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Design and Implementation of a Nursing Peer Review Program in a Two-Hospital Setting

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The George Washington University

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NURS 8490: DNP Project Evaluation

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Contents

Abstract

Background and Purpose:
The Institute of Medicine's (IOM) landmark publication *To Err Is Human: Building a Safer Healthcare System* measured the impact of medical error on the American public in both unnecessary human suffering and unsustainable financial cost to the US healthcare system. Nursing literature suggests that peer review of safety events can help mitigate the impact of medical errors by increasing nurse accountability for practice and empowerment for leading change.

Methods
Fourteen volunteers were selected from over 900 direct care nurses to participate in a four-month Nursing Peer Review Program (NPRP) pilot. Structure, process, and outcome measures of implementation, pre-post measurement of participants' perception of accountability and post-measurement of feelings of empowerment to lead change were evaluated.

Results
Structure, process, and outcome benchmarks were met with the exceptions of monthly meeting participation and survey completion goals. Overall accountability scores showed only slight improvement pre-versus post-implementation (pre [M=6.41, SD=0.30], (post [M=6.51; SD=0.23]). Participants reported a high overall mean empowerment score of 4.57 (SD=0.58*)*. Several nursing policy changes and safety improvements were recommended following peer review activities during the pilot period.

Conclusions and Implications
An evidenced-based nurse-led peer review program supports direct care nurses to critically evaluate their practice and feel empowered to mediate deviations from standards of care that may result in patient harm. Based on NPRP pilot outcomes, this program shows benefit for improving patient outcomes and avoiding nurse related safety events as a result of direct care nurse quality improvement recommendations following peer review of their professional practice.

Design and Implementation of a Nursing Peer Review Program in a Two-Hospital Setting

The Institute of Medicine's (IOM) landmark publication *To Err Is Human: Building a Safer Healthcare System* (Kohn et al., 1999), revealed for the first time to the American public the problem of unanticipated harm that too often leads to lasting injury or death as a result of medical treatment in US hospitals. According to the IOM, the consequences of this harm can be measured in unnecessary human suffering and increased cost to the US healthcare system (Kohn et al., 1999). Although much has been done in the public and private arenas to address the gaps in quality and safety that lead to healthcare related harm, research suggests that patients continue to be injured at alarming rates within US healthcare organizations (Adler et al., 2018)

Nursing literature suggests that peer review of individual and collective practices can lead to improved organizational quality and safety (George & Haag-Heitman, 2015; LeClair-Smith et al., 2016; Thielen, 2014) and may ultimately reduce the risk of harm to hospitalized patients. Additionally, research has shown that peer review increases accountability for professional practice and empowers nurses to lead change within their organizations (Fujita et al., 2009; Herrington & Hand, 2019; Spiva et al., 2014). Nursing Peer Review is not a new concept as the American Nurses Association (ANA) introduced guidelines for conducting nursing peer review activities in 1988 (Roberts & Cronin, 2017) and the American Nurses Credentialing Center (ANCC) mandates Nurse Peer Review as a requirement for Magnet designation (Gobel et al., 2017).

Background and Significance

While leadership at two mid-Atlantic community hospitals committed time and resources to create a culture of safety where associates work to proactively identify and mitigate healthcare associated harm (Agency for Healthcare Research and Quality [AHRQ], 2019), they had not yet

embraced the implementation of nursing peer review within their organization. As such, this organization may have overlooked an opportunity to add another layer of protection to their quality and safety methodology.

Needs Assessment and SWOT Analysis

Recognizing that a nursing peer review program (NPRP) could provide value to this organization, a needs assessment and SWOT analysis were conducted to identify the organization's strengths and weaknesses as well as external opportunities or threats that could support or impede the implementation of a NPRP. Several major themes related to organizational facilitators and barriers emerged. Facilitators included the organizations' focus on quality and safety, the shared vision and values of service, patient first, integrity, respect, innovation, and teamwork, strong committed leadership, work managed within the framework of a High Reliability Organization (HRO), open and transparent communication processes, executive nurse leadership goals to pursue Magnet or Pathway to Excellence designation, and CNO support and endorsement of this program. Barriers to the program included the potential inability to recruit sufficient numbers of direct care nurses for participation, nurse manager commitment to the program, the time and financial investment for creating, implementing and sustaining the program, and the possibility that this program would be seen as duplicative to the current risk management safety event review process. An additional threat to successful program implementation was the ongoing COVID 19 pandemic which had the potential to prevent in-person peer review meetings and impact financial and staffing resources needed to support the program. See Appendix A: SWOT Analysis Diagram.

Problem Statement

Literature documents that nurse-led peer review of individual and collective nursing practice leads to improved organizational quality and safety and can ultimately reduce the risk of harm to hospitalized patients (George & Haag-Heitman, 2015; LeClair-Smith et al., 2016; Thielen, 2014). Additionally, participation in nursing peer review can increase nurse accountability for practice and nursing work-group empowerment to lead change within an organization (Fujita et al., 2009; Herrington & Hand, 2019; Spiva et al., 2014). The absence of a current nurse-led peer review process within the hospitals of interest hinders critical evaluation of nursing practices that may result in patient harm, may inhibit nursing professional accountability for practice, and may prevent nurses from feeling empowered to lead changes that improve the quality of nursing care and patient safety within the organization.

Purpose Statement

The purpose of this project was to conduct a 4-month evidenced-based NPRP pilot with the goal of providing a structured evidenced-based program for nurses to evaluate their professional practice and improve patient outcomes by identifying practice deviations, workarounds or unsafe system processes that may negatively impact nursing quality and patient safety. It is expected that through participation in the NPRP, direct care nurses would increase their perception of personal and organizational accountability for nursing practice and would report improved work-group empowerment for addressing unsatisfactory quality and safety practices within their organizations.

Aims

There were three aims of this project: 1) to design and implement a structured evidenced-based NPRP for nurses to evaluate the quality and safety of their professional practice

and to improve the effectiveness of their care, 2) to increase participants' perception of accountability for practice and 3) to improve participants' feelings of empowerment for leading change.

Objectives

The following were NPRP project objectives:

1. Conduct a needs assessment in the hospitals of interest by February 9, 2020.
2. Design an evidenced-based NPRP by April 24, 2020.
3. Obtain CNO endorsement for the NPRP plan by May 15, 2020.
4. Obtain system IRB approval for the NPRP implementation by June 1, 2020.
5. Conduct a pre-implementation survey of program participant's perception of practice accountability and group empowerment for change by September 1, 2020.
6. Pilot the NPRP between September 15, 2020-December 31, 2020.
7. Conduct a post-implementation survey of program participants' perception of practice accountability and group empowerment for leading change by December 31, 2020.
8. Create a plan for NPRP sustainment by December 31, 2020.
9. Evaluate the NPRP design, implementation, and outcome measures by May 1, 2021.
10. Disseminate the results of the NPRP project by May 15, 2021.

Review of Literature

Nursing peer review, defined by the American Nurses Association (ANA) as a systematic process for evaluating nursing professional practice (American Nurses Association as cited in

Korkis et al., 2019), can trace its origin to the auditing of medical care and provider-related safety and quality outcomes originally implemented by hospitals in the 1980s as a result of changes in Joint Commission regulations and escalating medical malpractice claims (Edwards, 2018b). The Institute of Medicine's (IOM) landmark publication *To Err Is Human: Building a Safer Healthcare System* (Kohn et al., 1999), which highlighted patient harm caused by inappropriate medical care, and the follow-up release of the IOM's second report *Crossing the Quality Chasm* that introduced the six aims for healthcare quality improvement (The Institute of Medicine [(IOM)], 2001), continued to push United States (US) hospitals to implement a culture of safety within their organizations. More recent policies enacted by the Centers for Medicare and Medicaid Services (CMS) that tied reimbursements to quality outcomes have further led healthcare organizations to design increasingly robust initiatives to improve their quality and safety programs. With the ongoing and continued focus on quality and safety in US hospitals, both medical and nursing peer review programs have been endorsed as an approach to enhance improvement efforts.

Since its inception, peer review has been studied as a means to: (a) improve hospital quality and safety (Burlison et al., 2016; Edwards, 2018b; Herrington & Hand, 2019; Kobewka et al., 2017; Meeks et al., 2014; Mehta, 2016; Nolan et al., 2010; Roberts & Cronin, 2017; Spiva et al., 2014; Whitney & Haag-Heitman, 2016), (b) increase accountability for practice (Meeks et al., 2014; Nolan et al., 2010; Spiva et al., 2014; Whitney & Haag-Heitman, 2016), and (c) reduce costs (Herrington & Hand, 2019; Nolan et al., 2010). Based on literature that supports the impact of peer review on quality and safety outcomes as well as accountability for professional practice, many hospitals have chosen to implement nurse-led peer review programs. Furthermore, implementation of nursing peer review programs (NPRP) are increasingly reported

by nursing leaders as an avenue to address the structural empowerment and exemplary professional practice requirements for Magnet designation (American Nurses Credentialing Center [ANCC], 2019; Roberts & Cronin, 2017; Whitney & Haag-Heitman, 2016). Recent surveys of Magnet and non-Magnet hospital nursing leaders have revealed several approaches to NPRP implementation with some programs modeled after the traditional medical model of post-adverse event reviews (retrospective) and others incorporating a more proactive approach using voluntary reporting of near miss events for review and improvement efforts (Roberts & Cronin, 2017; Whitney & Haag-Heitman, 2016).

Research has shown that organizations focused on developing a culture of safety have better alignment with peer review best practices (Burlison et al., 2016; Edwards, 2018b). Best practices include voluntary self-reporting of safety events and near misses, creation of a standardized peer review process, evaluation of practice deviations from a system perspective in place of individual blame, peer to peer feedback that includes mentoring, alignment to the organization's quality and safety processes, and the communication of system improvements resulting from peer review activities integrated within a Just Culture environment (Burlison et al., 2016; Edwards, 2018a; Edwards, 2018b; Kobewka et al., 2017; Korkis et al., 2019; Nolan et al., 2010; Spiva et al., 2014). A Just Culture ensures a non-punitive response to error with a goal of creating a trusting atmosphere in which staff are rewarded for sharing important safety-related information (Korkis et al., 2019) and is thought to be a requirement for implementing and sustaining a successful peer review program (Edwards, 2018a; Edwards, 2018b; Korkis et al., 2019).

Despite the increasing implementation of peer review programs, it remains an underutilized method for improving nursing quality and safety (Whitney & Haag-Heitman,

2016). Several themes have emerged from the literature suggesting why peer review programs are not fully recognized as a quality improvement strategy and may lack leadership support (Burlison et al., 2016). First, leaders may simply not be aware of quality and safety improvements that can result from implementation of a peer review program (Whitney & Haag-Heitman, 2016) or may perceive a lack of time or funding necessary to support peer review initiatives (Kobewka et al., 2017; Meeks et al., 2014; Nolan et al., 2010). Second, direct care nurses and other staff may be hesitant to participate in a peer review process if they perceive that peer review leads to punitive outcomes (Korkis et al., 2019; Spiva et al., 2014). Third, misunderstandings about the value of peer review likely result from the lack of standardized processes that define quality peer review programs (Edwards, 2018b; Roberts & Cronin, 2017), a dearth of high quality evidence to test its benefit, and the limited use of true outcome measures to evaluate the NPRP's impact on quality and safety (Roberts & Cronin, 2017). Finally, although nursing literature often describes peer review as means to increase nurses' accountability for practice, autonomy, professional growth and empowerment for change, there is a paucity of evidence that correlates NPRP participation with these outcomes (Roberts & Cronin, 2017). See Appendix B: Evidence Table.

Based on the review of current evidence which suggested that NPRPs have a positive effect on quality and safety as well as nurses' perception of accountability for practice, an NPRP pilot was developed for the sites of interest following obtainment of Executive Leadership support. To increase the likelihood that the pilot was successful, a structured approach for conducting peer review was developed that emphasized leadership's commitment to the organization's Just Culture principles including a non-punitive response to error. Perceived barriers to implementation such as knowledge gaps regarding the NPRP processes and time

needed to complete NPRP activities was addressed within the project plan. Included as a component of project evaluation was a process for evaluating nurse participants' perception of accountability for practice and group empowerment for leading change.

EBP Translation Model

The Iowa Model is currently used by nurses for the implementation of evidenced-based practice at the project sites. For this reason, the Iowa Model was chosen as the evidence-based translation model for this project. The Iowa model provides a step-by step process for implementing change from initially identifying a trigger issue through the dissemination of results (The Iowa Model Collaborative, 2017).

The Iowa Model Collaborative revised the Iowa Model for Evidenced-Based Practice in 2017 based on current information in evidenced-based literature and user feedback from electronic surveys and live workgroups (Iowa Model Collaborative, 2017). Changes to the model included the expansion of piloting, the implementation of evidence, the inclusion of processes for sustaining change, and the inclusion of patient preferences for care. The authors of the IOWA Model discuss the following steps to promoting evidenced-based practice, "identify a triggering issue/opportunity, state the question or purpose, form a team, assemble, appraise, and synthesize the body of evidence, design and pilot the practice change, integrate and sustain the practice change, and disseminate the results" (The Iowa Model Collaborative, 2017, p.178).

Identifying a Trigger Opportunity

The trigger opportunity identified for this project was the absence of a nurse-led peer review process within the hospitals of interest which impeded critical evaluation of nursing practices that may have previously resulted in patient harm, may have inhibited nursing professional

accountability for practice, and may have prevented nurses from feeling empowered to lead changes aimed at improving quality and patient safety in their organizations.

Stating the Question or Purpose

The PICOT question for this project is "Does participation in a peer review program provide nurses with an evidenced-based process to critically appraise their professional practice, increase their perception of practice accountability, and support them in feeling empowered to lead change within their organization?"

Forming a Team

A project team to include nursing leadership, nursing education, local nursing peer review committee members from the system peer review team, and nursing practice leaders, was formed to review the evidence for the initiation of the NPRP.

Assembling, Appraising and Synthesizing the Evidence

The DNP student assembled, appraised, and synthesized the evidence and discussed these results with the hospital's CNO and project team to determine if there was sufficient evidence to proceed with the design and implementation of a NPRP.

Designing and Piloting the Practice Change

The Revised Iowa Model (The Iowa Model Collaborative, 2017) instructs the user to collect baseline data, consider needed resources and approvals, and identify any constraints prior to program design and implementation. A needs assessment/SWOT analysis completed for this project identified the organizations' strengths, weaknesses, opportunities, and threats to NPRP implementation. Data collected from the SWOT activity as well as a review of the required resources, including projected costs, was incorporated into the project plan.

Integrating and Sustaining the Practice Change

During program implementation, structure and process measures were tracked and program adjustments were made as necessary to keep the program on track within the projected plan. Additionally, Kotter's Eight Step Change Theory was utilized to guide program integration and sustainment activities. Activities focused on the following steps:

> establishing a sense of urgency, forming a powerful guiding coalition, creating a vision, communicating the vision, empowering others to act on the vision, planning for and creating short term wins, consolidating improvements and creating more change, and institutionalizing the new approach (Kotter, 2007, p. 99).

At the end of the pilot, the CNO, in conjunction with the nursing team, will meet to determine if the NPRP is appropriate for adoption as designed or if changes are necessary for sustainment. If the program is deemed sustainable, next steps will include integration and sustainment of the change into practice. Sustainment plans provided within this document address the process for identifying key stakeholders for sustainment activities, hardwiring the change into the system, and the continued monitoring of quality and safety improvements.

Disseminating the Results

Program results will be disseminated through internal and external channels including presentations to the internal nursing leadership and the NPRP participants. External dissemination activities included participation in the GWU Research Project Showcase and through the Eastern Nursing Research Society's 2021 virtual conference.

NPRP Pilot Development and Implementation

Preplanning and Participant Education

Preplanning

Prior to initiation of NPRP activities, an implementation team consisting of the DNP-student project leader, the NPRP Liaison, a nurse educator, the hospitals' nursing practice leader, and a focus group of system-level peer review participants from both hospitals met to further design and endorse the guiding documents for the NPRP program. Documents developed for the program included an NPRP charter that defined the roles and responsibilities of the participants, a confidentiality agreement form, a standardized peer review evaluation form to guide event review activities, and a peer to peer feedback form to communicate the recommendations of the NPRP members following an event review. Additionally, a NPRP training program was designed during pre-implementation for the purpose of educating NPRP participants on peer review activities and responsibilities.

Participant Education

Program participants received eight hours of team training in peer review processes and the role and expectations of a peer reviewer prior to monthly meeting initiation. Training included a review of the hospitals' High Reliability Organization (HRO) and Just Culture principles and content on confidentiality procedures and meeting expectations. Participants were also instructed in the basics of electronic record review. The DNP project leader and the NPRP Liaison completed and presented two case reviews utilizing recent patient fall events and led the participants in standard of care discussions to simulate the peer review process that would occur at monthly meetings. The CNO selected clinical ladder co-chairs received an additional two hours of training on co-chair expectations and duties. During the pilot period, the clinical ladder

co-chairs assisted in preparing meeting agendas, assigning case reviews, and leading NPRP meetings under the mentorship of the DNP-student project leader and NPRP Liaison.

NPRP Meetings

Event Identification Process

Work for the NPRP was identified through the hospital quality and safety program. The CNO also referred several nurse related safety events for review. Although a direct staff referral process was planned, it was quickly recognized that this would require longer than four months to develop so the DNP-student project leader engaged the organization's safety team to develop a monthly report to assist in identifying nurse related events for review. Events chosen for advancement to the NPRP during the pilot included those with significant nursing practice issues, potential or actual safety events, system failures, or events with important learning opportunities. Events deemed not appropriate for peer review (personnel or team related issues, disciplinary actions, coworker, patient and family, or physician complaints, and administrative issues) were addressed by unit management following usual processes. See Appendix C: NPRC Event Identification Process Map.

Event Review Assignment

When an event was deemed appropriate for peer review, the NPRP co-chairs assigned the event to two committee members who completed a standardized peer review form following review of the safety report and the electronic medical record documentation. The safety event report and all other documentation that contained patient demographic and hospital data were housed in the secured SharePoint site to protect HIPPA related and hospital confidential information. The assigned peer reviewers completed the standardized peer review form and

uploaded these to the secured SharePoint site upon completion. See Appendix D: NPRP Peer Reviewer Process Map.

Meeting Invitation

Although the implementation design included a plan to include the nurses involved in safety events at NPRP meeting, at early program training sessions, nursing peer review participants expressed concern over this plan and asked that this process be reconsidered following the original pilot. The participants felt they were too new to the process of peer review and were concerned they would not be able to provide the needed emotional support for the nurses involved during meeting discussions. They encouraged the DNP student and program leaders to consider revisiting this implementation piece following the program pilot.

Meeting Process

During the pilot period, the NPRP Liaison and the DNP-student project leader supported the co-chairs in guiding peer review discussions. Participants assigned a monthly review presented their case to the peer group beginning with a brief background summary of the event followed by the findings of their documentation review. The NPRP members then discussed the event and together reached a standard of care decision. Recommendations for improvements that addressed individual and/or collaborative nursing practice gaps or system-related errors were identified and added into the original peer review document. Upon revision, the assigned reviewers uploaded their completed peer review form into the secured SharePoint site. The co-chairs then created a summary document of the findings that included peer team recommendations for improvement and forwarded this to the CNO for review. During the pilot period, the DNP-student project leader completed an independent review of each event to determine if the essential components of evidenced-based practice were captured. The DNP-

student also reviewed the CNO summary to ensure that recommendations discussed during the meetings were accurately reflected and communicated to the CNO. See Appendix E: NPRP Meeting Process Map.

NPRP Pilot Evaluation Plan

Structure, process, and balancing measures were utilized to evaluate the design of the NPRP to determine if the pilot program met the primary outcome of providing nurses with a sustainable evidenced-based process for evaluating their individual and collective professional practices. Structure and process measures also assisted in determining if program implementation activities followed the implementation plan as designed and aided in the identification of program strengths, weaknesses, and improvement opportunities (Centers for Disease Control and Prevention [CDC], 2011). The following were the structure, process, and balancing measures utilized for this project:

Structure Measures

1. Provision of eight hours training time per NPRP participant to complete training (tracked via training attendance sheets).
2. Provision of two hours/month/participant of non-productive time to support NPRP meeting attendance during the pilot implementation period (tracked via meeting attendance sheets).
3. Provision of six to eight hours/month/assigned participant of non-productive time for event review completion and meeting preparation during the pilot implementation period (tracked via self-reported time on peer review form).
4. Provision of two to four hours/month/NPRP co-chair of non-productive time to plan monthly agenda items, conduct pre-NPRP meetings with nurses involved in safety

events, and to follow-up meeting items during the pilot implementation period (tracked by co-chair submission of non-productive time).

5. Provision of meeting space each month to accommodate 20 participants in support of NPRP activities during the pilot implementation period.

Process Measures

1. Number/percentage of participants who receive NPRP training by September 1, 2020.
2. Number of meetings held between September 1, 2020 and December 31, 2020.
3. Number/percentage of participants attending each monthly meeting during the pilot period.
4. Number of event reviews completed between September 1, 2020 and December 31, 2020.
5. Number/percentage of participants who complete the 3D Accountability Questionnaire pre-implementation.
6. Number/percentage of NPRP participants who complete the 3D Accountability Questionnaire post-implementation.
7. Number /percentage of NPRP participants who complete the Sieloff- King Assessment of Work Team/Group Empowerment Within Organizations (SKAWTGEO) Questionnaire post-implementation.
8. Completion of a systematic assessment of the program's activities and outcomes to evaluate the impact on participants' perception of accountability for practice and to guide sustainment efforts and program improvement initiatives by May 1, 2021.

Balancing Measures

1. Amount of time needed to complete each event referred between September 1, 2020 and December 31, 2020.

2. Number of times nurses miss NPRP meetings as a result of staffing issues between September 1, 2020 and December 31, 2020.
3. The cost of program training and implementation over the four-month implementation period.

Outcome Measures

Along with the expected outcome of implementing a sustainable NPRP for the purpose of providing nurses with a structured approach for evaluating their individual and collective professional practice, secondary aims of this mixed-methods pilot study were to evaluate the effect that participation in a NPRP had on participants' perception of professional accountability for practice and their feelings of empowerment for leading organizational change. To evaluate these concepts the following outcome measures were utilized:

1. Participants' perception of accountability as measured by survey scores pre and post NPRP pilot implementation.
2. Participants' perception of team/group empowerment to lead change following the pilot implementation period.

Tools/Instruments

Reliable and valid survey instruments were chosen to evaluate the impact of the NPRP on nurse participants' perception of accountability for professional practice and their beliefs about workgroup empowerment to lead change.

Survey one, the 3D Accountability Questionnaire, consisted of 19 items measuring personal and organizational accountability for practice utilizing a 7-point Likert scale with points ranging from 1=not important at all, to 7= very important (Drach-Zahavy et al., 2018). Overall and per item summary scores were calculated with higher overall scores indicating increased

perceptions of accountability and higher sub scores indicating increased importance within the summary domains (e.g. responsibility, transparency, answerability). The questionnaire measured accountability as a three-dimensional concept with six items measuring responsibility, seven items measuring transparency, and six items measuring answerability. Through validation testing, the 3D Accountability Questionnaire was found to be valid and reliable, user friendly, and easy to complete. Validity testing supported content, construct, and criterion-related validity. Internal reliability, measured by Cronbach's alpha, exceeded 0.70 for all subscales and total scales (Drach-Zahavy et al., 2018). The DNP-student received permission from the author to utilize this survey for the pilot.

The second survey tool, the Sieloff King Assessment of Work Team/Group Empowerment Within Organizations (SKAWTGEO) Questionnaire, consisted of 26- items measuring the respondent's perceptions of work team/work group empowerment using a 5-point scale with points ranging from 1= Strongly Disagree to 5= Strongly Agree (Sieloff & Bularzik, 2011; Sieloff et al., 2018). Overall and per item summary scores were calculated with higher overall scores indicating increased agreement with feelings of empowerment and higher sub-scores indicating stronger agreement with beliefs about general work team /group empowerment, specific beliefs about the NPRP work team's/group's empowerment, beliefs about the work team's/ group's leader, and beliefs about how the organization as a whole values the work team/group and its outputs. The SKAWTGEO tool has undergone several revision since its inception in 1996. Sieloff et al. (2018) reports reliability of the instrument with an initial Cronbach's alpha score of 0.91 and follow-up alpha scores greater than 0.90. Criterion related validity ranged between 0.49 and 0.625 ($p<.01$). Confirmatory factor analysis revealed a good fit with the data, with reported Goodness of Fit index=.9 (Sieloff et al., 2018). The DNP-student

received permission from the author to use the SKAWTGEO survey after paying the author requested survey use fee.

NPRP Pilot Data Management

Collection of Data

All data for the pilot was collected and managed by the DNP-student project leader. NPRP participant demographic data were obtained via a demographic form administered separately from survey data to protect the identity of survey participants and to prevent the ability to link sensitive responses to any respondent or group.

Data required to evaluate NPRP structure and process measures was tracked utilizing a spreadsheet format designed by the DNP-student project leader. Data related to structure and process measures were collected and organized via Excel spreadsheets and were used to evaluate the efficacy and appropriateness of the NPRP's design, implementation, and evaluation activities.

Data assessing participant responses to the 3D Accountability Questionnaire was collected anonymously via paper and pencil pre-post implementation surveys and was reported in table format as depicted in Appendix F: 3D Accountability Questionnaire Data Table. Data related to the SKAWTGEO Questionnaire was collected anonymously through a paper and pencil post-implementation survey and reported in table format as shown in Appendix G: Sieloff-King Assessment of Work Team/Work Group Empowerment Within Organizations (SKAWTGEO) Questionnaire Data Table.

Data Analysis, Maintenance, Security

Descriptive statistics for this pilot were analyzed and reported as follows:

1. NPRP participant demographic data was analyzed and reported in Microsoft Word table format using mean, standard deviation, and minimum/maximum values for ratio level data, and frequency and percentage values for nominal level data. Microsoft Word tables were password protected.
2. Structure, Process, and Balancing measures were tracked via Microsoft Excel spreadsheets with interventions employed throughout the pilot period to address negative trends. Microsoft Excel spreadsheets were password protected.
3. Data obtained from the 3D Accountability Questionnaire administered pre-post NPRP implementation were analyzed in SPSS version 26 and Microsoft Excel and were reported in Microsoft Word table format utilizing descriptive statistics to include mean and standard deviation for overall scores as well as all sub-scores. Microsoft Word tables and Excel spreadsheets were password protected.
4. Data collected from responses to the SKAWTGEO Questionnaire administered post-implementation were analyzed in SSPS version 26 and Microsoft Excel and reported in Microsoft Word table format using descriptive statistics including mean and standard deviation values for over-all scores as well as all sub-scores. Microsoft Word tables and Excel spreadsheets were password protected.

NPRP Pilot Administration

Timeline

Recognizing that program design, implementation, and evaluation would occur over an extended period, a project timeline was created utilizing Gantt Chart methodology to identify

important tasks, highlight milestones within the project plan, and guide the most important implementation activities. Planning activities were expected to occur between January and August of 2020, implementation activities between August and November of 2020, and program revision and evaluation activities between October 2020 and May 2021. See Appendix H: Project Timeline.

Resources/ Costs

The primary resource needed for this pilot was financial support for participant salaries budgeted under non-productive meeting time and the cost for backfilling direct care nurses to cover participant work hours during training and meeting times. The cost of data collection was projected to be low but did include a $100 charge for use of the SKAWTGEO copyrighted tool, purchased by the DNP-student project leader for use in this project. The cost of data analysis was also projected to be minimal as there were several free online resources to calculate descriptive data values (means, standard deviations) and SPSS was available through The George Washington University (GWU) technology services.

Costs to support the four-month pilot were projected to be $25,036.00. The organizations' CNO agreed to fund the pilot through the hospitals' general nursing budget. See Appendix I: NPRP Cost Worksheet.

NPRP Pilot Evaluation Plan

A logic model was created to assist in the evaluation of the NPRP pilot. Logic models are used for program planning and evaluation and they increase the chance that a program will be successful by providing a graphic representation of the activities, intended effects, relationships and assumptions that underlie the program's design. Logic models are "living" documents that undergo revision when new evidence or changes in resources, activities, or expectations arise

(Centers for Disease Control and Prevention [CDC], 2011). According to the CDC Division for Heart Disease and Stroke Prevention (n.d.), logic models communicate the purpose of the project, the expected outcomes, and the actions needed to obtain results. Logic models also help identify barriers to project success and provide a plan for communicating program goals and expectations. Working off the plan, program leaders and participants track progress within the context of short, medium, and long-term outcomes (CDC Division for Heart Disease and Stroke Prevention, n.d.). See Appendix J: Program Evaluation Logic Model.

Expected Outcomes

Short term outcomes included obtaining Chief Nursing Officer (CNO) and IRB approval for the NPRP pilot, successful recruitment of program participants, and completion of participant training. Medium-term outcomes were to hold monthly peer review meetings with at least 80% NPRP participant attendance, to review safety events for practice deviations and work arounds, and to provide feedback and recommendations to nursing leadership for nursing practice and system safety interventions. Long term outcomes included improvement in NPRP participants' perception of accountability for nursing practice and workgroup empowerment for leading organizational change. NPRP outcomes beyond the pilot intervention are expected to result in increased NPRP event referrals, increased NPRP meeting participation from direct care nurses involved in safety events, and improved nurse related quality and safety outcomes.

Methodology

Design

The NPRP pilot was completed utilizing a program development and evaluation design. The project was undertaken with the primary aim of implementing a structured and evidenced-based program for nurses to evaluate their professional practice and to provide an avenue to

proactively identify and implement safety interventions to improve the quality and effectiveness of nursing care within the hospitals of interest.

Secondary aims of this project were to evaluate the NPRP participants' perception of personal and organizational accountability for professional practice and workgroup empowerment for change. As nursing literature supports the theory that an organized peer review process increases accountability for practice and empowers nurses to lead change (Fujita et al., 2009; Herrington & Hand, 2018; Spiva et al., 2014), this project provided the opportunity to evaluate the impact of the NPRP pilot using a pre-post survey to obtain baseline and retest measures for professional accountability and a post-pilot survey to assess the group's feelings of empowerment for leading change.

Setting

Two mid-Atlantic hospitals were identified as implementation sites. These community hospitals incorporate a total of 443 licensed beds and employ over 900 direct care registered nurses. Both hospitals have long histories of community service and provide a wide range of primary and tertiary care. Although each hospital has focused service lines, they share the same vision, mission, and values. Additionally, the hospitals share executive leadership with one Chief Nursing Officer directing nursing services at both locations. Nursing leaders at the Director level have oversight of service lines across hospitals and unit managers oversee the daily operations of nursing units within each hospital. Nursing policies and procedures are aligned, and leadership teams meet regularly to discuss organizational priorities. Both hospitals are members of a single distributed health care delivery network that provides patient care at ten-hospitals and over 280 locations throughout the Mid-Atlantic region.

Study Population

Fifteen direct care nurse volunteers were selected for participation in the NPRP program. NPRP participants were recruited from both hospitals utilizing a voluntary application process.

Inclusion/Exclusion Criteria

All direct care nurses, regardless of level of education or years of experience, were eligible to apply for program participation. Nurses in management positions or non-direct care clinical positions were excluded from applying. To ensure sufficient representation, the CNO retained final decision-making authority regarding appointments to the NPRP so that each care area was adequately represented and there was a range of experience and educational levels to support the program. The CNO also appointed clinical ladder co-chairs, who under the mentorship of the DNP-student project leader and NPRP Liaison, assisted in facilitating the NPRP activities during the pilot period.

Sample Size

Recruitment strategies identified fifteen direct care nurse participants for the NPRP, permitting a convenience sample of fifteen respondents for pre-post pilot implementation surveys. The sample size for the NPRP program was not large enough to support survey result significance testing as power analysis performed via the online Daniel Soper a-priori sample size calculator for a two-tailed Student t-Test with an anticipated effect size of 0.5 (Cohen's *d*), a desired power of 0.8, and probability level of 0.05, indicates a minimum sample of 64 participants would be required to power study results (Soper, n.d.). Therefore, descriptive statistics were utilized in the analysis and reporting of survey data.

Recruitment Strategy

Nurse Managers, under the direction of the CNO, asked for direct care nurse volunteers within their medical-surgical, step-down/intermediate, critical care, perioperative, operating room, and emergency departments areas who were interested in participating in the NPRP. Nurses interested in participating completed an application form. Each nurse manager then forwarded their unit applications to the CNO for NPRP consideration. Participation in the NPRP was capped at 15 direct care nurses. The CNO appointed a nurse leader as the NPRP Liaison and together, they reviewed and selected the NPRP program participants from the forwarded applicants. See Appendix K: Application to Participate Form.

Consent Procedure

Consent for participation in the NPRP was voluntary and participants were selected following submission of a program application. Participants were informed on the program application regarding the type of information that would be collected during the pilot, including demographics and survey measurements. Prior to the first training session, participants were asked to sign a consent for program and survey participation. See Appendix L for a copy of the Consent for Participation Form used for this project.

The DNP-student filed an application with the hospitals' Institutional Review Board (IRB) to seek approval for this pilot study. As the pilot project was not meant to develop or contribute to generalizable knowledge, did not include protected subjects (children, prisoners), was not likely to result in criminal or civil liability or negatively impact the participants financial standing or reputation, and did not use survey data that was linked directly to respondents (The Office for Human Research Protections [OHRP], 2016), the NPRP pilot was expected to receive

IRB exemption. On 6/9/2020, the organization's IRB recognized this project as Quality Improvement and determined IRB approval was not required.

Risks/Harms of Participation

Possible risks as a result of participation in the NPRP included loss of confidentiality and/or psychological stress when participating in nursing peer review activities and when answering professional accountability related survey questions.

Loss of Confidentiality by Participating in Peer Review Meetings

Review of safety events required the ability of participants to be transparent with their thoughts, feelings, judgments, and actions. There was inherent risk that confidential discussions and participants' thoughts about safety events or the appropriateness of nursing practice would be shared outside the confines of the protected meeting.

Psychological Stress

Peer review activities were conducted within a small group environment with the purpose of discussing safety events which may or may not have caused harm to a patient or provider. These discussions evaluated human activities and often incorporated emotional and psychological components. Past experiences, values and moral judgments were an integral part of peer review discussions and there was risk that psychological stress would develop as a result of participation in these discussions. Additionally, moral distress could develop when an ethically correct action was identified by the reviewer/participants but due to constraining factors, was unable to be achieved by the nurse/staff involved in the event (un-supportive system), or when reviewing poor care practices of colleagues (Woods, 2019).

Loss of Confidentiality by Participating in Pre-Post Surveys

The professional 3D Accountability survey asked participants to rate their perceptions regarding the importance of responsibility, transparency, and answerability within their professional work environments. While all efforts were undertaken to maintain the confidentiality of survey participants, there was a risk that responses could impact a participant's reputation if confidentiality were breached.

Ethical Considerations

There were three potential ethical issues related to this project; Healthcare Insurance Portability and Accountability Act (HIPAA) violations resulting from review of patient information throughout the peer review process, potential associate-related confidentiality issues resulting from peer review discussions, and potential survey participant confidentiality violations.

Potential HIPPA Violations

NPRP participants were responsible for ensuring that patient related data was handled under current HIPAA laws and regulations and according to their internal hospital policies and procedures. To address this issue, participants were reminded of their professional and organizational responsibility to protect confidential patient data through hospital defined policies, to refrain from printing or distributing event review documents, and to ensure that event review documentation and any related information was housed within the protected SharePoint site implemented specifically for the NPRP. To prevent unauthorized access to patient related documents, the SharePoint site was secured and only current NPRP members were able to access information stored on the site. Additionally, when peer reviewers logged into the electronic

medical record to complete documentation reviews, they were required to sign-in as a reviewer and were logged as such by the electronic system.

Potential NPRP Participant-Related Confidentiality Issues

Sharing of information or conversations outside of the confidential nursing peer review sessions were a potential ethical risk. To address, NPRP members signed a confidentiality agreement to support their awareness of NPRP confidentiality requirements. Additionally, each meeting began with a reminder that NPRP discussions were confidential and were not to be shared outside the closed meeting. NPRP members were reminded that any participant who breeched these standards would be removed from the NPRP and may face disciplinary action through nursing leadership. Secure/private meeting rooms were reserved to limit the risk of conversations being overheard by non-participants, and the secured in-house Web-Ex program was utilized for remotely held meetings.

Potential Survey Respondent Confidentiality Issues

To prevent the ability to link sensitive survey results to respondents or respondent groups, demographic data was collected separately from survey data, the surveys remained anonymous, and the survey data was calculated using group means and not by individual responses.

Results

Fifteen direct care nurses were selected from twenty-nine volunteer applicants for participation in the program. One participant did not arrive for training and dropped out of the group prior to implementation activities, leaving a final count of fourteen direct care nurse participants. All participants were female and ranged in age from 30-63 years (M= 42.86, SD= 10.13*)*. Years of nursing experience ranged from 2-28 years (M=11.86, SD= 8.813*)* with the

majority (71.4%) of participants holding Baccalaureate degrees in nursing. For additional demographics, see Table 1: Characteristics of the Sample.

Program Structure Measures

Fourteen of fifteen nurses (93%) selected for participation completed peer review training. Of the fourteen nurses who completed training, all were supported with eight hours of pre-implementation training time and two hours of monthly NPRP meeting time. All nurses assigned to present a review were supported with six to eight hours of non-productive time for review completion. NPRP Co-chairs were provided with two to four hours monthly for meeting preparation and post meeting CNO summary development. Three of four NPRP meetings were held in person with the final meeting being held virtually due to the COVID-19 pandemic. As the pandemic limited the number of attendees allowed per meeting space to address social distancing measures, side-by side conference rooms were utilized to accommodate the organization's COVID-19 safety requirements.

Program Process Measures

Fourteen participants (100%) completed NPRP training by September 8, 2020. COVID-19 pandemic social distancing limitations required that participants be divided into two separate training groups. Four meetings were held between September and December 2020 with a total of seven nurse-related safety events reviewed. Meeting participation rates varied across months with participation rates of 93% (13/14) in September, 71% (10/14) in October, 79% (11/14) in November, and 64% (9/14) in December. Average meeting attendance across the four monthly meetings was 77%, which did not meet the program goal of 90% attendance.

Program Balancing Measures

All assigned reviewers were able to complete their event review preparations within the eight-hour time limits provided. NPRP Co-Chairs completed their meeting preparations and post-meeting summaries within the four-hour limits provided. There were three instances in which nurses missed peer review meetings because they were needed for nurse staffing on NPRP meeting days.

Final program pilot costs equaled $19,517.91. Participant nurse salary expenditures were calculated using average salaries of nurses holding similar experience and position at the hospitals of interest. Median years of experience (8.50 years), was used for the analysis as participants' mean years of experience (11.86 years) was skewed by four participants having over 20 years of nursing experience. Co-chairs were advanced (clinical ladder) nurses who earned a 6% hourly premium. Nurse Educator and NPRP Liaison (leader) salaries were calculated using average salaries for nurses holding like positions at the hospitals, regardless of experience level or scope of responsibility. It is important to note that salary calculations used for this cost analysis do not reflect any one participant's, educator's, or leader's individual salary. See Appendix M: NPRP Final Cost Analysis, for overall program cost. The final program costs were lower than projected costs and met the financial goal of pilot expenditures of less than $25,036.

Program Outcome Measures

The logic model developed as part of the NPRP Evaluation Plan (see Appendix J) describes the expected short-, medium-, and long-term outcomes of the program. The short-term goals of CNO pilot approval, successful recruitment of participants, and participant training were met. Medium term goals of holding monthly meetings, participant attendance at meetings,

review of nurse related safety events, and feedback and recommendations for improvements to nursing leadership were also met. Assessing trends toward meeting the longer-term goals of improvement in NPRP participants' perceptions of accountability for nursing practice and empowerment for leading change are discussed in the next paragraphs.

3-D Accountability Survey

To evaluate the second aim of increasing participants' perceptions of accountability for practice, the 3-D Accountability Questionnaire was administered pre and post NPRP implementation. The nineteen-item questionnaire asked participants to rate their feelings of accountability for practice on a 7-point Likert type scale in the three dimensions of responsibility, transparency, and answerability. Participants were able to rate their feelings on a scale of 1= "not important at all" to 7= "very important" (Drach-Zahavy et al., 2018). Overall, per item and per dimension group mean and standard deviation scores were calculated using SPSS-26 and Microsoft Excel formulas (See Table 2). Previous testing of the questionnaire supported content, construct, and criterion related validity. Internal reliability exceeded 0.70 for all subscales and total scores by Cronbach's alpha testing (Drach-Zahavy et al., 2018). Average participant scores differed only slightly pre-implementation versus post-implementation. Mean scores for the subgroup *Responsibility* were lower following peer review participation (pre [*M*=6.59, *SD*=0.71], post [*M*=6.56, *SD*=0.70]) See Figure 1. Mean scores for the subgroups *Transparency* (pre [*M*=6.26, *SD*=1.05], post [*M*=6.49, *SD*=0.83]) and *Answerability* (pre [*M*=6.39, *SD*= 0.95], post [*M*= 6.47; *SD*= 1.00]) were higher following program participation (see Figure 2 and Figure 3). Paired samples T-tests were performed for each question and no statistical differences were noted between pre-test and post-test responses. Thirteen nurses (93%) completed the 3D pre-implementation survey, and ten nurses (71%) completed the 3D post-

implementation survey which did not meet the goal of 100% completion rates. See Table 2: 3D Accountability Questionnaire Responses, for detailed survey analysis.

SKAWTGEO Survey

The SKAWTGEO survey was utilized to evaluate the third objective of the project, measurement of participants' perceptions of work team/group empowerment. The SKAWTGEO tool consists of 26 questions which are grouped into subcategories of: 1) general beliefs about work team/group empowerment, 2) beliefs about the work team/ group specifically, 3) beliefs about the work team /group leader, and 4) beliefs about the organization's impact on empowerment. Participants were asked to rate their beliefs on survey statements using a 5-point Likert type scale with ratings of 1= strongly disagree, 2=disagree, 3=neither agree nor disagree, 4= agree, and 5= strongly agree. The SKAWTGEO tool has undergone several revisions since its inception in 1996 with the authors reporting initial instrument reliability at a Cronbach's alpha of 0.91 and all subsequent reiterations above 0.90. Criterion related correlations have ranged between 0.49-0.625 (p<.01) (Sieloff et al., 2018). Higher mean scores on the SKAWTGEO survey indicate that respondents feel empowered as a result of work team/group participation. The SKAWTGEO was administered to NPRP participants following peer review participation. Eleven nurses (78.6%) completed the survey which did not meet the goal of 100% completion.

Participants reported an overall mean empowerment score of 4.57 (SD=0.58*)* which met the outcome benchmark of 4.00. Higher mean scores were reported in the subcategories regarding beliefs about work team/group empowerment (M=4.85, SD=0.36*)*, and beliefs about the work team/group leader (M= 4.78, SD= 0.42*)*. The lowest reported mean subgroup score was related to empowerment beliefs about the organization (M= 4.47, SD=0.62). See Appendix G for SKAWTGEO Survey; Table 3: SKAWTGEO Survey Variables, for detailed analysis and

Figure 4: Radar Chart Depicting Reponses to SKAWTGEO Empowerment Survey, for data visualization.

Qualitative Survey

A three-question qualitative survey was added following NPRP implementation to allow participants the opportunity to evaluate and provide feedback on the impact of participation in nursing peer review in their own words. Questions included: 1) Describe how participation in the peer review program has impacted your view of professional nursing practice, 2) In your opinion, what are the most important lessons learned from your participation in nursing peer review, and 3) If a colleague asked you about the peer review program, what would you tell them?

Several themes emerged from review of participant responses. Responses to the first question asking about the program's impact on professional nursing practice included themes of "seeing the big picture", the importance of documentation, that nursing practice can always improve, and that nurses are empowered to make changes for safety. When asked about the most important lessons learned as a result of peer review, participants highlighted the need to look at the entire patient and their care needs (holistic care), the importance of timely and accurate documentation, the need to escalate patient care and safety concerns using the chain of command, and the impact of interdisciplinary communication on patient outcomes. Finally, when asked about what they would tell their colleagues about their participation in the nursing peer review program, themes of discovering opportunities for quality improvement, making standard of care determinations without blame, and identifying educational opportunities for staff, were frequently mentioned.

Discussion

The NPRP structure, process, and outcome measures were all met with the exception of the monthly meeting participation goal of 90% and the survey completion goal of 100%. The program plan's estimated time requirements for monthly meetings and peer review activities were adequate with no peer reviewers needing time beyond the eight hour allotment for review completion. Meeting participation and survey completion rates were affected by the COVID-19 pandemic as nurses were pulled from meeting time to fill staffing voids on patient care units. Other reasons for missed meetings over the four-month pilot included short-term illness and longer-term medical leave by two participants.

Although there was little change in mean accountability scores (as measured by the 3-D Accountability Questionnaire) pre-versus post-pilot, overall participant scores were high. No statistical differences were seen across survey responses, however several questions showed interesting pre-to post- pilot changes in standard deviation scores. The following are questions in which large SD differences were noted with possible explanations for each difference. It is important to note that assessment of nurse accountability was limited by low sample size and was conducted during the COVID-19 pandemic therefore additional follow-up is needed to understand the true reasons behind any changes in participant responses.

1. "To show fit between what I did and what I report" (Drach-Zahavy et al., 2018)- Pre (M=6.54, SD=0.88); Post (M=6.90, SD=0.32). "Tightening" of the SD may indicate that participants, as a result of documentation and event review activities, were impacted by what was or was not documented in the medical record and self-identified the need for accurate documentation that reflects provided care.

2. "To seek feedback from my colleagues about the processes that lead to success at work" (Drach-Zahavy et al., 2018)- Pre (*M*=6.08, *SD*=1.26); Post (*M*=6.40, *SD*=0.52). "Tightening" of the SD may indicate that NPRP members, as a result of peer review participation, are more open to sharing and receiving feedback regarding their professional practice.
3. "To be willing to justify each of my professional decisions" (Drach-Zahavy et al., 2018)-Pre (*M*=6.83, *SD*= 0.39); Post (*M*= 6.60, *SD*=0.97). "Widening" of the SD may have several explanations. NPRP members may have felt that participation in a "non-punitive" peer review process precluded the need to justify or defend actions as peer reviews are completed for learning purposes only. Another explanation may be that participants, working through a pandemic in which products, equipment, and nursing staff were in short supply, and where nurses were being pulled to unfamiliar work environments while providing care under unusual circumstances, felt less willing to justify each of their care decisions.

The 3-D nurse accountability survey results indicated that NPRP participants were highly engaged and accountable nurses. This is a positive for the organization in that, nurse who feel accountable for the quality and safety of the care they provide can help influence other nurses to feel the same. Implications for nursing leadership and especially clinical leaders (unit Directors/Managers) are to support the NPRP nurses with forums to discuss the practice gaps found through peer review and become practice champions for quality and safety on their units. Often, the most effective quality and safety improvements are those that are developed from the front-line and NPRP nurse participants are now well suited to identify quality and safety issues,

recommend practice and policy changes to enhance care, and lead and support improvement efforts with their colleagues.

Overall mean empowerment scores (*M*=4.57, *SD*= 0.58) as measured by the SKAWTGEO survey, were higher than the projected benchmark of 4.00 and reflected positively on the participants' feelings of empowerment resulting from NPRP participation (Sieloff et al., 2018). Although overall empowerment scores were high, it is interesting to note that participants rated empowerment beliefs about the organization as the lowest mean subgroup score. Questions in this subgroup focused on the value the organization places on the workgroup (the NPRP) and whether the organization views the work of the group as central to a primary product, in this case quality care. As this was a pilot program which has not yet been normalized into the organization's infrastructure and workflow, it is not surprising that participant responses were lower in this area. Implications for Executive Leadership would be to address the integration of this team and their work into the organizational structure and take the opportunity to highlight and communicate the improvement initiatives that result from NPRP recommendations.

Several themes were noted from the open-ended survey responses including the need to "see the big picture", the importance of accurate and timely documentation, and that program members felt empowered to make changes for safety. Many participants shared that as a result of peer review discussions, they had a new appreciation for the importance of escalating safety concerns using the chain of command and for the impact that interdisciplinary and nurse to nurse communications had on patient outcomes. Implications for quality and safety improvements and executive leadership support of the NPRP program can be found within the themes mentioned above as well as the following comments given by nurse participants when asked how

participation in the peer review program had impacted their view of professional nursing practice:

1. “Always believed documentation is key-but this committee has helped me look at it in different ways-appreciate others views as we discuss each review.”
2. “Increased awareness of need to document thoroughly and to hold peers accountable for proper documentation. Also-it encourages me to be a better nurse-to think of all-and tap into all the resources available to advocate for my patient.”
3. “It’s encouraging me to take a more active “mentor” type of role when seeing solutions and reminds me to document them!”
4. “Each interaction between patient and nurse is an opportunity and can impact the overall care of the patient.”
5. “Sharing information and knowledge with other nurses from other areas have (sic) given me more understanding of the system and the importance of documentation in real time.”
6. “The importance of documentation. Also glad that information is given to upper management so that changes can be made systemwide to improve quality of care.”
7. “It has changed how I document as a bedside nurse. Made me realize just how important documentation is. It also opened my eyes to the role bedside nurses play in reviewing/changing policies/procedures.”

A cost analysis of the program indicated that expenditures associated with the four month pilot were approximately $19,500. This included $4,700 in back-filled staffing expenses for participant training which would not be a line-item expense in future budgets. Forecasted yearly expenditures, should the program continue, are estimated at $27,700 with the majority of cost

related to non-direct care salary reimbursement. Financial costs for the NPRP is relatively low when compared to other quality and safety initiatives that seek to mitigate lost revenue from third party payment penalties and/or litigation expenses resulting from medical-related patient harm.

Limitations to this study included a small sample size with results not adequately powered to detect differences in mean accountability scores pre- versus post- NPRP implementation. It is also important to note that the project was undertaken during the COVID-19 pandemic which may have impacted direct care nurse survey responses regarding feelings of accountability for practice and empowerment to lead meaningful change. Finally, the NPRP was implemented in two small community hospitals and the results may not be applicable in large academic medical centers, large teaching hospitals, or other healthcare settings.

Plans for Sustainability

According to The National Health Service, successful organizations are ones that can implement and sustain effective quality and safety improvements at a reasonable cost. In 2010, the NHS's Institute for Innovation and Improvement developed the Sustainability Model and Guide to assist organizations in planning and sustaining improvement initiatives (*The National Health Service Institute for Innovation and Improvement Sustainability Model and Guide*, 2010). Consisting of a self-assessment tool and an implementation guide for sustainment strategies, the NHS Model assists leaders in evaluating a project's likelihood of sustainment based on process, staff, and organizational issues. Using the NHS Sustainability Model to understand barriers to quality improvement and to identify organizational strengths that support successful sustainment activities, leaders are able to focus energy and attention on interventions with the greatest potential for sustainment success. To assist the DNP student in identifying focus areas for NPRP

sustainment efforts following the NPRP pilot, the NHS Sustainability Model was applied to this project. According to the NHS Sustainability Assessment, identified areas for NPRP sustainability focus include: Staff involvement and training to sustain the improvement, staff behaviors toward sustaining the change, clinical leadership support, and organizational infrastructure. See Figure 5 for Sustainment Activity Portal Diagram and Bar Chart

As this project was a pilot with a limited number of nursing participants, identification of staff involvement and training, and staff behaviors toward sustaining the change were expected challenges to NPRP sustainment. While two direct care nurses were involved in NPRP development and design decisions, these participants were not able to adequately represent the over 900 direct care nurses employed at the hospitals of interest. For the peer review program to remain functional, staff support, openness, trust, and willingness to participate in peer review activities are primary to program success. The following interventions to support staff engagement in the peer review process will be discussed with nursing leadership for post-pilot NPRP sustainment: 1) expand program participation to additional front line staff and create avenues for sharing NPRP recommendations that lead to improvements in nursing workflow and patient safety, 2) engage the organization's quality and safety team to integrate peer review content into HRO training sessions to encourage direct care nurse support of non-punitive peer review for quality improvement, 3) communicate the findings and recommendations of the NPRP direct care nurses during unit safety huddles, and 4) tie NPRP improvement recommendations to the HRO principle of "deference to expertise" which directs those who "do the work" be engaged in development of risk reduction strategies (Veazie et al., 2019).

Clinical leadership support was recognized as a second sustainment focus for the NPRP. Clinical leaders/nurse managers serve as an important support structure for the NPRP as these

leaders are primarily responsible for the daily operations of nursing units and have oversight of RN staffing and meeting time approvals. It is imperative that these stakeholders understand the impact of the NPRP on clinical outcomes so they remain engaged in the work and support the participation of their unit representative in the program. The NPRP Liaison, together with the hospitals' CNO, have developed a plan to present NPRP outcomes and recommendations at monthly leadership meetings to highlight the importance of the NPRP work and share the insights of frontline staff on safety and clinical issues. Communications provided at monthly leadership meetings are typically shared with frontline staff at unit level meetings. Continued CNO communications regarding the impact of the NPRP will assist in cementing ongoing support with both clinical leaders and frontline nurses.

A final area of focus for sustainment involves organizational infrastructure. As discussed previously, to date, all staff have not been educated in the nursing peer review process beyond the limited participation of the NPRP pilot participants. Recommendations of adding NPRP content to HRO training sessions will not only assist staff to embrace the peer review process but will also help embed this program into the organization's infrastructure. Other sustainment strategies include: 1) developing a process algorithm for incorporating NPRP recommendations for practice change into nursing/organizational policies and procedures, 2) adding the NPRP onto the list of organizationally supported nursing committees such as nursing practice and quality and safety to communicate executive support of the program and 3) counting front-line nurse participation in the NPRP toward clinical ladder advancement requirements, similar to the process for currently sustained nursing committees. Finally, NPRP recommendations for practice changes that are tied to quality improvement efforts should be tracked and trended for organizational understanding of the ongoing impact of this program.

Future Scholarship

NPRP recommendations for practice improvements are expected to decrease nurse related safety events and improve nursing quality metrics in the areas of falls with injury, pressure injury, and other hospital acquired conditions over time. There is the potential that practice improvements resulting from NPRP recommendations will spur direct care nurses and nurse leaders to submit poster and podium presentations to local, regional, and national nursing forums that highlight nurse led quality and safety initiatives. Additionally, having undergone a successful pilot, this program has the potential to spread across the organization in support of Magnet designation/application work that is currently underway at the health system's other hospital locations.

Conclusion

The results of the NPRP pilot suggest that an ongoing peer review program will assist the organization in mediating nurse related safety events while supporting nurse accountability for practice and direct care nurses' feelings of empowerment for leading change. Based on NPRP outcomes, the DNP student recommends the NPRP pilot be expanded and sustained as an integrated layer of safety within the organization's HRO culture. As an added benefit of program sustainment, organizational support for the NPRP can be used to highlight the structural empowerment component of Magnet designation when both hospitals pursue upcoming Magnet application. Successful outcomes of this pilot include: 1) positive direct care nurses' feelings of empowerment to lead change as a result of NPRP participation, 2) positive practice accountability scores which indicate participants are well suited to influence their colleagues as professional practice champions, 3) front line nurse policy and procedure change recommendations that support organizational patient safety and quality initiatives and the

organization's HRO culture, and 4) low financial impact to the organization with the potential to mitigate high cost litigation and revenue losses related to preventable hospital acquired conditions and nurse-related safety events.

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Table 1

Characteristics of the Sample (N=14)

Variable	Frequency (%)
Age Group (years)	
• ≤29	0 (0%)
• 30-39	5 (35.7%)
• 40-49	5 (35.7%
• 50-59	3 (21.4%)
• 60-69	1 (7.1%)
• ≥70	0 (0%)
Gender	
• Female	14 (100%)
• Male	0 (0%)
Years in Nursing	
• <1	0 (0%)
• 1-10	9 (64.3%
• 11-20	2 (14.3%)
• 21-30	3 (21.4%)
• ≥ 31	0 (0%)
Education	
• Diploma in Nursing	1 (7.1%)
• Associate in Nursing	3 (21.4%)
• Baccalaureate in Nursing	10 (71.4%)
• Master of Nursing	0 (0%)
• Doctor of Nursing	0 (0%)
Currently Working on a Degree	
• Yes	3 (21.4%)
• No	11 (78.6%)
Currently Hold a Certification in Nursing	
• Yes	7 (50%)
• No	7 (50%)
Type of Unit Currently Employed	
• Medical/Surgical	3 (21.4%)
• Stepdown/Intermediate	3 (21.4%)
• Critical Care	2 (14.3%)
• Perioperative/OR	2 (14.3%)
• Emergency	2 (14.3%)
• Other	2 (14.3%)

Table 2

3D Accountability Questionnaire Responses

		N	Min	Max	Mean	Std. Deviation	P value
Responsibility							
Q1: To be updated with professional literature	Pre	13	5	7	6.31	0.75	.468
	Post	10	5	7	6.50	0.71	
Q2: To provide all patients in the unit with quality of care	Pre	13	7	7	7.00	0	
	Post	10	7	7	7.00	0	
Q3: To provide meticulous documentation of all my nursing tasks	Pre	13	4	7	6.46	0.97	1.00
	Post	10	5	7	6.40	0.97	
Q4: To work according to acceptable norms under any circumstance	Pre	13	5	7	6.69	0.63	.096
	Post	10	5	7	6.40	0.84	
Q5: To help coworkers with their professional tasks	Pre	13	6	7	6.54	0.52	.279
	Post	10	5	7	6.20	0.63	
Q6: To show complete fit between what I did and what I report	Pre	13	4	7	6.54	0.88	
	Post	10	6	7	6.90	0.32	.269
Total Responsibility Scores	Pre	13	4	7	6.59	0.71	
	Post	10	5	7	6.57	0.70	

Table 2

3D Accountability Questionnaire Responses

		N	Min	Max	Mean	Std. Deviation	P value
Transparency							
Q7: To document my near misses	Pre	13	5	7	6.38	0.87	.509
	Post	10	5	7	6.60	0.70	
Q8: To report my errors that did not cause harm to patients	Pre	13	5	7	6.38	0.77	
	Post	10	6	7	6.60	0.52	.343
Q9: To reflect on my unsuccessful nursing tasks	Pre	13	5	7	6.31	0.86	
	Post	10	5	7	6.50	0.85	.434
Q10: To report adverse events on the unit even if they did not cause harm	Pre	13	5	7	6.69	0.63	
	Post	10	5	7	6.70	0.68	1.00
Q11: To inform the charge nurse of my unsuccessful tasks	Pre	13	3	7	5.77	1.54	
	Post	10	3	7	6.20	1.40	.415
Q12: To seek feedback from my colleagues about the processes that lead to success at work	Pre	13	4	7	6.08	1.26	
	Post	10	6	7	6.40	0.52	.363
Total Transparency Scores	Pre	13	3	7	6.26	1.05	
	Post	10	4	7	6.49	0.83	

Table 2

3D Accountability Questionnaire Responses

		N	Min	Max	Mean	Std. Deviation	P value
Answerability							
Q13: To be willing to provide explanations to my leader regarding failures at work	Pre	13	4	7	6.23	1.17	.716
	Post	10	4	7	6.40	0.97	
Q14: To accept low performance evaluations due to mistakes I made	Pre	13	3	7	6.08	1.26	.780
	Post	10	4	7	6.00	1.25	
Q15: To be willing to receive negative feedback from my leader regarding my unprofessional tasks	Pre	13	5	7	6.54	0.78	.811
	Post	10	4	7	6.60	0.97	
Q16: To be answerable for my mistakes-pre	Pre	13	4	7	6.62	0.87	1.00
	Post	10	4	7	6.60	0.97	
Q17: To be willing to justify each of my professional decisions	Pre	12	6	7	6.83	0.39	.559
	Post	10	4	7	6.60	0.97	
Q18: To be willing to pay "social costs" for taking initiatives to improve work processes on the unit	Pre	13	4	7	6.00	1.00	.434
	Post	10	4	7	6.40	0.97	
Q19: To be willing to bear any negative consequences of my professional decisions and acts	Pre	13	4	7	6.31	1.03	.662
	Post	10	4	7	6.60	0.97	
Total Answerability Scores	Pre	13	3	7	6.39	0.95	
	Post	10	4	7	6.47	1.00	

Table 3

SKAWTGEO Survey Variables (n=11)

	Mean	SD	Min	Max
Question 1	4.73	0.47	4	5
Question 2	4.82	0.41	4	5
Question 3	5.00	0.00	5	5
Average Score: Belief about Work Group/Team Empowerment	**4.85**	0.36	4	5
Question 4	4.18	0.75	3	5
Question 5	4.27	0.65	3	5
Question 6	4.82	0.41	4	5
Question 7	4.73	0.47	4	5
Question 8	4.18	0.75	3	5
Question 9	4.18	0.75	3	5
Question 10	4.64	0.67	3	5
Question 11	4.45	0.82	3	5
Question 12	4.64	0.51	4	5
Question 13	4.55	0.52	4	5
Question 14	4.45	0.52	4	5
Question 15	4.45	0.52	4	5
Question 16	4.73	0.47	4	5
Average Score: View of Work Group/Team	**4.48**	0.63	3	5

Table *3*
SKAWTGEO Survey Variables (n=11)

	Mean	SD	Min	Max
Question 17	4.82	0.41	4	5
Question 18	4.82	0.41	4	5
Question 19	4.73	0.47	4	5
Question 20	4.73	0.47	4	5
Average Score: Leader	**4.78**	0.42	4	5
Question 21	4.64	0.51	4	5
Question 22	4.45	0.69	3	5
Question 23	4.45	0.69	3	5
Question 24	4.30	0.82	3	5
Question 25	4.45	0.52	4	5
Question 26	4.55	0.52	4	5
Average Score: Organization	**4.47**	0.62	3	5
Total Average Score	**4.57**	0.58	3	5

Note: The SKAWTGEO Survey is copyright protected. Questions are blinded in this report to protect copyright status.

Figure 1

Bar Graph Depicting Responses to 3D Accountability Survey: Subgroup Responsibility

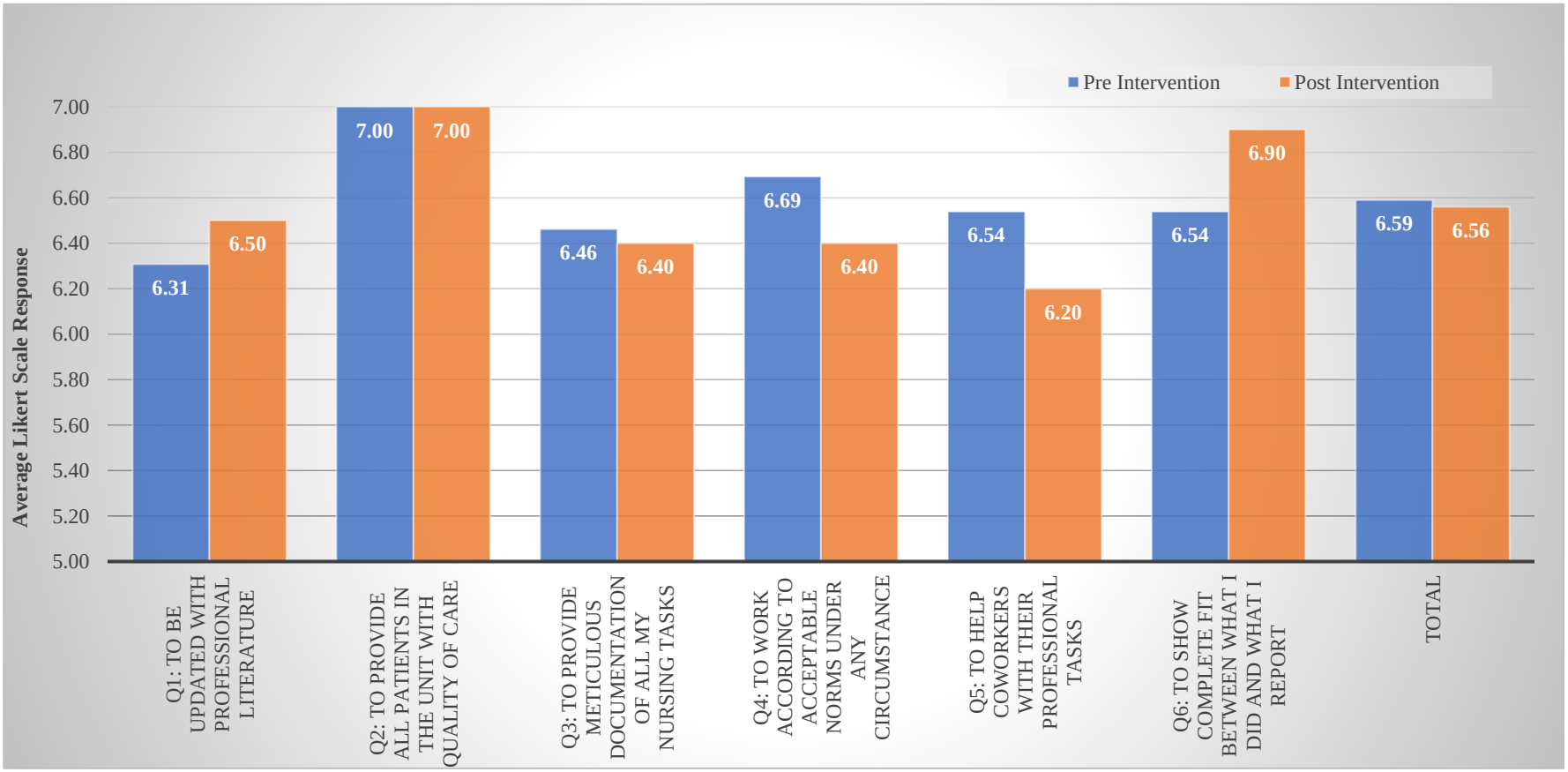


Figure 2

Bar Graph Depicting Responses to 3D Accountability Survey: Subgroup Transparency

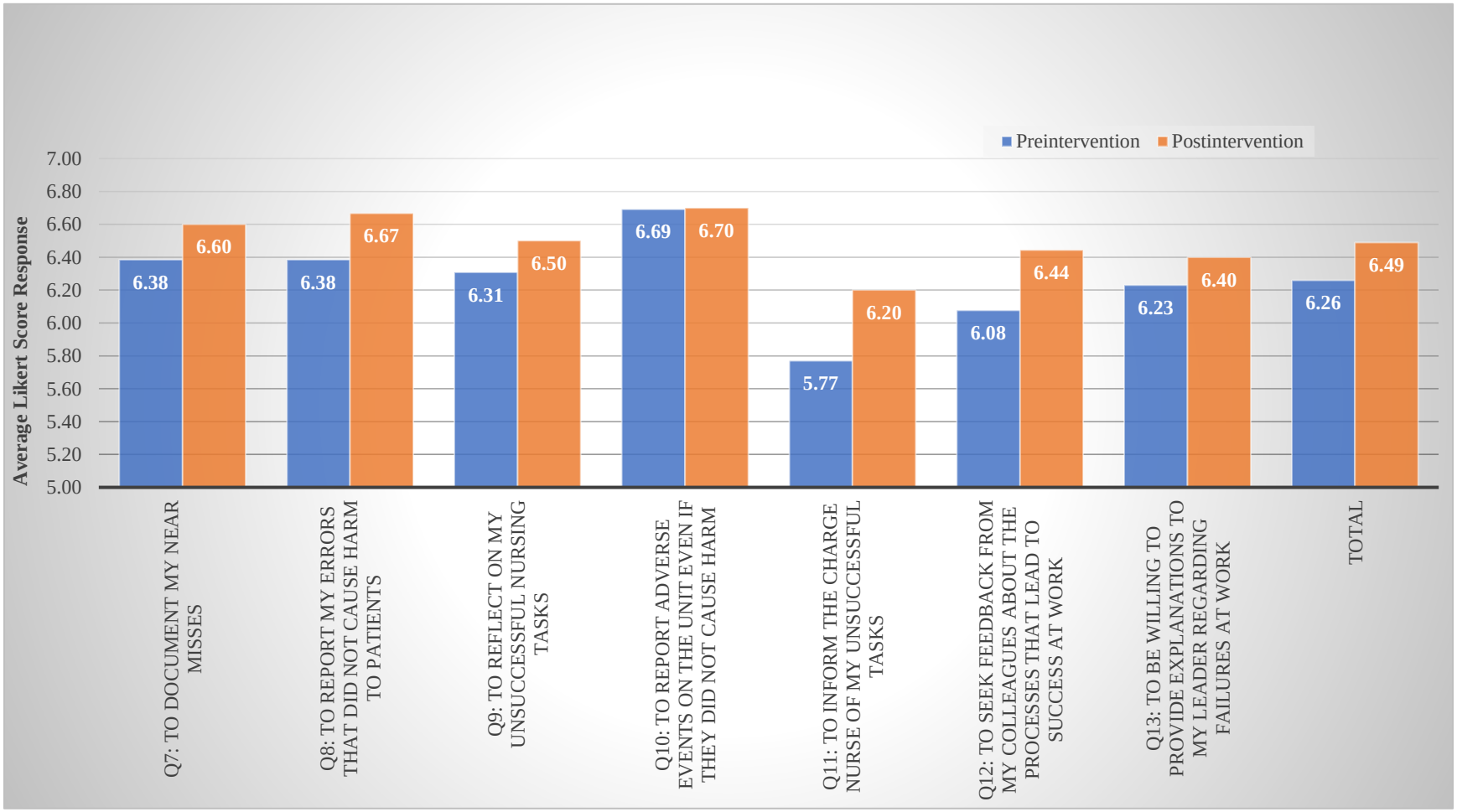


Figure 3

Bar Graph Depicting Responses to 3D Accountability Survey: Subgroup Answerability

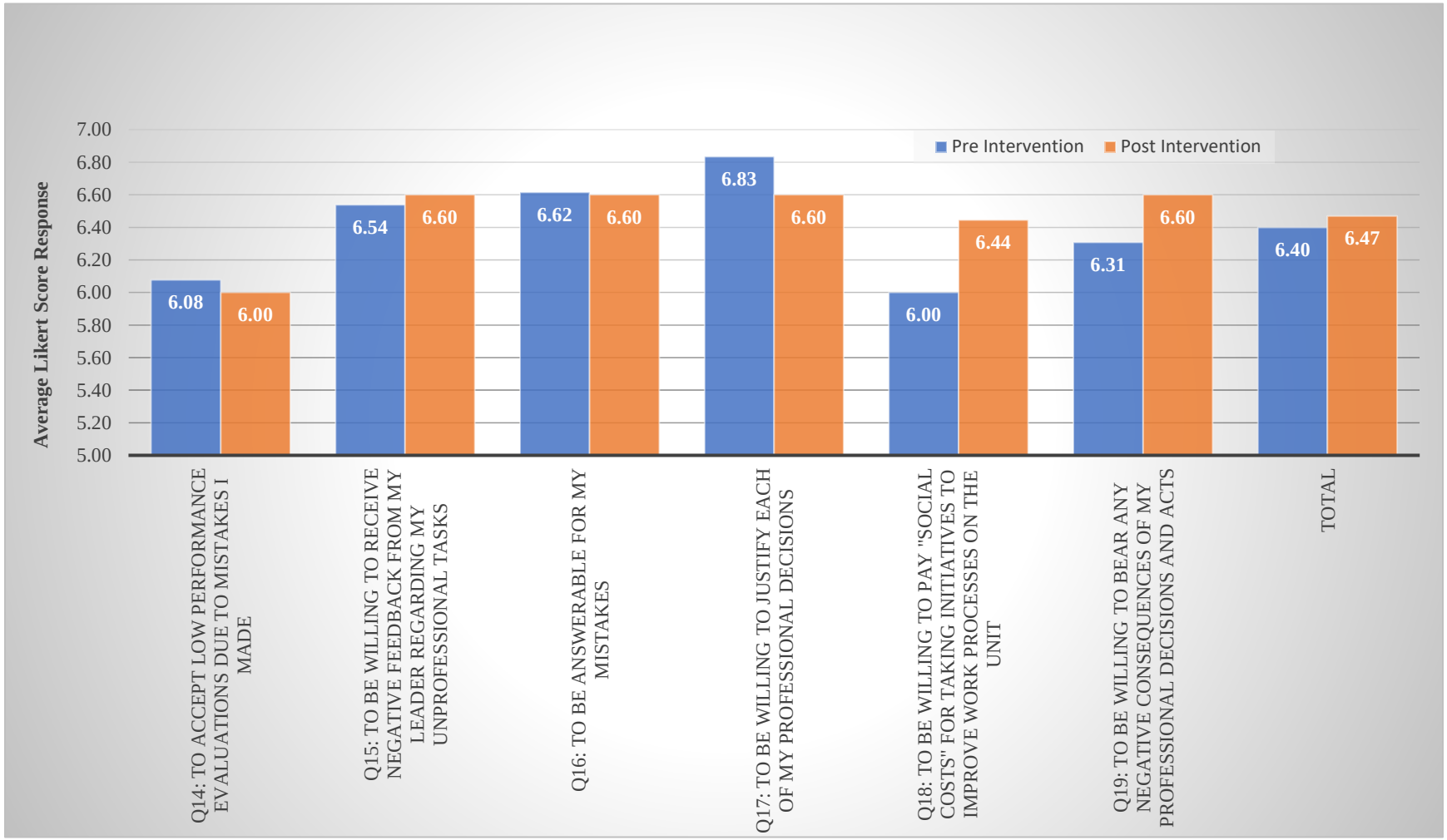
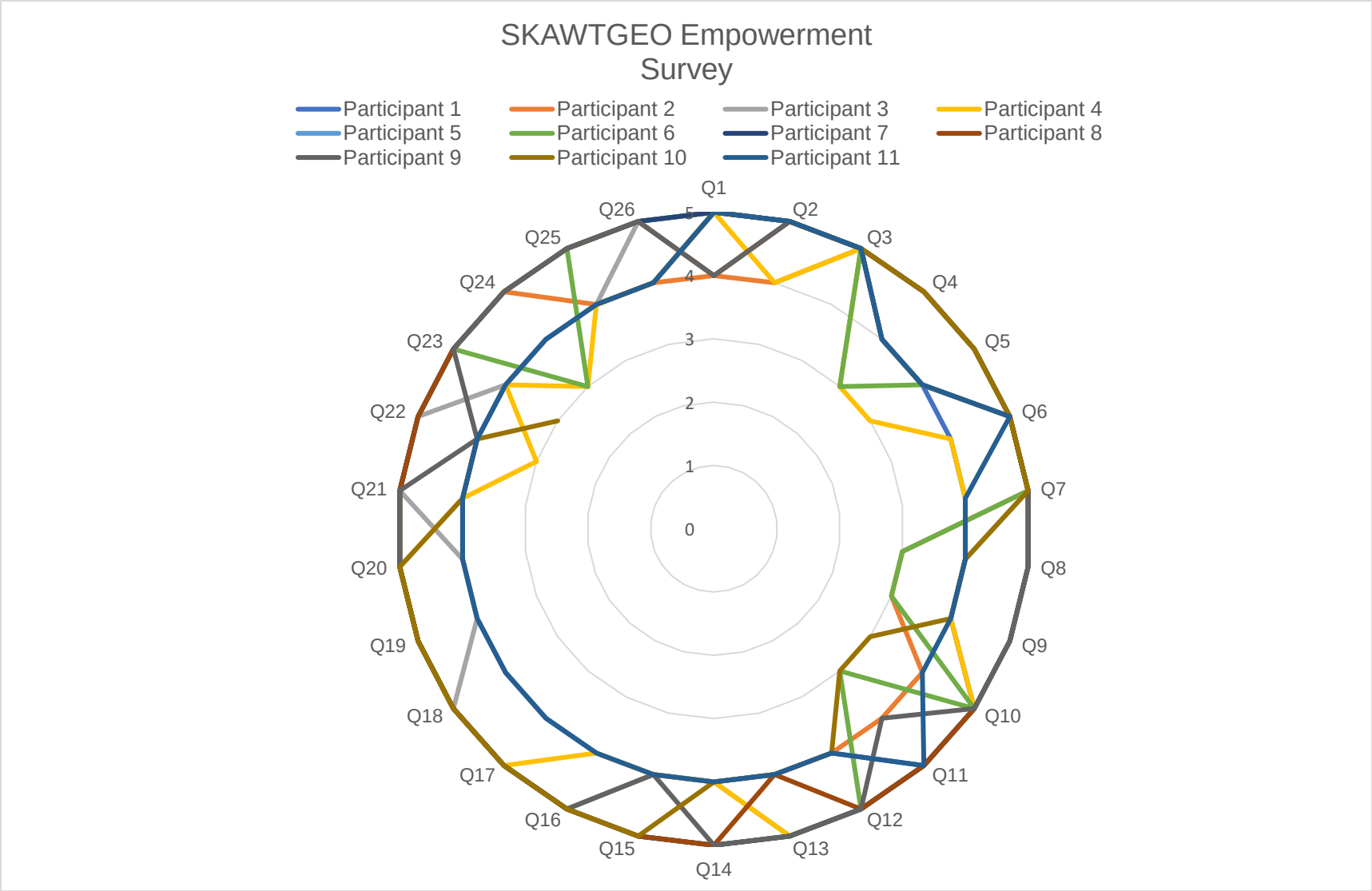


Figure 4

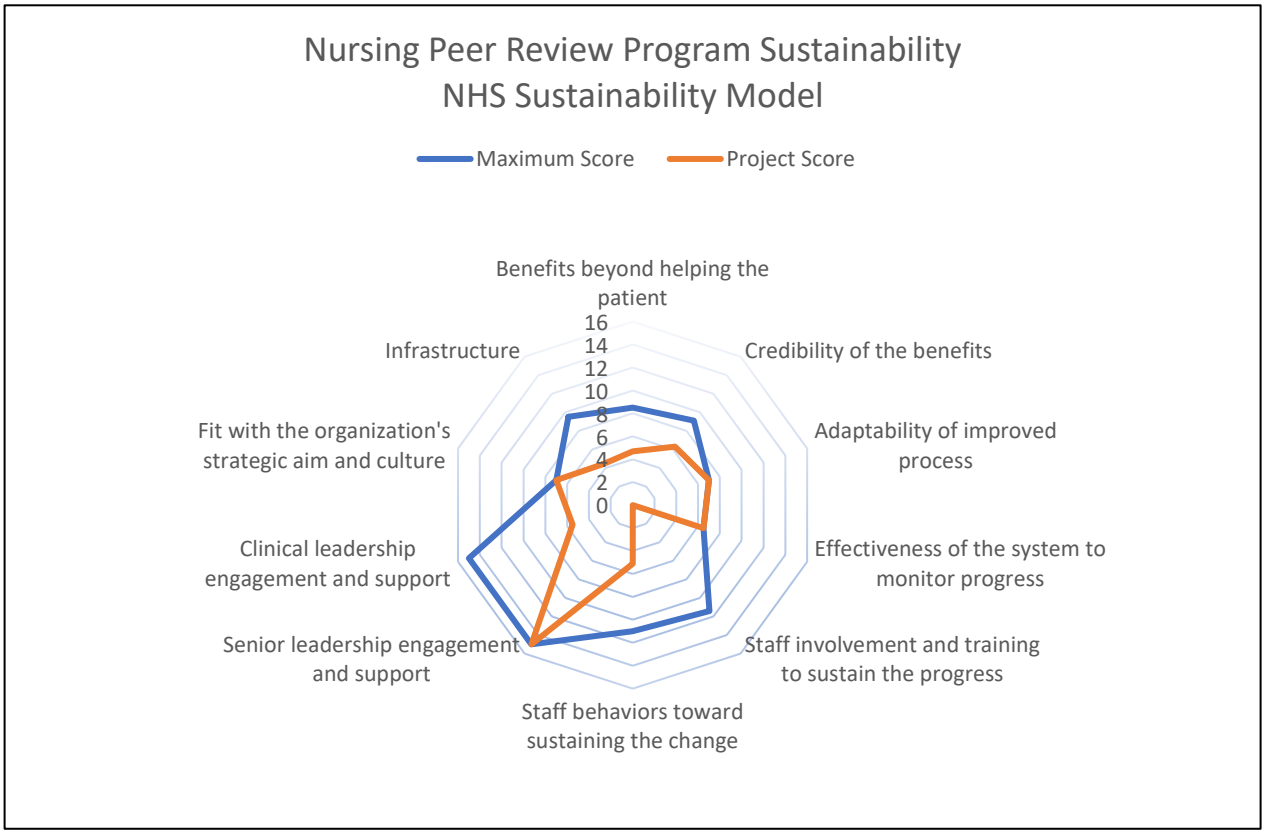
Radar Chart Depicting Reponses to SKAWTGEO Empowerment Survey

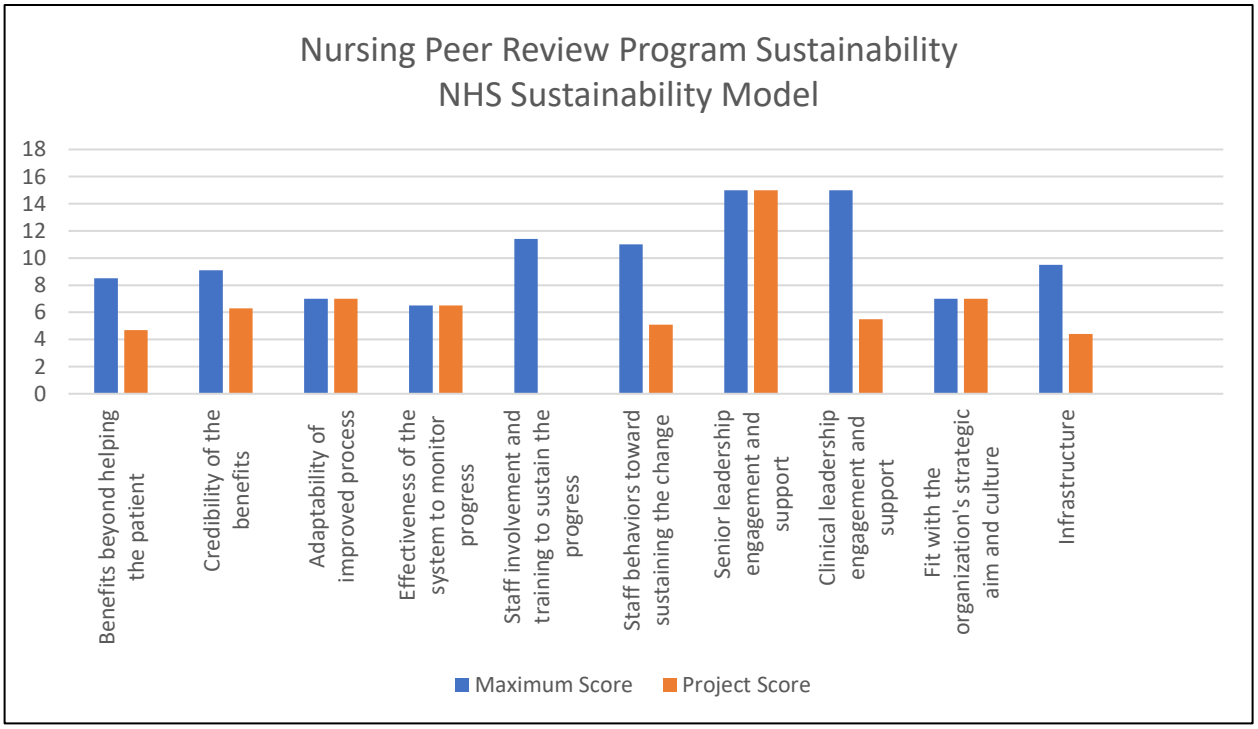


Note: The SKAWTGEO Survey is copyright protected. Questions are blinded in this report to protect copyright status.

Figure 5

Sustainment Activity Portal Diagram and Bar Chart





Appendix A
SWOT Analysis

	Helpful	**Harmful**
Internal Origin {Attributes of the organization}	**Strengths** • Shared core values of Service, Patient First, Integrity, Respect, Innovation, and Teamwork • High Reliability Organization (HRO) framework • Strong and committed leadership • Quality and safety focused organizations • Open and transparent communication • Career advancement and leadership opportunities • Stable nursing turnover and vacancy rates • System Nursing leadership goal to pursue Magnet or Pathway to Excellent designation • Expertise in peer review process • CNO endorsement of the Nursing Peer Review Program	**Weaknesses** • Variability in reaching outcome measures and targets across hospitals and fiscal years • Direct care nurses not consistently involved in improvement efforts • Retrospective review of quality or safety events led by Managers, Directors, Infection Preventionists or Risk Managers who do not "do the work" and may not be intimately familiar with barriers to workflow and unsafe workarounds • No proactive process to review near miss events • No nursing peer review process to increase ownership and accountability for practice and harness the power of peer influence for change • Recruitment challenges related to time commitment • Unit Manager challenges related to staffing and program commitment
External Origin {Attributes of the organization}	**Opportunities** • Programs and culture to support organizational vision and commitment to the communities served • Impact opportunities not previously recognized including transitions of care and social determinants of health • Magnet or Pathway to Excellence Designation • Impact on decreased turnover, nurse vacancy rates, and nursing satisfaction through increased accountability and ownership for practice • Avoidance of claims and lawsuits related to unanticipated events	**Threats** • Changes to reimbursement patterns (Maryland Global Budget Reimbursements and/or changes to the ACA structure) • Adjustments to CMS quality measures • Financial impact of claims and lawsuits related to unanticipated events • World-wide viral pandemic that may affect the ability to hold in person peer review meetings.

Appendix B
Evidence Table

Article #	Author & Date	Evidence Type	Sample, Sample Size, Setting	Study findings that help answer the EBP Question	Observable Measures	Limitations	Evidence Level & Quality
1	Burlison (2016)	Non-experimental descriptive study using a cross-sectional survey design	Data from 223,412 individuals, 967 hospitals and 7816 work areas/units in the United States were evaluated.	Feedback about error, organizational learning, and management support for safety were the most predictive outcomes for assessing the frequency of voluntary reporting of safety events.	• Reporting frequency of near miss reported events. • Reporting frequency of no potential for harm events. • Reporting frequency of potential for harm events.	• Use of a self-report survey for data collection. • Data used for analysis did not evenly sample across units and hospitals , non-responders may have significantly affected results.	Level III Quality A
2	Edwards (2018)	Non-experimental descriptive study	Online survey of 457 United States acute care hospitals to gather normative data on improvement in clinical peer review practices. These hospitals were first studied by volunteer sampling in 2007 or 2009 regarding conformance to a validated quality improvement	The validated QI model showed that standardization of peer review processes, focus on process/system improvement and not blaming, promoting self-report of adverse events, near misses, and system hazards, timely feedback of performance gaps, recognition of clinical excellence, and the connection	• The revised QI model inventory 20-item self-assessment.	• Convenience sampling that prevents projection of confidence intervals for the national population of US hospitals. • Teaching hospitals are over-represented in survey respondents. • Self-reported unaudited data. • Objective measures of	Level III Quality-B

Article #	Author & Date	Evidence Type	Sample, Sample Size, Setting	Study findings that help answer the EBP Question	Observable Measures	Limitations	Evidence Level & Quality
			model that addressed program goals, structure, process, governance, and impact on quality and safety.	between the peer review program and the organization's QI processes positively impact quality and safety.		program activities to improve clinical performance tend to be protected (transparency issues). Potential non-response bias.	
3	Edwards (2018)	Non-experimental descriptive mixed-methods study	270 follow-up participants from an online survey of 457 United States acute care hospitals.	The impact of the implementation of Just Culture is unclear. Just culture is shown to have an association with more effective peer review processes. The study found no correlations with publicly reported safety measures beyond chance improvements.	Associations with Just Culture adoption: • Lower surgical site infections, central line associated blood stream infections, infections from colon surgery, and complication rates following elective total hip, knee arthroplasty, and postoperative wound dehiscence. Just Culture Program impact: • Lower surgical site infections, central line associated blood stream infections, infections from colon surgery, complication rates following elective total hip, knee arthroplasty (*P*=.03), 2015.	• Self-reported data. • Variations in Just Culture definitions among survey respondents. • Lack of random sampling. Confidence intervals cannot be calculated for generalizability of results. • Potential for non-response bias. • Safety culture survey results were not available for the hospital cohort under study. Different time periods and	Level III Quality-C

Article #	Author & Date	Evidence Type	Sample, Sample Size, Setting	Study findings that help answer the EBP Question	Observable Measures	Limitations	Evidence Level & Quality
						scoring formats of Hospital Compare measures.	
4	Herrington (2019)	Quasi-experimental study	Sample of 26 RNs working in pediatric, neonatal intensive care, post-partum and labor and delivery units in a 355-bed acute care Magnet designated hospital in the Midwest.	Implementation of a nursing peer review (NPR) process is a promising and cost-effective way to promote a culture of safety.	The Agency for Healthcare Research and Quality Hospital Survey on Patient Safety Culture, pre-post implementation of the NPR process indicated statistically significant changes in group means for the following questions: 1. Mistakes have led to positive changes around here. 2. Staff will speak-up freely. 3. Non-statistical but clinically significant changes in group means were discovered for the remainder of survey questions.	• Study was underpowered. Power analysis indicated a sample of 31 RNs was required to reach significance level .05 and .5 effect size. • Study focused on pediatric, neonatal intensive care, post-partum and labor and delivery units and may not be generalizable to other settings.	Level II Quality C
5	Kobewka (2017)	Quality Improvement	427 deaths reviewed over a 3 month-period in a tertiary care academic teaching hospital located in Ottawa Canada.	Through a peer review process, hospital deaths were categorized and trended by incidence and opportunities for improvement were identified. Data discovered through this process	• Nurse reviewers rated 66 events and provider reviewers rated 89 events that resulted in death as having opportunities for improvement. • 100 deaths were rated as having opportunities for improvement by at least one reviewer.	• The study was conducted at a single teaching hospital which may limit generalizability. Bias may have resulted in a reviewer evaluating their own case;	Level V Quality-B

Article #	Author & Date	Evidence Type	Sample, Sample Size, Setting	Study findings that help answer the EBP Question	Observable Measures	Limitations	Evidence Level & Quality
				identified gaps in practice and provided an evidence base to guide improvement efforts at the facility.	• Deaths with an identified quality problem had a lower baseline probability of death; a lower probability of being classified as an urgent/emergent case; and a longer length of stay compared to deaths with no quality problem.	hindsight bias might have occurred as the cases were reviewed retrospectively and results that may not have been available at the time of the event were available to the reviewer, and bias may have been introduced though the subjective nature of peer assessment.	
6	Korkis (2019)	Descriptive mixed-methods study	18 RN peer review participants in a 256-bed acute care, unionized, Magnet designated facility located on the Pacific coast	Development of a nursing peer review structure supports the following: 1) nurses in shared-governance, 2) organizational efforts to improve quality through programs such as Magnet designation, and 3) implementation of a Just Culture.	Using a researcher-developed pre-post questionnaire participants were asked to rate their comfort level with the peer review structure and Just Culture principles. Outcomes: 1) Increased staff understanding of the peer review process. 2) Improved staff comfort with the process. 3) Improved staff comfort to initiate key safety conversations. 4) Open ended comments were neutral or positive.	• Although a standardized mentoring process was described, there were no discussions regarding the number of mentors utilized, the mentor's organizational position (direct care or management) or	Level II Quality C

Article #	Author & Date	Evidence Type	Sample, Sample Size, Setting	Study findings that help answer the EBP Question	Observable Measures	Limitations	Evidence Level & Quality
						mentor experience level. • Different mentors may have influenced participant comfort with the peer review process and their perceptions of Just Culture.	
7	Meeks (2014)	Non-experimental descriptive study	Peer review data were analyzed from 135 Veterans Administration (VA) facilities in the United States.	This study could be used as an example to encourage the DNP student's healthcare organization's quality/safety department or research institute to employ similar methods for analysis of safety events entered into the electronic safety event reporting system for identification of peer review opportunities. Alternatively, to scale appropriately, the DNP student could engage the	Referrals for peer review events were defined in descending order as other, mortality during inpatient hospitalization, executive referral, adverse event reports including falls, infections, or complications, mortality review, readmissions, suicide or attempt within 30 days of treatment, major morbidity, and return to surgery.	• Low confidence in the voluntary reporting of safety events (likelihood that all events are reported). • Data was originally collected for administration purposes and not research purposes. • Valuable data in the narrative portion of the reported events was not available for researcher review. • Reported events do not contain	Level III Quality-B

Article #	Author & Date	Evidence Type	Sample, Sample Size, Setting	Study findings that help answer the EBP Question	Observable Measures	Limitations	Evidence Level & Quality
				two-hospital quality and safety department leaders to create reports from the hospitals' safety event reporting system to track and trend nurse entered reports for ranked opportunities for peer review.		patient outcomes or the follow-up peer review decisions. • Conducted in VA facilities and may not be generalizable.	
8	Mehta (2016)	Program Evaluation	Junior and Senior Doctors including consultants in a University Hospital Orthopedic Department in the United Kingdom.	Patient safety incidents (PSIs) can be reduced when safety events are reviewed without blame within the Morbidity and Mortality forum, and actions are identified and implemented based on the discussions.	Following implementation of the six-month PSI safety pilot: • PSIs were reduced. • There was a reduction in trauma and elective PSIs. • The change in overall PSI rate was not statistically significant.	• Researchers could not be confident that all PSIs were reported through the electronic safety event reporting system. • Researchers were unable to confidently correlate the reduction in PSIs to the new PSI pilot only.	Level V Quality B
9	Nolan (2010)	Quasi-experimental study-pre-post design	Sample of 45 ICU RNs attending eleven Morbidity and Mortality Peer Review Conferences (MMPRC)	Participation in MMPRC encouraged professionalism and promoted nurse accountability for outcomes; staff	Measure #1: • Increased nurse accountability. Measure # 2: • Increased staff satisfaction with MMPRC. Measure#3:	• Non-randomized study. • Several nurses attended more than one MMPRC. • <20% of unit staff attendance;	Level II Quality C

Article #	Author & Date	Evidence Type	Sample, Sample Size, Setting	Study findings that help answer the EBP Question	Observable Measures	Limitations	Evidence Level & Quality
			focused on VAP prevention.	indicated satisfaction with the MMPRC process; a cost benefit analysis determined a positive return on investment (ROI).	• No statistically significant difference in VAP incidence pre-post MMPRC implementation. • Compliance with VAP prevention bundle increased pre-post implementation. Measure #4: • Cost effectiveness: $ $12,733 net benefit (one VAP prevented).	results may not be generalizable. • Documentation was used to demonstrate care when nurses did not attend. • Incomplete documentation may present a barrier to preventability decisions. • Short implementation period may have prevented clinical significance in findings.	
10	Roberts (2017)	Non-experimental descriptive study	66 Magnet designated facilities randomly selected across nine US geographic regions.	Of the 41 hospitals reporting a clinical peer review (CPR) program, most reported their NPR structure resembled a case review or RCA process which retrospectively reviewed adverse events only after they occurred. Only three facilities utilized a	• Majority of participating facilities utilizing CPR incorporated some type of measurement to evaluate their programs. • The most common measures were process measures. • Only six organizations reported using true outcome measures such as documentation improvement or improvement in a nurse-sensitive indicator. • Six organizations trended data overtime for analysis	• The survey instrument was designed as an interview outline and some respondents answered questions literally and some were more descriptive. • The person being interviewed may not have been the most	Level III Quality B

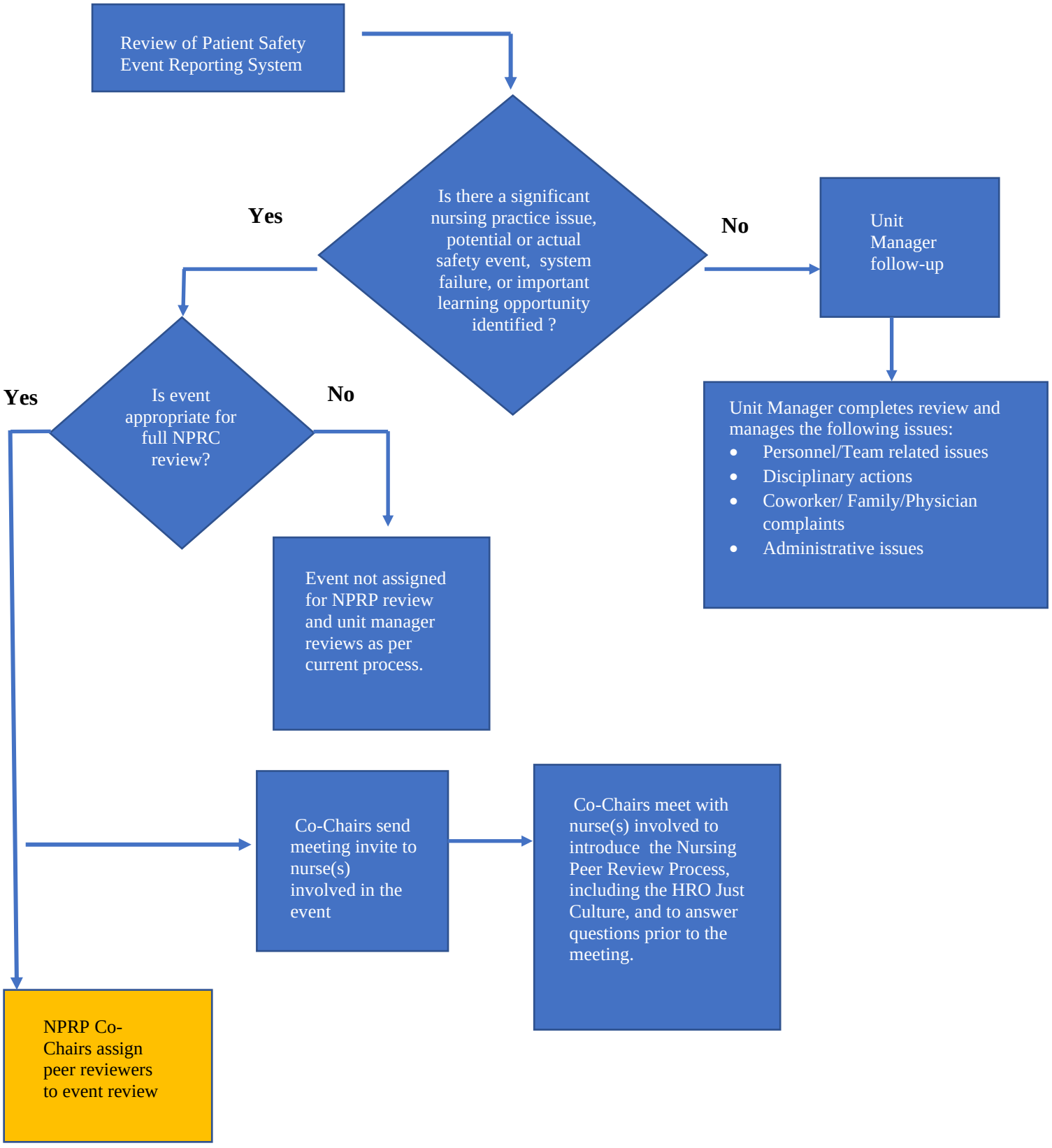
Article #	Author & Date	Evidence Type	Sample, Sample Size, Setting	Study findings that help answer the EBP Question	Observable Measures	Limitations	Evidence Level & Quality
				proactive approach from nurse or nurse council referrals. While most NPR literature promotes accountability for nursing practice and discusses the benefits of NPR on professional growth the authors noted that none of the surveyed facilities measured the impact of NPR on nurse perceptions of accountability, professional development or safety which they suggest as potential measurements for future NPR study.	including nurse demographics, factors contributing to the event, and the severity of the event. • A majority of facilities reported barriers to implementation including peer review being seen as punitive, discomfort with confronting peers about practice gaps, and the time/resources necessary for peer review activities.	knowledgeable about the peer review process in their facility.	
11	Spiva (2014)	Quality Improvement	Nurses in a 5-hospital system in the Southeastern US	The quality improvement project provided a model structure for the development of a peer review committee including an algorithm for case referrals, decision	• A total of 53 cases were referred for nursing peer review during the study period. A total of 38 cases were forwarded for review. • Referral sources included nurse leaders, quality and safety, direct care nurses and patient relations/customer service.	• Although the lead in describes how a peer review structure empowers nurses to create practice change and increases professional accountability	Level V Quality-C

Article #	Author & Date	Evidence Type	Sample, Sample Size, Setting	Study findings that help answer the EBP Question	Observable Measures	Limitations	Evidence Level & Quality
				tree for accepting or rejecting a case for review, a case review template, and a post-review referral tool for communicating decisions to the nurse (s) involved and the nurse manage/ nursing leadership. Referral source counts, standard of care decisions, and most frequent reasons for care deviations were provided. Additionally, examples of positive practice changes were discussed.	Of the cases reviewed, 23 cases found deviations in nursing practice, 3 were found inappropriate for referral (personnel issues), and 12 cases found the nursing care was appropriate.	for practice, no outcome measures that directly assess accountability or empowerment were utilized to evaluate the peer review process. • The effectiveness of the nursing peer review programs structure cannot be generalized to other hospitals. Weak outcome measures.	
12	Whitney (2016)	Non-experimental descriptive study using a causal comparison design	A convenience sample of 85 Chief Nurse Executives (CNEs) employed in acute, post-acute, and ambulatory care settings in 18 US states	CNE survey responses indicate that the most important type of nurse peer review (NPR) activity for improving quality and safety is incident-based peer review (IBPR) followed by the use	• The prevalence of using IBPR for Magnet organizations versus non-Magnet organizations was statistically significant. • At the organizational level, using NPR to implement evidence-based practice between Magnet (75%) and non-Magnet (40%) hospitals was statistically significant.	• Use of convenience sampling that is prone to bias. • Although the sample size was large enough to power the study findings, Magnet-designated	Level III Quality- B

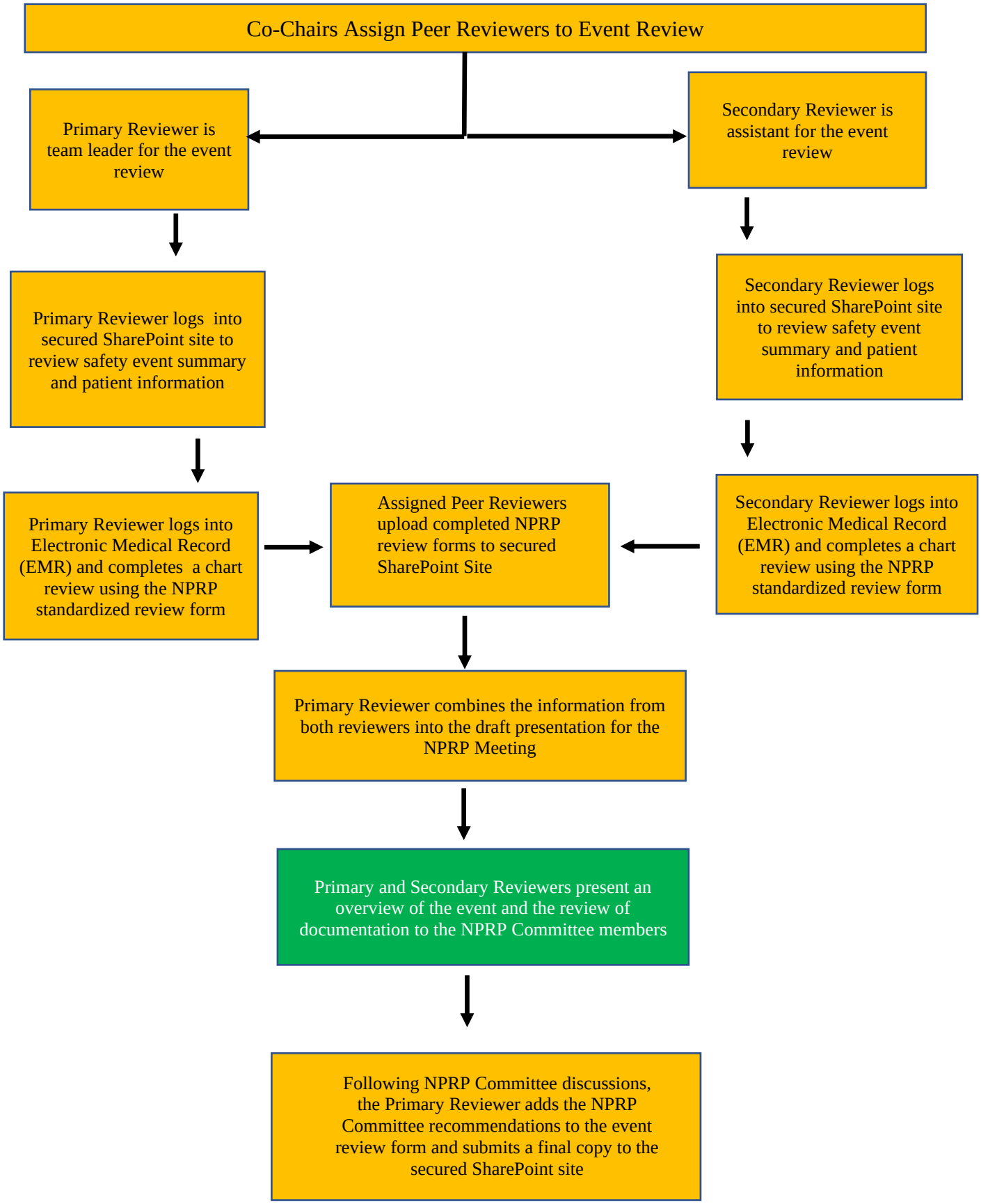
Article #	Author & Date	Evidence Type	Sample, Sample Size, Setting	Study findings that help answer the EBP Question	Observable Measures	Limitations	Evidence Level & Quality
				of NPR to implement new evidenced-based practices, and to conduct individual reviews when a safety concern was raised. NPR remains underutilized as a method to improve quality and patient safety and nurse satisfaction and growth.	• Most CNEs agreed or strongly agreed that NPR impacts nursing autonomy and accountability, practice advancement and quality and safety with no statistically significant differences between Magnet and non-Magnet facilities. • CNEs reported that peer to peer feedback is extremely or moderately important but also reported that nurses would find it difficult or very difficult to deliver.	organizations represented 19% of the sample as compared to the national representation of 8.3%. • Survey recruitment methods included direct mailing to CNE members in Massachusetts which resulted in larger recruitment in this area. Results may not be generalizable to other populations. • Participants self-reported their CNE status for inclusion criteria.	

This assignment is used during the DNP Project Planning Course to evaluate the Table of Evidence. It is adapted from Dearholt, S. & Dang, D. (2018). *Johns Hopkins Nursing Evidence-Based Practice Model and Guidelines*. Indianapolis, IN: Sigma Theta Tau International, Chapters 5,6,7, Appendices D, E, F, and G. Refer to the text for expanded explanation.

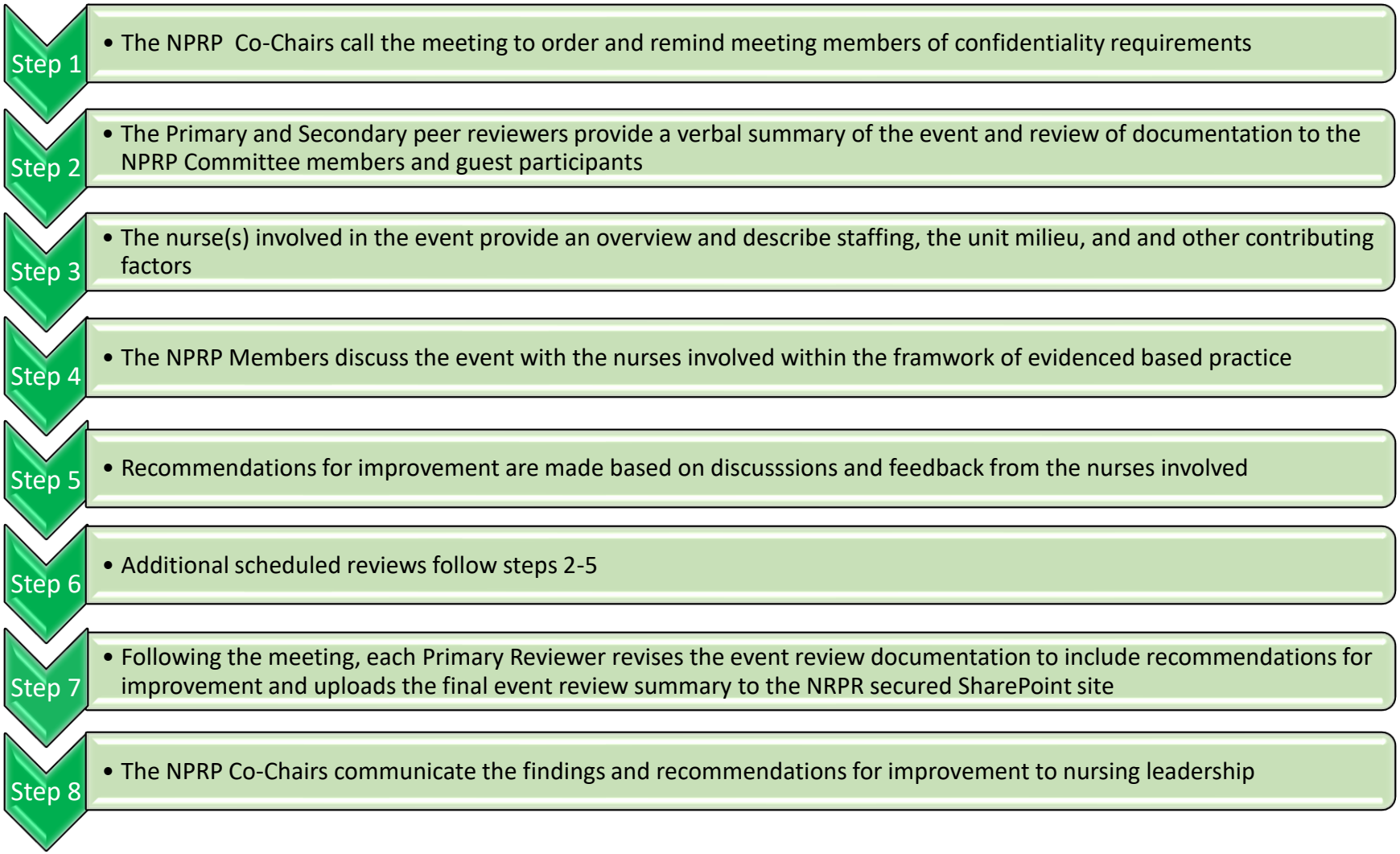
Appendix C
NPRP Event Identification Process Map



Appendix D
NPRP Peer Reviewer Process Map



Appendix E
NPRP Meeting Process Map



Appendix F
3D Accountability Questionnaire

Rate the importance you attribute to each statement on a 7-point Likert scale by placing a checkmark in the appropriate box where 1 = not important at all and 7= very important.	**1** **Not important at all**	**2**	**3**	**4**	**5**	**6**	**7** **Very Important**
Responsibility							
Q1: To be updated with professional literature.							
Q2: To provide all patients in the unit with quality of care.							
Q3: To provide meticulous documentation of all my nursing tasks.							
Q4: To work according to acceptable norms under any circumstance.							
Q5: To help coworkers with their professional tasks.							
Q6: To show complete fit between what I did and what I report.							
Transparency							
Q7: To document my near misses.							
Q8: To report my errors that did not cause harm to patients.							
Q9: To reflect on my unsuccessful nursing tasks.							
Q10: To report adverse events on the unit even if they did not cause harm.							
Q11: To inform the charge nurse of my unsuccessful tasks.							

Rate the importance you attribute to each statement on a 7-point Likert scale by placing a checkmark in the appropriate box where 1 = not important at all and 7= very important.	**1** **Not Important at All**	**2**	**3**	**4**	**5**	**6**	**7** **Very Important**
Q12: To seek feedback from my colleagues about the processes that lead to success at work.							
Q13: To be willing to provide explanations to my leader regarding failures at work.							
Answerability							
Q14: To accept low performance evaluation due to mistakes I made.							
Q15: To be willing to receive negative feedback from my leader regarding my unprofessional tasks.							
Q16: To be answerable for my mistakes (e.g. to take a test on medications in response to a mistake in medication administration).							
Q17: To be willing to justify each of my professional decisions.							
Q18: To be prepared to pay "social costs" for taking initiatives to improve work processes on the unit.							
Q19: To be prepared to bear any negative consequences of my professional decisions and acts.							

Permission to use 3D Accountability Questionnaire obtained from Anat Drach-Zahavy on 2/23/20.

Drach-Zahavy, A., Leonenko, M., & Srulovici, E. (2018). Towards of measure of accountability in nursing: A three-stage validation study. *J Adv Nurs*, *74*, 2450–2464. https://doi.org/10.1111/jan.13735

Permission to include 3D Accountability Questionnaire in this document obtained from Anat Drach-Zahavy on 2/25/21.

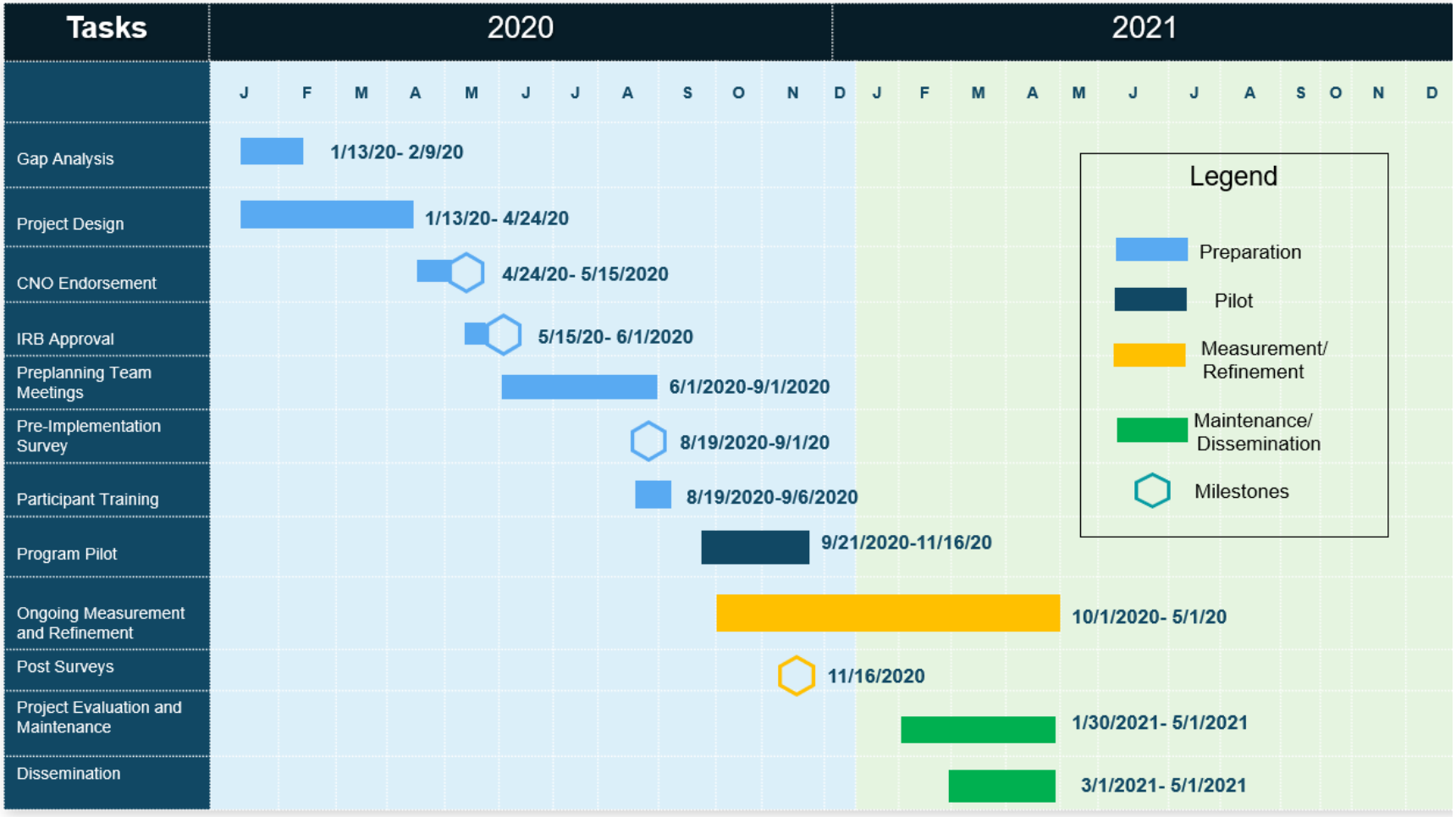
Appendix G
SIELOFF-KING Assessment of Work Team/Group Empowerment Within Organizations © Survey

Note: The SKAWTGEO Survey is copyright protected. Appendix G has been removed from this report to protect copyright status.

Permission to use survey for NPRP participant empowerment assessment obtained from Christina Sieloff on 4/11/2020.

Sieloff, C., Downey, M., & Muller, R. (2018). Nursing group empowerment: Instrument revision. *Journal of Nursing Measurement*, *26*(1), 5–19. https://doi.org/10.1891/1061-3749.26.1.5

Appendix H
Project Timeline



Appendix I
NPRP Cost Sheet

NPRP Cost Sheet				
Training				
	Hours/Participant	Total Hours	Average Salary/Participant	Total Costs
Participants (16)	8	128	$32.00	$4,096.00
Co-Chairs	8	16	$34.00	$544.00
Educator (1)	8	8	$45.00	$360.00
NPRP Liaison (1)	8	8	$45.00	$360.00
		160		
				$5,360.00
Monthly Meeting time				
Co-Chairs (2)	4	8	$34.00	$272.00
Participants (16)	2	32	$32.00	$1,024.00
Peer Reviewer (2)	6	12	$32.00	$384.00
Educator (1)	2	2	$45.00	$90.00
NPRP Liaison (1)	4	4	$45.00	$180.00
Guest Nurses (2)	1	2	$32.00	$64.00
		60		
				$2,014.00
Backfill Staffing Direct Care Hours				
Training		144	$32.00	$4,608.00
Monthly Meeting		54	$32.00	$1,728.00
				$6,336.00
Miscellaneous				
Survey Tool				$100.00
			Total Training Cost (Including Backfill Direct Care Hours)	$9,968.00
			Total Monthly Meeting Cost (4 months)	$8,056.00
			Backfill Direct Care Hours Monthly (4 Months)	$6,912.00
			Miscellaneous	$100.00
				$25,036.00

Appendix J
LOGIC MODEL: Nursing Peer Review Program (NPRP) Evaluation Plan

SITUATION	INPUTS	ACTIVITIES	PARTICIPATION	EXPECTED OUTCOMES		
				Short Term	Medium Term	Long Term
• The Institute of Medicine's report "*To Err is Human*" revealed the impact of safety gaps on patient harm in US hospitals (Kohn, Corrigan, & Donaldson, 1999). • Professional peer review improves organizational quality and safety and can ultimately reduce the risk of harm to patients (George and Haag-Heitman, 2015; LeClair-Smith, et al., 2016; Thielen, 2014). • No peer review process exists for professional nurses at two Mid-Atlantic Hospitals.	*What we invest* • DNP-student project leader. • Two Clinical Ladder Nurse co-chairs. • One NPRP Liaison. • 15 direct care nurses. • Time, money, and resources for: -Peer review training. -Monthly NPRP meetings.	*What we do* • Conduct a needs assessment /SWOT analysis. • Conduct a comprehensive literature review. • Hold focus groups. • Create an evidenced-based NPRP guideline. • Create NPRP participant training. • Pilot NPRP • Track structure, process, and balancing measures. • Revise program as needed • Administer pre-post pilot surveys.	*Who we reach* • Nursing Leadership • Direct Care Nurses • Nursing Educators • Risk Managers • Providers • Safety Team Members • Quality Team Members • Nursing Informaticists • Hospital Leadership	• NPRP pilot approved by Chief Nursing Officer and IRB. • Successful recruitment of NPRP participants. • NPRP participant training complete.	• NPRP monthly meetings held. • NPRP participants attend meetings. • Nurse-related safety events reviewed. • Feedback and recommendations for improvement provided to nursing leadership.	• Improvement in NPRP participants' perceptions of accountability for nursing practice. • Empowerment of NPRP participants to meet workgroup objectives and lead change within the organization. Post pilot outcomes: • Increased NPRP referrals. • Increased participation from bedside nurses. • Improved nurse related quality and safety indicators.

ASSUMPTIONS
-Executive and Nursing Leadership support.
-Quality and Safety are top priorities.
-Communication is open and transparent.
-HRO and Just Culture principles are embedded into the culture.

EXTERNAL FACTORS
- Global pandemic may affect ability to hold in-person meetings.
-Regulatory changes/adjustments may impact current safety processes and measures.
-Reimbursement patterns may affect hospital revenue and place this program at risk.
-Financial impact of claims or lawsuits related to safety events.

Appendix K
Application to Participate

Purpose of the Program:
The purpose of the Nursing Peer Review Program (NPRP) is to design and implement a structured evidenced-based peer review process for nurses at the sites of interest to evaluate the quality and safety of their professional practice and to improve the effectiveness of their care.

Program Design and Implementation
The NPRP is being designed and implemented as part of a DNP-student project. The program is expected to continue beyond the pilot period to provide direct care nurses a continued process for evaluating the quality and safety of their professional practice.

Program Activities
The following are activities associated with the NPRP pilot:

1. Participation in a confidential and anonymous demographic survey.
2. Participation in a confidential and anonymous pre-program implementation survey to measure your baseline perception of professional accountability for practice.
3. Participation in 8 hours of training in peer review processes.
4. Participation in review of nurse related near-miss or safety events through monthly peer review meetings (2 hours/month). This will include review of patient electronic data and the organizations' safety event information as guided by current organizational policies/procedures.
5. Participation in anonymous post-program implementation surveys (2) to measure your perception of professional accountability for practice and feelings of empowerment to lead organizational change at the end of the program pilot.

Enrollment
All direct care nurses, regardless of level of education or years of experience, will be eligible to apply for program participation. Nurses in management positions or non-direct care clinical positions will be excluded. To ensure sufficient representation, the CNO will retain final decision-making authority regarding appointments to the NPRP so that each care area is adequately represented and there is a range of experience and educational levels to support the program. If selected for participation, you will receive a letter of appointment from the Chief Nursing Officer.

Reimbursement
Training and monthly meetings will be compensated as meeting time.

Application to Participate in Nursing Peer Review Program

Yes, I would like to participate in the Nursing Peer Review Program.
I understand that I will be required to attend an 8-hour training session in Nursing Peer Review processes and will be required to attend monthly NPRP meetings (2 hours/month).
Training sessions are tentatively scheduled for August 2020. Monthly NPRP meetings will begin on September 21, 2020 and will continue monthly on the 3rd Monday of every month. Monthly meetings will be held from 9am-11am.

Name of Applicant: _____

Hospital: _____

Unit Assigned: _____

Manager/Director: _____

Please return this application to your Manager/Director.

Note: Identifiable information was removed from this document.

Appendix L
Consent to Participate

Title of program:

Implementation and Evaluation of a Nursing Peer Review Program in a Multi-Hospital Setting

Program Developer:

Joan L. Goss MS, RN, ACNS-BC

Key Information: The following is a short summary of the program to help you decide whether or not to take part. More detailed information is listed later in this form.
The purpose of this program is to provide nurses with a structured and evidenced-based process to evaluate their professional practice and to provide an avenue to proactively identify and implement safety interventions to improve the quality and effectiveness of nursing care. Additionally, baseline and retest surveys will assess the effect that participation in a Nursing Peer Review Program (NPRP) has on participants' perceptions of professional and organizational accountability and workgroup empowerment to lead change.

Why am I being invited to take part in this program?
You are invited to take part in this program because you are a direct care nurse employed at the sites of interest. If interested, you will be asked to complete an application form to participate in the NPRP and following the pilot period, as an ongoing member of the Nursing Peer Review Committee.

What should I know about this program?
Whether or not you take part is up to you.
You can choose not to take part.
You can agree to take part and later change your mind.
Your decision will not be held against you.
You can ask all the questions you want before you decide.

Why is this program being implemented?
The purpose of this program is to provide nurses with a structured and evidenced-based process to evaluate their professional practice and to provide an avenue to proactively identify and implement safety interventions to improve the quality and effectiveness of nursing care within the hospitals. Additionally, as part of the program evaluation, we will be measuring the effect that participation in a Nursing Peer Review Program (NPRP) has on participants' perceptions of professional and organizational accountability and workgroup empowerment to lead change.

How long will the program last and what will I need to do?

We expect the pilot portion of this program will span 4-5 months. The NPRP is then expected to continue meeting on a monthly basis as a hospital nursing committee to further the expand the work implemented during the pilot period.

As part of the program pilot, you will be asked to provide demographic information such as age, gender, years of experience, level of education, work area assignment, whether you are currently working on a degree, and if you retain a certification in a nursing specialty. During the pilot, you will actively participate in nursing peer review activities and as part of participation you will be asked to complete a pre- NPRP implementation survey and two post-NPRP implementation surveys.
More detailed information about the program procedures can be found under ***"What happens if I say yes, I want to be part of this program?"***

Is there any way being in this program could be bad for me?
Possible risks or discomforts you could experience during this program include loss of confidentiality or psychological stress when participating in peer review activities or when answering survey questions. The risks are expected to be minimal.
More detailed information about the risks of this program can be found under ***"Is there any way being in this program could be bad for me? (Detailed Risks)"***

Will being in this program help me in any way?
We cannot promise any benefits to you or others from your taking part in this program. However, possible benefits from your participation may lead to improvements in nursing quality and work group empowerment to lead change at your organization

What happens if I do not want to be part of this program?
Participation in this program is completely voluntary. You can decide to participate or not to participate.

Detailed Information: The following is more detailed information about this program in addition to the information listed above.

Who can I talk to?
If you have questions, concerns, or complaints, or think the program has hurt you, talk to the program leader at ----------.
This program has been reviewed and approved by an Institutional Review Board ("IRB"). You may talk to them at: -------- if:
Your questions, concerns, or complaints are not being answered by the program leader.
You cannot reach the program leader.
You want to talk to someone besides the program leader.
You have questions about your rights as a program participant.
You want to get information or provide input about this program.

How many people will be participating?
We expect about 16 people will be included in this program pilot.
What happens if I say yes, I want to be in this program?
You will complete an anonymous demographic survey to collect information such as age, gender, years of experience, level of education, work area assignment, whether you are currently working on a degree, and if you retain a certification in a nursing specialty.
You will complete an anonymous pre-NPRP implementation survey that asks questions about your perception of professional and organizational accountability.

You will receive 6-8 hours of training in Nursing Peer Review expectations and standard peer review processes.
You will attend monthly meetings (2 hours) with other NPRP participants to complete Nursing Peer Review Committee event reviews.
You may be assigned to complete a review of a nurse related safety-event. If so, you will complete the meeting preparation material as instructed in your training session.
At the end of the implementation period (September 2020- December 2020) you will complete an anonymous post- NPRP implementation survey that asks questions about your perceptions of professional and organizational accountability and an additional survey that asks questions about your feelings of empowerment to meet group goals and lead change in your organization.

What happens if I say yes, but I change my mind later?
You can leave the program at any time and it will not be held against you.

Is there any way being in this program could be bad for me? (Detailed Risks)
Possible risks or discomforts you could experience during this study include loss of confidentiality or psychological stress when participating in peer review activities or survey participation. These risks are expected to be minimal.

Loss of Confidentiality. Review of safety events requires the ability of participants to be transparent with their thoughts, feelings, judgments, and actions. There is an inherent risk that confidential discussions and participants' thoughts about the event will be shared outside of the confines of the protected meeting.

Psychological Stress. Peer review activities are conducted within a small group environment with the purpose of discussing safety events which may or may not have caused harm to a patient or provider. These discussions evaluate human activities and often incorporate emotional and psychological components. Past experiences, values and moral judgments are an integral part of peer review and psychological stress may develop as a result of participation in emotional discussions. Additionally, moral distress may develop when an ethically correct action is identified by the reviewer/participants but due to constraining factors, was unable to be achieved by the nurse/staff involved in the event.

Participating in Professional Accountability Survey Questions. The professional accountability survey asks participants to rate their perceptions regarding the importance of responsibility, transparency, and answerability within their professional work environments. While every effort will be undertaken to maintain the confidentiality of survey participants, there is a risk that responses could impact a participant's reputation should confidentiality be breached. Every effort will be made to keep your information confidential. Your demographic data will be collected separately from survey data, and all surveys will be completed anonymously. There will be no information collected on any survey that will directly link to you. If results of this program pilot are reporting in journals or conferences, the people who participated will not be identified.

What happens to the information collected for the program pilot?
Your information that is collected as part of this program pilot will not be used or distributed for future research or program activities, even if all of your identifiers are removed.
The results of this program may be used for teaching, publications, or for presentation at scientific meetings.

Unless you revoke your consent, it will expire at the end of the program pilot and program evaluation period.

Your signature documents your application to take part in this program.

Signature of applicant	Date
Printed name of subject	
	Date
	IRB Approval Date

Note: Identifiable information was removed from this document.

Appendix M
NPRP Final Cost Analysis

NPRP Cost Sheet				
Training				
	Hours/Participant	Total Hours	Average Salary	Total Costs
Participants (12)	8	96	$42.21	$4,052.16
Co-Chairs (2)	8	16	$44.74	$715.84
Educator (1)	4	4	$52.79	$211.16
NPRP Liaison (1)	8	8	$60.62	$484.96
				$5,464.12
Meetings				
	Hours/Participant/Month	Total Hours (4 meeting)	Average Salary	Total Cost
Participants (12)	2	96	$42.21	$4,052.16
Co-Chair (2)	2	16	$44.74	$715.84
Peer Reviewer prep (4)	2-8	55	$42.21	$2,321.55
Co-Chair prep (2)	2-5	19	$44.74	$850.06
Educator (1)	2	6	$52.79	$316.74
NPRP Liaison (1)	2	8	$60.62	$484.96
NPRP Liaison prep (1)	2	8	$60.62	$484.96
Guest Nurses (2)	0	0	$0.00	$0.00
				$9,226.27
Backfill Staffing Direct Care Hours				
Training		112	$42.21	$4,727.52
				$4,727.52
Miscellaneous				
Survey Tool				$100.00
			Total Training Cost (Including Backfill Direct Care Hours)	$10,191.64
			Total Monthly Meeting Cost (4 months)	$9,226.27
			Miscellaneous	$100.00
				$19,517.91