professional development” (American Nurses Credentialing Center, 2017, p. 42). The results of the project have been shared locally with members of the SQC who are responsible for implementing peer review across nursing. The lessons learned from the process of introducing the K-cards to FLNL can be used to anticipate challenges with clinical nurses in the coming year, including self-doubt when unsure about the steps in a process. The training materials and tools could be modified to use with clinical nurses, to determine if the techniques used with FLNL will be successful with clinical staff.

Data about the direct benefit of this project or peer review in general on clinical or financial outcomes is limited. A quality improvement project by Mangold, Tyler, Velez, and Clark (2018) showed a decrease in pressure injuries and improved compliance with anticoagulation patient education but found a negative effect on patient satisfaction with pain management. A doctoral dissertation by Snyder (2017) looked at the effect of nurse peer review on falls. Differences in means and two-sample t-tests indicated no significant difference in falls or falls with injury as a result of implementation of peer review. A regression analysis of staff survey results showed staff held a statistically significant belief in the efficacy of peer review to prevent falls. The author suggested that the peer review process was not mature enough yet to impact clinical outcomes and had the study gone on longer, there may have been a measurable decrease in falls. Pfeiffer et al. (2012) had similar findings of no improvement in patient satisfaction with pain with peer review. Without peer review studies showing positive outcomes, it is not possible to demonstrate a cost-benefit related to clinical outcomes. One opportunity to consider is using data on the positive outcomes from obtaining Magnet<sup>®</sup> status, which could be

used for a cost-benefit analysis for providing the education and peer review practice for FLNL now and clinical nurses in the future.

### **Limitations**

There were several limitations to this project. First was the lack of a valid and reliable peer review evaluation tool for use with FLNL. The tools used should be formally tested for validity in order to strengthen the findings related to its use. The recent experiences of a work stoppage and contentious contract negotiations may have left the FLNL feeling less confident and efficacious in their roles in general and any intervention that provided them support and encouragement might have influenced their confidence more so than in the past. The significant improvement may be more of a reflection of the support they received through their participation in the project. It would be important to replicate the project with the rest of the FLNL or at another organization to more reliably determine the success of the intervention.

While the FLNL are not current direct reports of the project leader, the project leader has been employed at the organization for over 25 years, been faculty, and was the supervisor for some of the FLNL in the past. This may have influenced who chose to participate among some of the FLNL. Finally, the FLNL were aware that the project leader was in a DNP program and this project was part of completing the program. This information may have led them to respond more favorably to the intervention or in their survey responses. It will be important to replicate this work with a more objective group of FLNL to assure the results are due to the intervention and not the relationship with the project leader.

### **Conclusion**

There were two serendipitous outcomes from the project. First, when attempting to find an alternative site for the project during the work stoppage, the project leader met with Chief

Nursing Officers at two network hospitals. They too, were interested in beginning nurse peer review with their staff and were open to beginning with FLNL. At the conclusion of this work, the project leader will contact the two CNOs to determine if they are still interested in participating in this process. This would provide an opportunity to continue to evaluate the process and the tools used in this project. Second, two nurse managers who participated in the project have volunteered their units to be the pilot sites for the clinical nurse project. Given the volume of work facing the FLNL and their staff, this is an unexpected bonus. If volunteering to be a pilot unit is a result of the project, targeting FLNL with their own experience of a planned change may be an important strategy to consider for future project implementation planning.

This project demonstrated a positive outcome for FLNL when they learned about and experienced peer review, at least for the short-term. The next step is to consider if the FLNL's increased confidence and improved perceptions of peer review translates into improved adoption by clinical nurses in the coming year. Does a more confident, experienced FLNL improve the clinical nurse's perceptions or engagement in peer review of their clinical practice? Given the goals of the organization to roll out peer review across all levels of nursing practice, there may be an opportunity to further examine the influence of FLNL preparation. Given that less than half the FLNL participated in the full process, a study of the success in the adoption of peer review based on the FLNL's exposure to peer review would be possible.

A quote in the study by Roberts and Cronin (2017) indicates, "When you learn about one facility's peer-review program, you learn about only 1 facility's peer-review program" (p. 229). This is an apt description of the state of peer review literature today. In an effort to implement a peer review program based on contemporary best practices in peer review and the current evidence in the literature, this project engaged FLNL in role specific peer review to prepare them

to lead their staff in peer review adoption and support their professional development as FLNLs. Peer review allows each nurse to take ownership and accountability for their practice. FLNL must be “committed, resilient, flexible, visionary and creative” in the implementation of peer review with their staff (George & Haag-Heitman, 2011, p. 258). The project’s success reinforces the use of evidence-based peer review principles when developing peer review programs and offers an effective approach to introducing peer review to front line nurse leaders.

### **Other Information**

#### **Funding**

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*Appendix A*Table 1 *Inclusion and Exclusion Criteria for Screening Studies*

	Inclusion	Exclusion
Types of Study	JHN EBP Level I, II, or III	JHN EBP Level IV or V
Population	Clinical nurses Nurse leaders	Physicians Advanced practice nurses Other clinician types
Intervention	Peer review Peer feedback	Peer review organizations Performance appraisal or assessment Journal or publication peer review Research or conference peer review Event based peer review Committee based peer review
Outcome	Nursing satisfaction Patient quality outcomes: nursing sensitive indicators Patient and family satisfaction Magnet status	
Sources	English language sources from any country in traditional databases or grey literature after 1988.	Studies published before 1988 Studies not translated to English

JHN EBP: Johns Hopkins Nursing Evidence Based Practice (Dearholt & Dang, 2012)

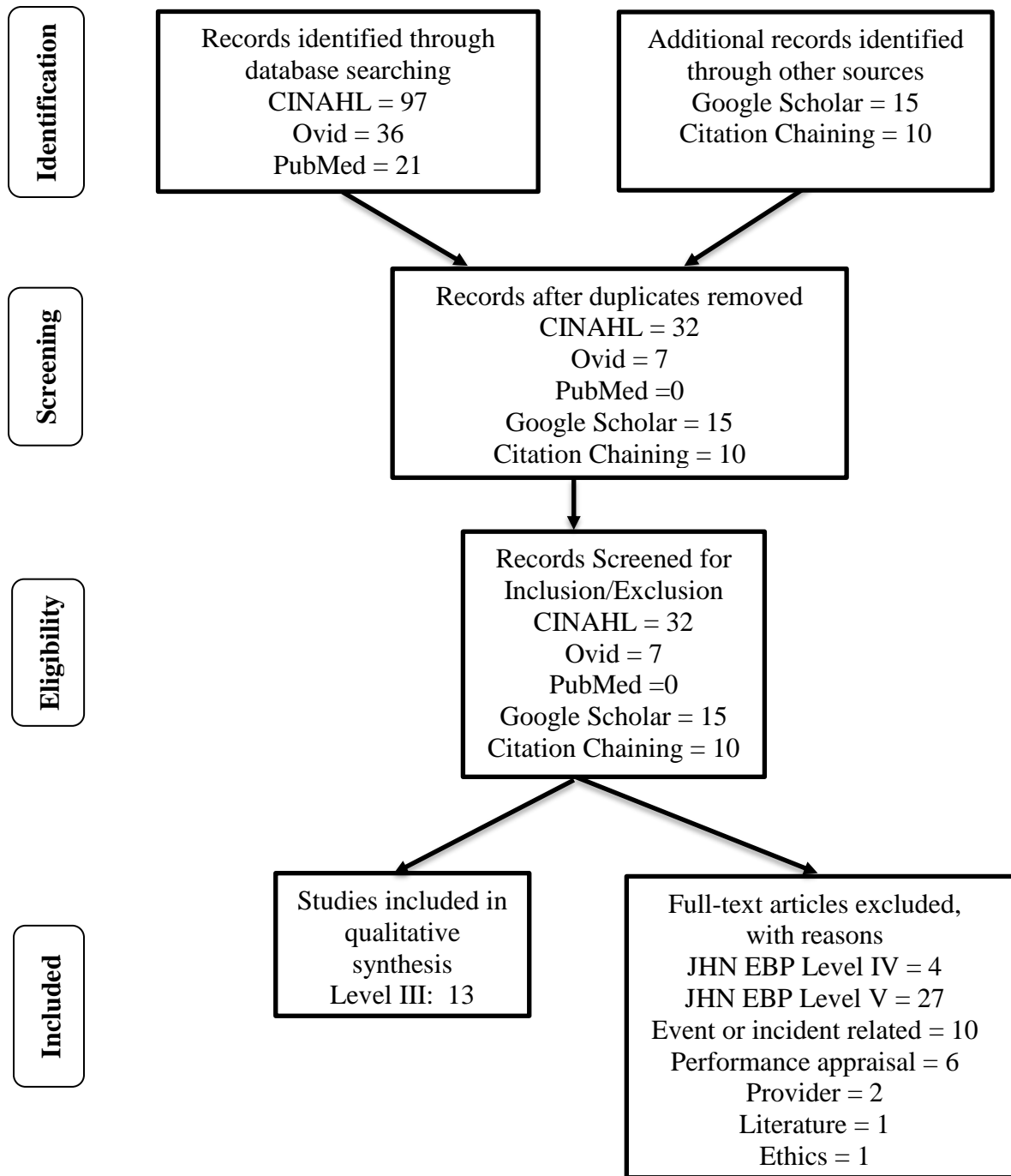


Figure 1. PRIMA flow diagram of study selection showing process of study selection for inclusion in the qualitative synthesis. Adapted from Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097



Table 2 *Selection of Included Studies with Rationale for Exclusions*

Table of Selection Process Results	
<b>Studies in Qualitative Analysis</b>	Number kept: 12
Johns Hopkins Nursing Evidence Based Practice Level III Study Number	10, 14, 30, 32, 34, 35, 47, 51, 54, 58, 59, 64
<b>Excluded Studies with Rationale</b>	Number excluded: 52
JHN EBP Level IV or V	32
Event or incident related	10
Performance appraisal	6
Provider peer review	2
Literature/journal peer review	1
Ethics	1

Table 3: *Review of Selected Studies: Intervention and Descriptive*

Intervention studies using Nurse Peer Review  Author (Year)	Study	Role	Frequency	Use of established standards	Someone of same rank	Practice focused	Continuous learning culture patient	Not anonymous	Incorporates developmental state	Research Focus	Findings
Karas-Irwin, B. S., & Hoffmann, R. L. (2014)	Quant n=12	Nurse Exec NM 1 org	2 times Pre/post	AONE	Yes, assigned dyads	Yes	Yes	Yes	Unclear	Create a nurse leader peer review process aligned with NPR principles and measure the effectiveness on competencies and profession development	Improved score on NPR competency checklist Leaders met developmental goals.
Snyder, A. F. (2017)	Quant	RN 1 org	Pre/post peer review	Fall best practices	Yes	Yes	Yes	Yes	Unclear	Determine the effect of implementation of peer review on falls and falls with injury Survey lived experience emailed	No difference in falls or falls w injury Nurses perceive efficacy of peer review to promote adherence to protocols to reduce falls

Descriptive Studies Author (Year)	Method N=	Subject	Tool	Details	Recruit Methods	Response Rate	Survey Focus	Findings	Outcomes
Christina, V., Baldwin, K., Biron, A., Emed, J., & Lepage, K. (2016).	Qual n=14	RNs 1 org.	Semi structured interviews	25-60 min	Educ. recruited	n/a	Explore perceptions of nurses on factors influencing “audit and feedback”	3 themes of influence on NPR perception Relevance-standards Process-timing and feedback Individual factors-personality	Increase relevance of NPR to staff Involve them in development Include patient outcome data Consider timing of audits Acknowledge success
Cunningham, D. A. (2002)	Quant n=34	RN 1 org. Community	Developed questions-based on Jambun-athan tool	24 items with demographics Likert scale	Packets Flyer	44% resp. rate	Staff’s perception of NPR	Overall positive, see as their responsibility but question effectiveness Time consuming Neutral on fairness	Management needs to evaluate NPR on ongoing basis. Attitude of mgt will impact success of implementation
Hogston, R. (1995).	Qual n=18	RNs 1org.	Unstructured formal interview	20 minutes	Conv. sample via posters	n/a	Examine everyday methods by which nurses evaluate	Use of NPR as subjective method of evaluation 3 themes: Dialogue and sharing	Formalize the process of peer review Create process to capture reflections and record learning.

							quality of care	Reflective practitioner-RNs more accurate Tools/frameworks-need standards	Need outcome measures
Hungerford, K. A. (2001).	Quantitative n=236	RN, NE, Admin. Entire Province	Peer Feedback Imp. & Effective. Inventory	21 items	Conv. sample	0.2% resp. from all RNs in prov.	Investigate the perception of the importance versus the effectiveness of NPR	Difference b/t importance and effectiveness—see NPR as important but not as effective	Offer education, how to give feedback effectively. Integrate into work life
Jambunathan, J. (1992).	Quantitative n=130	All nurses 1 org.	Developed NPR Questionnaire	10 items Likert	Conv. sample	45% resp. rate	Perceptions and values of staff nurses towards starting NPR. What are needs for information and education?	Favorable attitude to NPR Time consuming and some fear impact on relationships Varied response to frequency	Further education needed. Program developed including video to introduce process. Need data on cost/benefit for future. (Survey has been used in other studies)
Pfeiffer, J. A., Wickline, M. A., Deetz, J., & Berry, E. S. (2012).	Survey Mixed Methods n=541	RNs Multi. orgs in System	Modified PGCIS (Hughes, 1988)	16 items with 2 sub-scale	Emailed from librarian flyers	38 % resp. rate	Measure informal RN to RN peer review	RN to RN takes place but not tied to outcomes Give more than they receive	ID'd education, engagement and participation at the unit level

							at the unit level	No correlation b/t PGCIS and safety outcomes Fear of retribution	critical to acceptance. Define terms, teach communication skills
Roberts, H., & Cronin, S. N. (2017)	Quant n=66	NL MPD CNO Multi	New 4-item tool	Author develop to look at design, outcomes and barriers	Magnet Hosp-random selection	53% resp. rate	Identify how hospitals define NPR and the types of NPR programs that exist in Magnet hospitals	Wide variability but majority use peer evaluation as only NPR method. Clinical PR is mostly case review Process measures- Improve doc. or NSIs Barriers: seen as punitive, time needed, uncomfortable	No measures of autonomy, accountability, safety Need to disseminate successful practice Need better outcome measures.
Semper, J., Halvorson, B., Hersh, M., Torres, C., & Lillington, L. (2016)	Quant n=292	RNs One org.	Learning needs assessment	n/a	Sent to all	32% resp. rate	Gain understanding of nurses' perceptions about peer review and identify specific learning needs. Identify factors	Staff nurses favor NPR but needed more training on giving/receiving feedback 40% reported already doing NPR	High level attendance at subsequent trainings No change in mean scores pre and post training Focus on communication and training

							impacting success		
Stratton, E. O. (2017) Abstract only	Mixed methods n=277	All levels One org.	Questionnaire	No data	Sent to all	34% resp. rate	Explore attitudes of nurses towards peer review and its value as tool to enhance accountability and quality care.	Nurses favor NPR Done professionally Helped reflective practice and team performance	Need training
Whitney, K., Haag-Heitman, B., Chisholm, M., & Gale, S. (2016).	Survey n=85	CNE Multi. org.	CNE NPR Perception survey	25 Quests.	AONE, ONL member via emails		Understand CNE perceptions of NPR and current practices in their organizations	See NPR as important to improve quality and safety. Prevalence of NPR is low and not in line with ANA guidelines	Knowledge gaps related to purpose, outcomes and alignment with ANA guidelines

ANA=American Nurses Association; AONE=American Organization of Nurse Executives; CNE/CNO=Chief Nursing Executive/Officer; RN= Registered Nurse or Canadian Equivalent; MPD=Magnet Program Director; NL= Nurse Leader; NPR=Nurse Peer Review; NSI=Nursing Sensitive Indicators; ONL=Organization of Nurse Leaders; PGCIS=Peer Group Caring Interaction Scale; Qual=Qualitative study design; Quant=Quantitative study design.

Table 4: *Project Implementation Timeline*

Task	April	May	June	July	August	September	October
Engage CNO support for providing Peer Review content to Nurse Managers (NM)	X			Work Stoppage and contract negotiations effectively halting all non-essential activity at the project site	X	X	
Identify resources for peer review awareness assessment and readiness for Peer Review outcome metric		X			X	X	
Obtain UVMMC IRB review		X					
Meet with NM Council to introduce project & identify competencies			X				
Develop Kamishibai (K) cards with NM representative input			X			X	
Deliver invitation to participate in project and schedule meetings						X	
Present didactic content to interested FLNL after completion of peer review awareness and readiness survey							X
Provide FLNL with peer review K-card rounding dyads, to allow them to practice process presented in training							X
Send FLNL reminders to complete PR process							X
Prompt completion of peer review awareness and confidence survey							X
Present findings to FLNL and engage them in discussion of the experience of peer review and any recommendations for improving the process for themselves or staff							X

## Appendix B

## Unique Identifier Tool.

This activity will allow you to create a unique identifier to help match up your pre and post assessments without identifying who you are.

Part 1: Create a unique 5-digit identifier that only you will know:

1. What is the first letter of your mother's first name?
2. How many older siblings do/did you have?
3. What number represents the month you were born?
4. What is the first letter of your middle name? (If none, use X)
5. What is the last number/letter in your office number at work?

Part 2: Write the 5 digit number in to boxes marked Unique Identifier Code on the top of your pre-program assessment and your post-program assessment.

Thank you for your assistance.

You can now destroy this form. If you need to recreate your number for the post assessment, I can send you another copy of the Unique Identifier tool

*Figure 1.* Unique Identifier Tool



Unique Identifier Code:

Pre Assessment

Highest level of nursing education completed

- Diploma
- ADN
- Bachelor's
- Master's
- Doctorate

Years as a nurse

- <1 year
- 1 to 5 years
- 6 to 10 years
- 11 to 15 years
- 16 to 20 years
- >20 years

Years working as a nurse at UVMHC

- <1 year
- 1 to 5 years
- 6 to 10 years
- 11 to 15 years
- 16 to 20 years
- >20 years

Current Role:

- Nurse Manager
- Assistant Nurse Manager

Years in current role

- <1 year
- 1 to 5 years
- 6 to 10 years
- 11 to 15 years
- 16 to 20 years
- >20 years

Total years as a front line nurse manager (add ANM yrs + NM yrs = total years)

- <1 year
- 1 to 5 years
- 6 to 10 years
- 11 to 15 years
- 16 to 20 years
- >20 years

Your current age-group

- 20 to 29
- 30 to 39
- 40 to 49
- 50 to 59
- 60 to 69
- >= 70
- I don't know

Have you participated in face to face, standards based peer review at this hospital?

- Yes
- No

Please complete the two surveys on the next two pages.

At the end of the class, whether you completed the tool or not or plan to participate in the follow-up peer review practice or not, please return this form to the box on the table on the way out of the room.

### Appraisal Inventory

This questionnaire is designed to help gain a better understanding of the kinds of things that create challenges for nurse leaders in supporting nurse peer review.

Please rate how confident you are that you can do the things discussed below by selecting the appropriate number from

1 (very LITTLE confidence) to 5 (HIGHLY confident)

Very little confidence		Moderate confidence		Highly Confident	Thinking of our plans to roll out peer review to all levels of nurses in the organization,  How confident are you that you can:
1	2	3	4	5	Define peer review or peer feedback
1	2	3	4	5	Explain the importance of peer review for the profession of nursing
1	2	3	4	5	Describe the outcomes and benefits for nurses of participating in peer review
1	2	3	4	5	Describe the benefits of peer review on outcomes for patients/families and the organization
1	2	3	4	5	Explain the fundamental principles of peer review to others
1	2	3	4	5	Identify the importance of the frontline nurse leader in achieving successful implementation of peer review
1	2	3	4	5	Use techniques that improve your success in providing peer feedback
1	2	3	4	5	Receive peer review feedback successfully
1	2	3	4	5	Determine ways to improve the situation if peer review was not going well.
1	2	3	4	5	Explain how to use a Kamishibai or K card to support peer review.
1	2	3	4	5	Use your experience with peer review to help your staff participate in peer review in the future.

Please indicate the degree to which you agree with the following statements regarding peer review by selecting the appropriate number from

1 (strongly DISagree) to 5 (Strongly Agree)

Strongly disagree		Neutral		Strongly agree	
					Read the following statements regarding Peer Review and indicate your level of agreement.
1	2	3	4	5	Outside the annual performance evaluation, I feel I get routine feedback on my nurse leader performance from my supervisor.
1	2	3	4	5	I feel that only my supervisor should evaluate my nurse leader performance.
1	2	3	4	5	I'm aware of areas in my nurse leader practice in which I excel.
1	2	3	4	5	I'm aware of areas in my nurse leader practice that need improvement.
1	2	3	4	5	I'm comfortable GIVING performance feedback to a nurse leader peer.
1	2	3	4	5	I should <u>give my nurse leader peers feedback</u> related to the quality of care that is delivered on their unit.
1	2	3	4	5	I'm comfortable RECEIVING feedback from a nurse leader peer.
1	2	3	4	5	My nurse leader peers should <u>give me feedback</u> related to the quality of care delivered on our unit.
1	2	3	4	5	The quality of the feedback I receive from my nurse leader peers is valuable to my professional growth and development.
1	2	3	4	5	The quality of the feedback I receive from my nurse leader peers may improve the quality of nursing practice, patient safety, and high reliability on my unit.
1	2	3	4	5	I feel instituting peer review at UVMHC will promote professionalism among registered nurses
1	2	3	4	5	Leaders may require further professional development (i.e., education) for successful participation in the peer review process.

Thank you for being willing to participate in this project.

Figure 2. Pre-Intervention Assessment Tool

## Post Assessment

Unique Identifier Code:

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Step 1: To continue participating in the project, you will need to complete at least two K cards from the K card sheet with a peer on another unit. You can do more than two but two is the minimum.

I will create pairs for this activity. I will randomly match up NM to NM and ANM to ANM, from those who volunteered to participate from each of the education sessions.

If you self-identify a match today, let me know and you can leave the education session and go to your colleague's unit and complete the first K cards today!

Step 2: Set up a time to meet with your match on their unit to complete at least two K cards. Try to use different cards than were completed on your unit, if possible.

Step 3: When you have completed the K card practice, unstaple this packet and complete the second survey.

Step 4: Please return the survey along with the K card sheets, either by using the envelope provided and sending through house mail or by dropping the envelope off to Cindy Gleason.

Please return them blank if you do not want to continue to participate in this project.

**Please complete the next question and the two surveys on the next two pages.**

Have you participated in face to face, standards based peer review using K cards at this hospital?

- Yes
- No
- I don't know

## Appraisal Inventory

This questionnaire is designed to help gain a better understanding of the kinds of things that create challenges for nurse leaders in supporting nurse peer review.

Please rate how confident you are that you can do the things discussed below by selecting the appropriate number from

1 (very LITTLE confidence) to 5 (HIGHLY confident)

Very little confidence		Moderate confidence		Highly Confident	Thinking of our plans to roll out peer review to all levels of nurses in the organization,  How confident are you that you can:
1	2	3	4	5	Define peer review or peer feedback
1	2	3	4	5	Explain the importance of peer review for the profession of nursing
1	2	3	4	5	Describe the outcomes and benefits for nurses of participating in peer review
1	2	3	4	5	Describe the benefits of peer review on outcomes for patients/families and the organization
1	2	3	4	5	Explain the fundamental principles of peer review to others
1	2	3	4	5	Identify the importance of the frontline nurse leader in achieving successful implementation of peer review
1	2	3	4	5	Use techniques that improve your success in providing peer feedback
1	2	3	4	5	Receive peer review feedback successfully
1	2	3	4	5	Determine ways to improve the situation if peer review was not going well.
1	2	3	4	5	Explain how to use a Kamishibai or K card to support peer review.
1	2	3	4	5	Use your experiences with peer review to help your staff participate in peer review in the future.

Please indicate the degree to which you agree with the following statements regarding peer review by selecting the appropriate number from

1 (strongly DISagree) to 5 (Strongly Agree)

Strongly disagree		Neutral		Strongly agree	Read the following statements regarding Peer Review and indicate your level of agreement.
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1	2	3	4	5	I feel that only my supervisor should evaluate my nurse leader performance.
1	2	3	4	5	I'm aware of areas in my nurse leader practice in which I excel.

1	2	3	4	5	I'm aware of areas in my nurse leader practice that need improvement.
1	2	3	4	5	I'm comfortable GIVING performance feedback to a nurse leader peer.
1	2	3	4	5	I should <u>give my nurse leader peers feedback</u> related to the quality of care that is delivered on their unit.
1	2	3	4	5	I'm comfortable RECEIVING feedback from a nurse leader peer.
1	2	3	4	5	My nurse leader peers should <u>give me feedback</u> related to the quality of care delivered on our unit.
1	2	3	4	5	The quality of the feedback I receive from my nurse leader peers is valuable to my professional growth and development.
1	2	3	4	5	The quality of the feedback I receive from my nurse leader peers may improve the quality of nursing practice, patient safety, and high reliability on my unit.
1	2	3	4	5	I feel instituting peer review at UVMHC will promote professionalism among registered nurses
1	2	3	4	5	Leaders may require further professional development (i.e., education) for successful participation in the peer review process.

Thank you for being willing to participate in this project.

*Figure 3.* Post-Intervention Assessment Tool

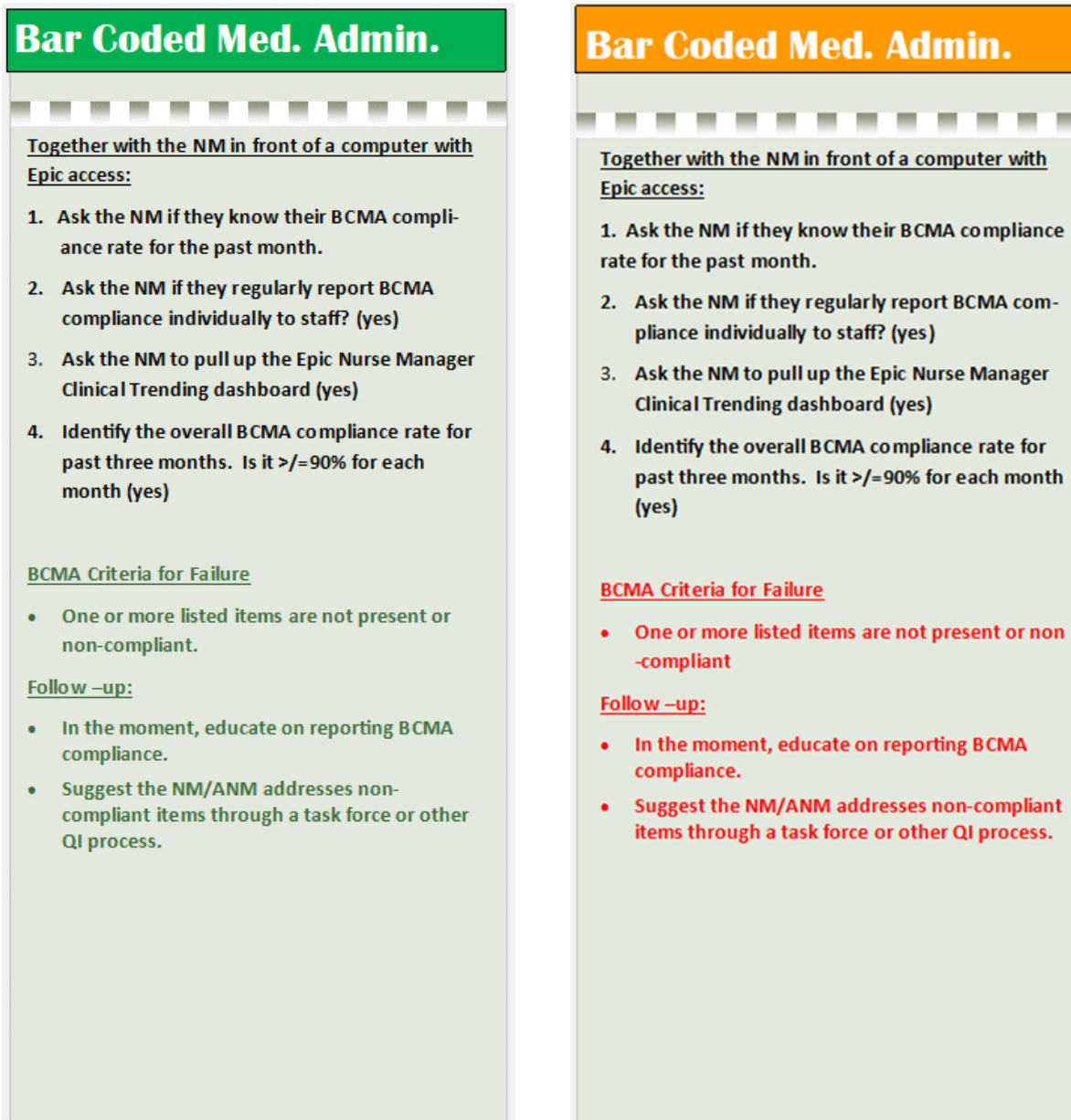


Figure 4. Kamishibai or K-cards Example

Figure 5. *Content for FLNL Education on Peer Review*

### **Peer Review for Frontline Nurse Leaders**

#### **Objectives:**

After attending this session, NM/ANM will be able to:

- Explain the importance of peer review (PR) for the profession of nursing
- Discuss outcomes and benefits of PR for staff, pts. & org.
- Summarize key themes from the literature related to nurse to nurse PR.
- Define and implement the best practices in giving or receiving feedback
- Indicate how Kamishibai cards can be used to support the PR process and the plan for PR for clinical nurses
- Describe how participating in PR as a leader may help the FLNL as well as the role out of PR to clinical nurses.
- Identify a plan for FLNL to participate in PR.
- Reflect on importance of seeking feedback from peers in personal and professional development.

#### **What is Peer Review or Peer Feedback**

Publication focused

Review of articles prior to publication

Practice focused

Event or incident based peer review

Often a committee

Medical Peer Review – “M&M”

Performance appraisal based peer review

Filtered by leader doing appraisal

Pal review

360 evals

Face to face peer to peer feedback on practice

#### **Peer Review Does Vary**

Type of activity (publication peer review, research peer review, or incident peer review)

Field or profession (nursing peer review, medical peer review, or academic peer review)

Level of practice (student, faculty, novice or expert clinical nurse).

#### **What do we know about PR’s past in Nursing**

Feedback often subjective rather than objective reflecting attitudes vs. behaviors

“Halo and Horns” phenomenon, feedback either all positive or all negative – limited use/validity

Feedback frequently anonymous, reflecting discomfort, fear of reprisal

Feedback usually only requested by supervisor as part of promotional or disciplinary process

Feedback often not timely therefore did not promote growth

No coherent feedback process

**Peer Review In Nursing** Defined by the American Nurses Association (1988) as “the process by which practicing registered nurses systematically assess, monitor, and make judgements about the quality of nursing care provided by peers as measured against professional standards” (p. 4).



### ANA's Indications for PR

Ad Hoc Committee of the ANA (1976) said PR can be used to:

Evaluate quality and quantity of nursing care as it is delivered by individual practitioner or group of practitioners, the purpose being to identify consistency to established standards of practice

To determine strengths and weaknesses of nursing care

To provide evidence to utilize as the basis of recommendations for new or altered policies and procedures to improve nursing care

To identify those areas where practice patterns indicate more knowledge is needed, (ANA, 1976, p 226)

### Is PR a Professional Expectation?

- Participation in peer review is an expectation of nursing as a profession (Semper, Halvorson, Hersh, Torres, & Lillington, 2016).
- Nursing's Social Policy Statement (Fowler, 2015a) describes nurses' responsibility and accountability for practice, including engaging in self-regulation and peer review.
- The Code of Ethics for Nurses states that it is a professional obligation of nurses to define, implement, and maintain standards of professional practice using review mechanisms such as peer review to safeguard patients, families, and peers (Fowler, 2015b).
- Regulators, professional organizations and the public expect nurses to deliver safe, high quality care to patients (Institute of Medicine, 2003, 2011)
  - Peer review can play a role in maintaining professional autonomy and assuring quality outcomes (George & Haag-Heitman, 2015b).
- For American Nurse Credentialing Center's (ANCC) Magnet designation:
  - Exemplary Professional Practice domain requires "nurses at all levels engage in periodic performance reviews that include a self-appraisal and peer feedback process for assurance of competence and continuous professional development" (American Nurses Credentialing Center, 2017, p. 42).

### Outcomes & Benefits of Peer Review

Improved RN Accountability

Improved Teamwork

Improved RN Satisfaction

Improved Professional Autonomy

Improved Patient Safety

Improved Quality Outcomes

Improved Patient Satisfaction

### Outcome Details

- Implementation of nursing peer review has been shown to create positive outcomes by "fostering a continuous learning culture of patient safety and best practice" (George & Haag-Heitman, 2015a, p. 2).
- Robust peer review promotes professional development and practice advancement (Haag-Heitman & George, 2011)
- Competence of peers described by RNs as top attribute of a healthy work environment (Schmalenberg, Kramer et al, 2009)

**Fundamentals of Peer Review Cohen, Berube, Turentine (1996)**

- Peer review may be formal or informal, verbal or written, but NOT anonymous
- Peer review should address specific objective behaviors in the delivery of patient care and quality
- Peer review should be documented
- Peer review should be timely, ongoing, and frequently done
- Peer is a professional nurse responsible for his or her own professional growth
- Peer review should promote professional growth and improve the quality of care
- Peer review should not be connected ONLY to performance evaluation or promotional opportunities

**Modern Principles of Peer Review (George & Haag-Heitman, 2012, p. 27).**

- Peer review involves the for the evaluation of a nurse's practice using the following evidence-based peer review principles
- A peer is someone of the same rank.
- Peer review is practice focused.
- Feedback is timely, routine, and a continuous expectation.
- Peer review fosters a continuous learning culture of patient safety and best practice.
- Feedback is not anonymous.
- Feedback incorporates the developmental stage of the nurse.

**Historically, Peer Review has not been well received**

- What do you see as the barriers to face to face peer review by staff?
- Fear of reprisal
- Lack of knowledge of principles
- Lack of awareness of standards
- Fear of impacting collegial relationships
- Impact on performance appraisal
- No experience giving feedback face to face

**Peer Review at UVMMC**

- Historically, we have engaged in more Pal Review than Peer Review
- Performance evaluation process includes self-appraisal but no consistent process for nursing peer review
- Exists in pockets across the organization
  - Concept of 360 review and face to face review has been rolled out for leaders
  - Not based against standards

**Why should we do a project on PR?**

- Without effective peer review, nursing will struggle to achieve high reliability in quality and safety outcomes.
- Peer review programs for nurses at all levels are a requirement for Magnet® designation and at present, there is no nurse peer review program in the organization.

- YOU have expressed frustration about lack of preparation to support initiatives such as nurse peer review.

### **How are we doing in preparing for implementation?**

- Successful PR Implementation(Haag-Heitman & George, 2011, p. 24)
  - Involves a shared governance structure at all levels and settings
  - Adoption of the ANA PR principles through shared governance is foundational
  - PR processes must be designed, evaluated, and used by peers of the same rank
  - Education about PR and skills necessary to implement must be provided before starting the process
  - The methodology for feedback should be based on practice standards

### **What are we proposing for UVMMC?**

- Currently implementation of Peer Review is the responsibility of the Nursing Safety and Quality Council
- Peer review process will include the K card process modified from the DeVos process
  - Currently working on Kamishibai cards for key outcomes
  - Represents an opportunity for peer feedback as well as quality assurance.
- Data will be rolled up at the unit and department level as needed
- As a QA tool, can help to drive CLM related projects
- The PROCESS, not the data, would be used for evals.
  - Reflect on what they learned and develop goals.

### **That funny word again...Kamishibai**

- Kamishibai or K-cards literally mean “paper drama”
  - Originated in 12th century Japanese Buddhist temples
- Today: visual communication tool intended to standardize and reinforce improvements made in a process
  - Allow leaders to appraise what is happening at “gemba”
  - Support coaching and motivating staff
  - Improve communication between participants (leaders to staff or peer to peer) (Hart, 2017).
- Demonstrated to improve adherence to best practice guidelines, policies and standards of care.
  - K cards could be used to support current or new practice

Kamishibai Cards

<https://www.youtube.com/embed/vtI4IdWBZis?feature=oembed&wmode=opaque>

### **What About K-cards in Healthcare**

- Hospitals have reported reduced HACs and improved nurse to nurse communication using K-cards
- A children’s hospital reduced central-line associated blood stream infections (CLABSI) by 37%
- Improved compliance with bundles, increased staff awareness of HACs and a positive impact on patients and families, who can be engaged in the process along with staff.

- Foley device utilization and CAUTI rates, CLABSI rates and ventilator associated pneumonia rates all decreased with the implementation.
- Harbaugh (2012) used K-cards to improve safety in the environment of care and decreased employee slips and falls.
- UVMCH successfully implemented peer to peer K-card rounds focused on a safe sleep bundle with improved compliance on all steps in the bundle.
- What are we proposing for UVMCH?

### **Use of Kamishibai or K-Cards**

- It is important to ensure that K-Cards are grounded in EBP
  - K-Cards should be used in accordance with standards and processes established by the Solutions for Patient Safety Network
  - Oversight of the development of K-cards will live with the S & Q Council
- The K-card process is designed to be peer-to-peer but can be used in other interactions
- Any deficiencies identified during the process should be addressed in real time
- Data will live at the unit level and can be used for education planning, quality assurance, competency assessment.

### **Why involve you now?**

- Staff generally support concepts of peer review but have specific concerns about the
  - process for performing peer review
  - expectations for performance appraisal
  - fairness in application of the process
  - time commitment needed to successfully complete peer review.
- YOUR future role in peer review will include addressing these concerns and provide the resources needed to cultivate peer review.

### **Can FLNL influence PR?**

- Whitney, et al. (2016): There is an opportunity for nurse executives to clarify their vision of and expectations for peer review within their organization and to support the FLNL in obtaining the resources for peer review adoption.
- Cunningham (2002) need to engage FLNL in preparing staff for peer review, noting the absence of leadership support as a barrier to successful peer review.
  - FLNL need to evaluate the peer review process routinely and their attitude towards peer review impacts successful implementation, indicating the need for preparation in peer review for FLNL.
- Van Dyk et al. (2016, p. 533) note that the competency and skill of FLNL impact all dimensions of patient care and staff wellbeing through the creation of a milieu supporting “high-quality, patient-centred, holistic care.”

### **PR Related Outcomes for FLNL**

- For successful implementation of peer review and for their own professional development, FLNL should be provided the resources for successful PR implementation and the opportunity to engage in the peer review process.
- The practice of FLNL could benefit from timely feedback and peer feedback would offer the support of an expert colleague to address opportunities for improvement.

- Without FLNL support for the implementation of peer review, the process could fail, which would have a detrimental effect on patient outcomes, nursing satisfaction, and achieving Magnet® designation.

### **Proposed Definition of Peer Review**

- Nursing peer review is the professional exchange of feedback between clinicians of similar experience and position. It utilizes professional standards as the foundation for assessing practice. Nursing peer review is based upon mutual trust and supports the professional nurse to develop through self-reflection and autonomous practice. Peer review should be relevant to developmental stage of nurse practice. Nursing peer review can support outcomes of critical evaluation, professional development and quality and safety.
  - - Kate FitzPatrick – Doctor of Nursing Practice student, Scholarly Proposal & Concept Analysis , 2010

### **Successfully giving feedback takes practice and skill**

- Think back to Crucial Conversations:
  - Remember Intent, both in giving and receiving
  - Kind positive regard
  - Assume good intent
- Giving Feedback – Key Skills
  - Language
  - Techniques / Approaches
  - Timing / Setting
- Our new process takes some of the anxiety out of the process

### **What Tends to Happen When We Give Feedback?**

- Different types of content can be provided
  - Positive Feedback
  - Negative Feedback
  - Constructive Feedback
  - Third Party Feedback
  - No Feedback
- Different types of content can be provided
  - Positive Feedback
    - Encouraging but not actionable
  - Negative Feedback
    - Call out sub optimal performance
  - No Feedback
    - Silence
  - Third Party Feedback
    - Questionable validity
  - Constructive Feedback
    - information without judgment in an environment of mutual respect, an opportunity to improve or take some other action. Allows learning and improved performance.

**Giving Constructive Feedback**

- Give constructive feedback to bring out the best in others-- Intent is Everything!
- Focus on the actions, not the person
- Recipient should be equal in the exchange
  - They have accountability to direct feedback and describe how they best receive feedback
- Set realistic goals and expectations and communicate them to the recipient of the feedback with follow-up resources
- Attend to non verbals/location and timing for readiness

**Giving Feedback with K Cards**

- Intent is clear
- Focus is on the actions to meet the standard of care, not the individual
- Recipient can determine the “when and where”
- Goals and expectations are already established
- Follow up process is already established
- K cards are established for major areas of improvement

**Receiving Constructive Peer Review Feedback**

Natural Responses

- Fight ..... →
- Flight..... →
- Freeze..... →
- Submit..... →

may be truth in the feedback

- Sets the stage to continue the conversation

What that might look like:

- Counterattack, become overly defensive
- Refuse to address issue
- Shut down/assume role of silent victim
- Automatically accept feedback at face value

**Techniques for Receiving PR**

- Fogging
- Goal: Momentarily stop the feedback so you can process it and decide how to respond.
  - Benefits
    - Maintains your self-confidence/lessens anxiety
    - Gives you time to acknowledge that there

- Technique
  - Listen to the feedback
  - Acknowledge the point of view (usually by paraphrasing)
  - Show you're open to the possibility that the information may or may not be true

### **Techniques for Receiving Constructive Feedback**

- Admit the truth
- Goal: Helps maintain control over knee jerk emotional responses.
  - Benefit:
    - If feedback rings true, admit the truth rather than become defensive or skirt the issue altogether.
  - Technique
    - Admit the truth
    - Offer a solution or an improvement to implement (Kaizen newspaper)
    - Refrain from apologizing or elaborating on the information provided
    - Techniques For Receiving Constructive Feedback
- Request additional information
- Goal: To clarify the feedback and put it into perspective
- Benefits:
  - Provides additional information if unsure the feedback is valid
- Technique:
  - Ask follow-up questions for specificity

### **Receiving Feedback**

- Receiving Feedback – Key Skills
  - Actively listen
    - Language and non-verbal communication
    - Focus on what Giver wants you to know
  - Be self aware of reactions (rejection/censorship, etc.)
  - Focus on spirit and intent of the message
  - Think of the nurse providing peer review as a peer coach who wants you to be a successful leader and values your performance

### **What to Do If Feedback Not Received Well?**

- “Criticism is something you can easily avoid by saying nothing, doing nothing, and being nothing.” ~Aristotle
- Check yourself, have you followed the principles of constructive feedback?
- Acknowledge that recipient is having natural response and give them space
- If response overly reactive, suggest another time so they can process

### **Performance Criteria for RECEIVING Feedback**

- Give a clear description of the type of feedback sought including what is not wanted
- Concentrates fully on feedback being provided and what the peer giver wants them to know (not on what they want to hear)

- Remains aware of reactions and uses techniques like “fogging” to pause and to avoid censorship or rejection of feedback
- Remains silent until feedback completely delivered
- Summarizes the feedback received from a peer to assure understanding

### **Performance Criteria GIVING Feedback**

- Validates that peer is open to and willing to participate in peer review activity
- States intentions
- Feedback is specific, direct and clear
- Provides examples of ways to improve in areas identified as opportunities
- Avoids use of language that connotes judgment
- Highlights areas where peers perform well and out that impacts patient outcome/experience
- Summarizes the feedback provided to peer using clear descriptors and considering the goals of the receiver

### **Your Role in Successful PR Implementation**

- FLNL will establish the responsive environment and provides the resources for the PR process to occur
  - Culture of accountability
- FLNL and staff will use coaching and mentoring skills with PR to improve practice and build self-confidence
  - Can model the behavior/have experience
- FLNL must support peer review that involves timely, routine and continuous feedback and is not anonymous
- The FLNL assures the developmental stage of the nurse and the appropriate expectations are considered in the peer review process.
- FLNL must be clear on the difference between PA and disciplinary action and PR

### **So What Does She Really Want: Final Requests**

- You have completed one survey—THANK YOU
- NOTE: You can end your participation in the project at any time by not completing the activity below or the follow up survey.
- Next steps: Engage in 2 sessions of peer to peer feedback as the GIVER
  - Complete the K cards as directed
    - Data will be used to model the QA benefit of the process.
    - Will not be tied to the unit or giver.
  - When you have completed your two K card feedback sessions, follow the directions on the BLUE POST survey and return it to me in the envelope
  - Reflections:
    - Consider how we can best role this out to clinical nurses?
    - How would this activity help with CLM projects?
    - What have you learned about this process or your work that might inform goal setting for the next year?
  - Feedback on strengthening this program: via email survey



*Appendix C*

## University of Vermont Institutional Review Board “Not Research” determination

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**RESEARCH PROTECTIONS OFFICE**

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**Determination of ‘Not Research’**Revision state: **PUBLISHED**Most recent revision: **Yes**

---

**To view this form you will need to have a [username and password issued by University of Vermont \(UVM NetID\)](#).****For Assessing Projects such as Quality Assurance, Quality Improvement, Program Evaluation, or Public Health Practice****Does this project meet the definition of “research”?**

Research is defined as a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge.

Quality Assurance/Quality Improvement, Program or Curriculum Evaluation or Public Health Practice projects are conducted to assess a process, program or system with the intent to improve that same process, program or system or primary intent to identify/control a health problem. Many of these projects also may contain elements of research. Information usually will be shared beyond those involved in or overseeing the program/curriculum/process/system. Intent to publish is an insufficient criterion alone for determining if a project is research. There are other purposes for publishing descriptions of non-research activities, e.g., QI projects are often disseminated outside the institution for the purpose of sharing the process (the QA/QI methodology) not the health care outcomes or implications.

If you have questions about this determination form, then please contact your [IRB Research Analyst \(opens in a new window\)](#) for assistance.

If you answered “**No**” to ALL of the questions below, this project is not research. To obtain a determination of “not research”, click the “Print Determination” button below.

---

**Based on the answers to the questions below this project does not require IRB review because it does not meet the definition of a “research” activity under the regulatory definition adopted by UVM. According to 45 CFR 46.102(d), the definition of “research” is “a systematic investigation, including research development, testing and evaluation, designed to develop or contribute to generalizable knowledge.”**

Projects that are not a systematic study or are not intended to contribute to generalizable knowledge, e.g. quality assurance, quality improvement, program evaluation, or public health practice, are not regulated by a federal department or agency and therefore do not require IRB review and determination.

Print Determination

Is the activity intended to generate new knowledge that will contribute to the scientific literature (i.e., that revises or improves upon an existing principle, theory, or knowledge)?

No

Are any of the project activities experimental, i.e., is there any testing of new or unproven treatments or strategies that are not yet known to be efficacious?

No

Are the participants in the activity randomized to an intervention so that results of the activity can be generalized to a larger population?

No

Does the activity involve additional risks imposed on participants in order to make the results generalizable beyond the participants themselves?

No

Is there an evaluation/performance assessment as part of your project that is designed to develop or contribute to generalizable knowledge (info will be shared beyond those involved in or overseeing the program/curriculum/process/system?)

No

---

PROJECT INFORMATION

Principal Investigator

Suzanne K. Murdock

Protocol/Project Title

A Program to Engage Frontline Nurse Leaders in Peer Review

Today's Date

Tue, 2018-05-29

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< Previous	Submit
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*Appendix D*Table 1 *Demographics for Groups-All FLNL, Session Attendees, Post Assessment*Highest Nursing Degree Comparison of FLNL in Organization (43) to Session Attendees(27)

Degree Completed	All FLNL	Session Attendees
Associate's	11.63%	11.54%
Bachelor's	62.79%	57.69%
Master's	25.58%	30.77%

Demographics for Pre-Intervention Group by Role

Demographic Characteristic	Both Roles % of Total	ANM % of Total	NM % of Total
<b>Age Group</b>			
20 to 29	3.85%	3.85%	0.00%
30 to 39	34.62%	15.38%	19.23%
40 to 49	34.62%	19.23%	15.38%
50 to 59	19.23%	3.85%	15.38%
60 to 69	7.69%	3.85%	3.85%
<b>Total Years as RN</b>			
1 to 5 years	3.85%	3.85%	0.00%
6 to 10 years	11.54%	3.85%	7.69%
11 to 15 years	34.62%	15.38%	19.23%
16 to 20 years	11.54%	3.85%	7.69%
>20 years	38.46%	19.23%	19.23%
<b>Total Years as FLNL</b>			
<1 year	3.85%	3.85%	0.00%
1 to 5 years	65.38%	30.77%	34.62%
6 to 10 years	11.54%	3.85%	7.69%
11 to 15 years	7.69%	3.85%	3.85%
>20 years	11.54%	3.85%	7.69%
<b>Highest Nursing Degree</b>			
Associate's	11.54%	7.69%	3.85%
Bachelor's	57.69%	34.62%	23.08%
Master's	30.77%	3.85%	26.92%

Table 2 ANOVA of Pre-Assessment Mean for Confidence Tool by RN Education Level Completed

Oneway Anova Summary of Fit

Rsquare	0.258709
Adj Rsquare	0.194249
Root Mean Square Error	0.672316
Mean of Response	2.814685
Observations (or Sum Wgts)	26

Analysis of Variance

Source	DF	Sum of Squares	Mean Square	F Ratio	Prob > F
Education	2	3.628263	1.81413	4.0135	0.0320*
Error	23	10.396212	0.45201		
C. Total	25	14.024476			

Means for Oneway Anova

Level	Number	Mean	Std Error	Lower 95%	Upper 95%
ADN	3	2.57576	0.38816	1.7728	3.3787
Bachelor's	15	2.56364	0.17359	2.2045	2.9227
Master's	8	3.37500	0.23770	2.8833	3.8667

Std Error uses a pooled estimate of error variance

Means Comparisons: Comparisons for each pair using Student's tConnecting Letters Report

Level			Mean
Master's	A		3.3750000
Associate's	A	B	2.5757576
Bachelor's		B	2.5636364

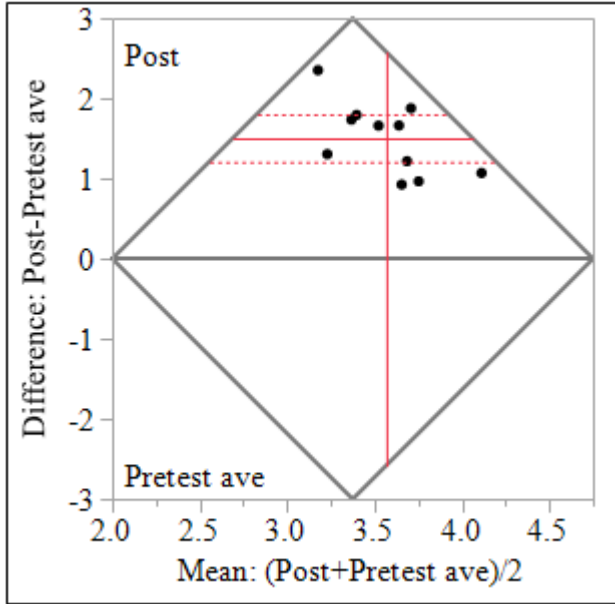
Note: Levels not connected by same letter are significantly different.

Ordered Differences Report

Level	- Level	Difference	Std Err Dif	Lower CL	Upper CL	p-Value
Master's	Bachelor's	0.8113636	0.2943384	0.202478	1.420249	0.0112*
Master's	Associate's	0.7992424	0.4551603	-0.142328	1.740813	0.0924
Associate's	Bachelor's	0.0121212	0.4252102	-0.867493	0.891735	0.9775

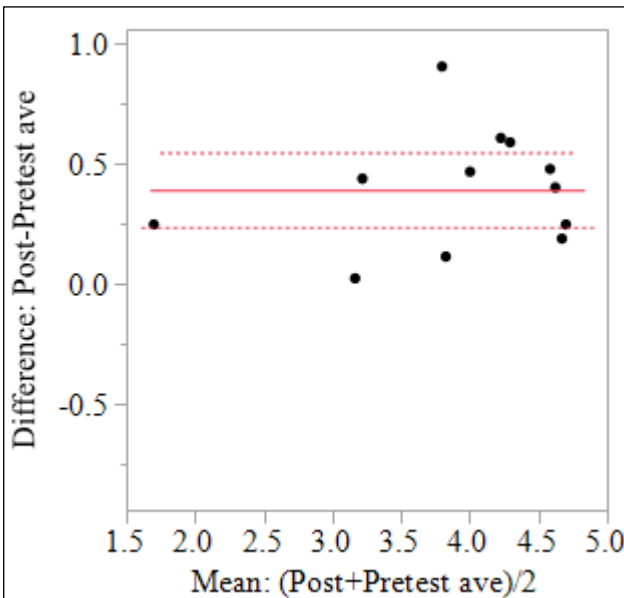
Table 3 Matched Pairs *t*-Test of Pre and Post Intervention Means by Change in Question Scores for Confidence Tool and Perception Tool

Confidence Tool *t*-Test by Change in Question Scores



Post Ave	4.32086	<i>t</i> -Ratio	11.22068
Pre ave	2.81469	DF	10
Mean Difference	1.50617	Prob >   <i>t</i>	<.0001*
Std Error	0.13423	Prob > <i>t</i>	<.0001*
Upper 95%	1.80526	Prob < <i>t</i>	1.0000
Lower 95%	1.20708		
N	11		
Correlation	0.22633		

Perception Tool *t*-Test by Change in Question Scores

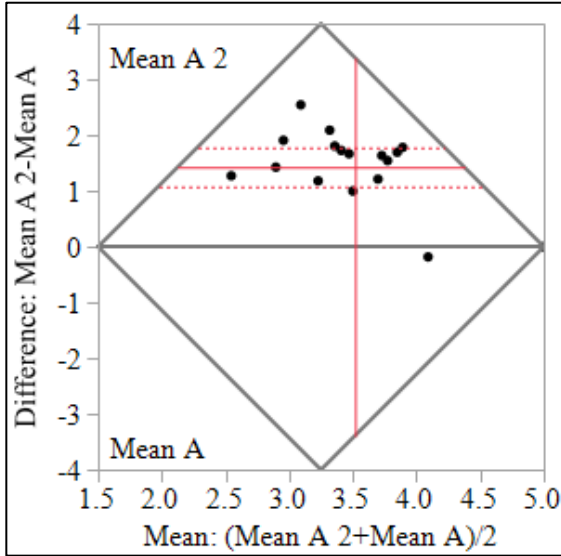


Post	4.09651	<i>t</i> -Ratio	5.536866
Pretest ave	3.70513	DF	11
Mean Difference	0.39138	Prob >   <i>t</i>	0.0002*
Std Error	0.07069	Prob > <i>t</i>	<.0001*
Upper 95%	0.54696	Prob < <i>t</i>	0.9999
Lower 95%	0.2358		
N	12		
Correlation	0.9628		

Table 4 *Matched Pairs t-Test of Pre and Post Intervention Means by FLNL for Confidence Tool and Perception Tool*

Confidence Tool t-Test

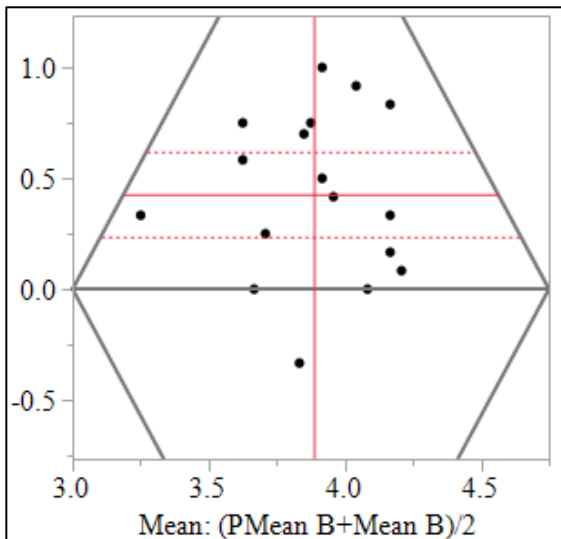
A=Pre Intervention Scores and A 2=Post Intervention Scores



Mean A 2	4.23274	t-Ratio	8.668062
Mean A	2.80214	DF	16
Mean Difference	1.4306	Prob >  t	<.0001*
Std Error	0.16504	Prob > t	<.0001*
Upper 95%	1.78047	Prob < t	1.0000
Lower 95%	1.08072		
N	17		
Correlation	0.53068		

Perception Tool t-Test

B=Pre Intervention Scores and PMean B=Post Intervention Scores



PMean B	4.1	t-Ratio	4.738293
Mean B	3.67157	DF	16
Mean Difference	0.42843	Prob >  t	0.0002*
Std Error	0.09042	Prob > t	0.0001*
Upper 95%	0.62011	Prob < t	0.9999
Lower 95%	0.23675		
N	17		
Correlation	0.30116		

Table 5 *Analysis of Differences in Means by Demographic Characteristics*

<b>Demographic Characteristic</b>	<b>Confidence Tool Mean Differences</b>	<b>Perception Tool Mean Differences</b>
Highest Completed Nursing Degree		
Associate's	1.43	0.33
Bachelor's	1.54	0.42
Master's	1.19	0.47
Role		
ANM	1.28	0.32
NM	1.56	0.57
Total Years as FLNL		
<1 year	1.67	0.50
1 to 5 years	1.39	0.54
6 to 10 years	1.93	0.31
11 to 15 years	0.52	0.53
>20 years	1.91	-0.33
Age Group		
20 to 29	2.09	0.75
30 to 39	1.53	0.42
40 to 49	1.39	0.55
50 to 59	0.75	0.53
60 to 69	1.77	0.00

Across Group Analysis for Significance by Demographic Characteristics

<b>Mean Differences (within pairs)</b>	<b>Statistic</b>	<b>Confidence</b>	<b>Perceptions</b>
Highest Nursing Degree	Prob>F	0.3794	0.8234
Role	Prob>F	0.3487	0.2232
Total Years as FLNL	Prob>F	0.0824	0.5339
Age Group	Prob>F	0.2435	0.4052

Note: No significant mean differences between groups for Confidence Tool or Perceptions tool.

<b>Mean Mean (among pairs)</b>	<b>Statistic</b>	<b>Confidence</b>	<b>Perceptions</b>
Highest Nursing Degree	Prob>F	0.0309*	0.1079
Role	Prob>F	0.6409	0.2673
Total Years as FLNL	Prob>F	0.2772	0.8161
Age Group	Prob>F	0.1223	0.4022

Note: Highest Nursing Degree Completed did impact mean within groups.