

Ring-fencing: A Strategy to Enhance Elective Surgery Performance

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Abstract

Background and Significance: The use of protected elective surgical units (PESU), also known as “ring-fenced” units for elective surgery, refers to reserving hospital beds specifically for patients undergoing elective or non-emergent procedures. A ring-fenced elective orthopedic unit is only open to patients admitted to the hospital to undergo elective orthopedic procedures as they have been previously screened for methicillin-resistant *Staphylococcus aureus* (MRSA) and staffed by a dedicated team of nurses and therapists. By providing a separate area for elective surgeries, the primary benefits of protected elective surgical units are their ability to reduce the risk of infection and improve patient outcomes. **Purpose:** This project aims to reduce surgical site infections (SSI), decrease length of stay (LOS), and improve satisfaction by ring-fencing elective surgery patients. **Methods:** This evidence-based practice project was conducted at a Midwestern hospital. Patients were eligible if they were undergoing an elective procedure during the timeframe of this project. **Evaluation:** Data was collected utilizing valid data from the electronic health records of patients included in this project. This project also used the organization's Michigan Arthroplasty Registry Collaborative Quality Initiative (MARCQI) data. **Outcomes:** Outcomes for this project include decreased SSI, decreased LOS, and increased patient satisfaction. **Implications/Conclusion:** This project will show that admitting patients to a ring-fenced unit after elective surgery improves patient outcomes.

Keywords: elective surgery, ring-fencing, PESU, dedicated elective surgical unit, surgical site infection, SSI

Ring-fencing: A Strategy to Enhance Elective Surgery Performance

The use of protected elective surgical units (PESU), also known as “ring-fenced” units for elective surgery, refers to reserving hospital beds specifically for patients undergoing elective or non-emergent procedures (Bevan Commission, 2022). A ring-fenced elective orthopedic unit is only open to patients admitted to the hospital to undergo elective orthopedic procedures as they have been previously screened for methicillin-resistant *Staphylococcus aureus* (MRSA) and staffed by a dedicated team of nursing and therapists (Soler et al., 2013). Only elective patients with negative MRSA swabs are admitted, and patient care is based on an Enhanced Recovery Program (ERP), which is highly protocol-driven and follows strict, well-established infection control measures (Soler et al., 2013). No patient with uncertain swab results, trauma, or patients living in nursing or residential homes would be admitted to this unit (Soler et al., 2013).

Ring-fencing ensures that these patients receive timely and efficient care without being impacted by emergency or urgent cases that may take precedence in a general hospital setting. This approach is often adopted to reduce waiting times for elective procedures, improve patient outcomes, and provide a more predictable and efficient use of hospital resources (Bevan Commission, 2022). By ring-fencing beds for elective surgery, healthcare organizations can better manage their capacity and resources, leading to optimal patient and organizational outcomes.

Ring-fencing has also been shown to help reduce the risk of infections spreading among hospitalized patients (Nixon et al., 2006). By separating elective surgical patients from emergency patients, hospitals can reduce the risk of infection transmission and improve patient safety (Nixon et al., 2006). Ring-fenced elective orthopedic units were initially developed to decrease MRSA infection in total joint arthroplasty (Soler et al., 2013). Biant et al. (2004) found

that ring-fenced units had reduced overall infection rates and eradicated MRSA infections. This midwestern hospital surgical, 33-bed unit does not practice ring-fencing, and the orthopedic administrative leadership would like to implement this practice as part of an expanded surgical site infection (SSI) bundle. This evidence-based practice project aims to reduce SSI, decrease the length of stay (LOS), and improve satisfaction by ring-fencing elective surgical patients.

Background and Significance

Perhaps the most significant problem associated with TJA is the one we understand the least: periprosthetic joint infection (PJI). PJI has the potential for catastrophic outcomes, such as loss of limb or life, and ranks as the most common reason for failure in TKA and 3rd for THA (Abdeen et al., 2022). The incidence of PJI is between 1-2% and is projected to increase as the population ages and the demand for TJA surgery rises (Akindolire et al., 2020). Given this projected increase, effective, evidence-based prevention measures must be implemented to prevent a simultaneous rise in the prevalence of PJI (Abdeen et al., 2022).

Revision surgery is often the treatment used to address PJI, which can lead to permanent implant removal, prolonged antibiotic therapy, fusion, or amputation (Abdeen et al., 2022). In North America, two-stage revision surgery remains the gold standard in treating PJI (Akindolire et al., 2020). Of note, PJI is associated with a mortality rate of 7% between the first and second stages of revision, which is higher than several cancers, as reported in one study by Berend et al. (2013). Treatment costs for patients include time lost from work, productivity, and impacts on family and friends and amount to a substantial economic burden, with the combined annual hospital costs in the US estimated to be \$1.85 billion by 2030 (Abdeen et al., 2022). These costs are primarily related to the length of hospital stay, operating room expenses, implants, and inpatient resource use (Akindolire et al., 2020). The implant-related biofilm is the most

challenging aspect of preventing and treating PJI, as the number of bacteria needed to induce infection is 1,000 times lower in the presence of an implant, such as those used in orthopedic surgery and TJA. Because of this, prevention strategies should be implemented in all stages of care: before, during, and after the surgical intervention (Fontalis et al., 2021).

Patient-to-patient transmission of infection in hospitals occurs through transiently infected hospital staff, contaminated surface contact, and airborne dispersal and isolation measures play a crucial role in interrupting transmission (Barnes et al., 2019). Although the role of contact isolation in infections other than those caused by multi-drug resistant organisms (MDRO) has not been studied, it is standard protocol to keep such patients isolated from those undergoing elective procedures (Barnes et al., 2019).

Ring-fenced units are separate areas for elective surgeries that can reduce transmission of infection and improve patient outcomes (Nixon et al., 2006). A study by Knepper et al. (2018) found that using a protected elective surgical unit significantly reduced the incidence of surgical site infections (SSI) and other complications in colorectal surgeries. Another study found a significant reduction in the crude SSI rate from 117 (8%) to 42 cases and a statistically significant reduction in the SSI rate for elective surgery, 7.6% vs. 2.5% ($p < 0.001$; Piggott et al., 2013). Outside of the introduction of ring-fencing, all other contributing variables, such as hospital visiting policy, hand hygiene compliance, antibiotic prophylaxis, surgical volume, patient demographics, and hospital processes remained unchanged. This data provides supportive evidence that ring-fencing is an appropriate patient-orientated strategy (Piggott et al., 2013). The current SSI rate for total joint arthroplasty at this facility is 1.3%, which is higher than the mean SSI rate of the Michigan Arthroplasty Registry Collaborative Quality Initiative (MARCQI) of 1.02% (L. Lamey, personal communication, April 21, 2023). In 2021, the number of PJI for TJA

at this organization was 11. After implementing a preoperative SSI bundle, that number decreased to 8 PJI in 2022. Even with the recent implementation of the SSI bundle, this organization still had the highest SSI rate within the collaborative (L. Lamey, personal communication, April 21, 2023).

In addition to improving safety, ring-fencing can increase efficiency and reduce costs (Kjekshus & Hagen, 2005). By streamlining the surgical process, ring-fenced units can reduce the time and resources required for elective surgeries, leading to cost savings for patients and healthcare organizations (Kjekshus & Hagen, 2005). A 17% increase in arthroplasties can be realized without increasing the number of operating rooms, beds, or surgeons due to fewer post-operative complications, more predictable bed occupancy, and not having beds utilized for extended periods by trauma and non-orthopedic patients (Biant et al., 2004). The increase was strictly related to better planning with more accurate predictions of bed occupancy and the efficiency of a highly protocolized environment managed by the dedicated staff (Soler et al., 2013). Confidence in the predictability of patients' LOS may aid in more efficient bed management (Barlow et al., 2013).

According to staff working in ring-fenced units, patients were seen by therapists and were out of bed on the day of surgery. Without having the pressure of accepting unplanned trauma admissions and their inevitable related distractions, nurses were able to support and encourage patients to be more independent (Joseph et al., 2022). Whereas in mixed units, the high levels of dependency of trauma patients, who are often elderly, often means that they take priority over the mobilization of arthroplasty patients (Barlow et al., 2013). However, poor utilization of ring-fencing and admitting non-elective patients, or placing elective TJA patients in other general medical units, results in a statistically significant increase in LOS of 1.89 days, which translates

into approximately a 6.82% loss of revenue per case (Soler et al., 2013). Comparably, a study conducted by Barlow et al. (2013) found that the reduction in LOS of 222 patients managed in a ring-fenced unit made almost 444 bed days available for other patients. Thus, ring-fencing is crucial in generating revenue for hospitals by helping decrease the LOS in TJA (Soler et al., 2013).

The benefits of ring-fencing outlined in the literature have been substantial. Patients who undergo surgeries in these units often report higher satisfaction levels due to the improved safety and efficiency of the process (Husted et al., 2008). Husted et al. (2008) further explained that the increased patient satisfaction was because the patients undergoing primary TJA were admitted to a fast-track, specialized, elective joint replacement unit. Ring-fenced units are distraction-free zones where surgical patients receive the proper care at the right time, offering them the best outcome and experience possible (Bevan Commission, 2022).

As hospitals face resource strains due to rising patient complexity, volume, and acuity alongside pandemic-related stresses and lost revenue from canceled surgeries, the significance of ring-fencing in elective surgery lies in improving patient outcomes and reducing healthcare costs. Ring-fenced units are cost-effective because the patients have been pre-assessed and their medical comorbidities optimized as much as possible before surgery (Soler et al., 2013). According to Joseph et al. (2022), no patients cared for in ring-fenced units had any readmissions or revision surgeries.

ORs generate substantial hospital revenue, but inefficiencies lead to elective surgery cancellations, disrupting workflows and impacting provider morale across departments, while delays in medically necessary surgery worsen health outcomes (Koh et al., 2021). Surgical cancellations significantly affect patients and families as many have taken time off work,

traveled long distances, and rearranged their schedules in anticipation of their upcoming surgery, only to have it canceled at the last minute, leaving patients disappointed, frustrated, and dissatisfied (Koh et al., 2021). Cancellations can be as high as 39%, and evidence suggests that most surgical cancellations are administrative and, therefore, preventable (Koh et al., 2021). According to data collected by Joseph et al. (2022), ring-fencing can assist hospitals in decreasing these cancellations and ensure that patients receive timely care, reducing the risk of complications and improving outcomes. Based on these findings, using a ring-fenced orthopedic unit would be consistent with the financial rationale and improvement in expected patient-reported outcome measures (PROMS) (Soler et al., 2013).

Two of the strategic goals outlined by this organization for 2023 include decreasing LOS for all patients and increasing surgical volumes. According to data abstracted from MARCQI, this organization's LOS for TJA is 1.8 days, which is above the collaborative LOS of 1.2 days (L. Lamey, personal communication, April 21, 2023). As previously mentioned in this report, the implementation of ring-fencing alone has increased surgical volumes while decreasing LOS. This added surgical volume could amount to a significant increase in revenue for the organization.

When looking at the results of LOS, PROMS, complications, and readmissions, it is evident that ring-fencing was not only safe, but also an effective way to deliver care. If ring-fencing were implemented at this facility, it may be a way for the organization to achieve those strategic goals without significant impact in other areas. Interestingly, the data collected by Joseph et al. (2022) showed that even a small eight-bed protected surgical unit could function much more effectively with good functional outcomes than a general hospital unit susceptible to seasonal illness and emergency admissions.

Organizational Assessment

The organization's mission is “To improve the health of the people in our communities by providing quality, compassionate care to everyone, every time” (Sparrow, 2023, Mission section). The organization's vision is “To be nationally recognized as a leader in quality and patient experience.” The organization's values include innovation, compassion, accountability, respect, and excellence (Sparrow, 2023).

A strengths, weaknesses, opportunities, and threats (SWOT) analysis of the organization was completed, which can be found in Appendix E. The organization's strengths include an engaged surgeon group focused on providing high-quality care based on current evidence. This organization currently performs TJA surgery with a dedicated OR and recovery unit, and an existing orthopedic/medical-surgical unit with nursing, therapy, and other staff well-versed in caring for the patient population. The orthopedic/medical-surgical unit has implemented two process improvement initiatives: a throughput process to decrease LOS for elective surgical patients and the other focuses on reducing SSI. Lastly, the organization's overarching goal is to increase surgical volume, which could be accomplished by implementing ring-fencing. It is worth noting that this organization has an established Quality Improvement and Process Improvement department that could be leveraged to bolster the success of this project.

Weaknesses identified within the organization include poor surgeon satisfaction, which has led to turnover and decreased surgical volumes. Additionally, inefficient scheduling of surgeries leads to inconsistent daily surgical volume throughout the week. It has been conveyed that many patients report the unit is loud and other patients are disruptive, which leads to poor patient satisfaction. There is also no formal process or policy for dedicating beds for elective surgery patients or the placement of those patients. This often leads to confusion for staff and

elective surgical patients are sometimes placed in semi-private rooms with non-elective patients. Placing elective surgical patients in a semi-private room with non-elective patients may also contribute to decreased patient satisfaction and could contribute to complications, such as SSI.

Opportunities exist to improve OR scheduling and efficiency. There is also an opportunity for this organization to set itself apart from competing hospitals by having a ring-fenced unit. Other opportunities include the development of policies and protocols for the placement of TJA patients to decrease confusion among staff and other departments.

The threats to the organization include a global pandemic that saw hospitals pushed to capacity or overcapacity and forced the cessation of elective surgical procedures. The pandemic can also be partially blamed for this organization's current staffing crisis. However, the biggest threat to the organization is the existence of ambulatory surgical centers performing elective surgeries and a competitor that recently constructed a new hospital.

Root Cause Analysis

A root cause analysis was also conducted to identify why ring-fencing of elective surgical patients was not currently utilized at this organization, which can be found in Appendix F. Contributing factors include organizational processes that prioritize the placement of non-elective patients ahead of patients scheduled for elective surgical procedures. This is secondary to the hospital operating at or near capacity, which leads to a backup of emergency department patients awaiting inpatient beds. There is also a lack of knowledge regarding the most recent evidence and best practices that speak to the benefits of ring-fencing. This leads to the belief among hospital leadership that surgeon preference necessitates patient placement away from other non-elective patients and not current evidence. At this facility, the Patient Placement department controls the bed assignments, which has stripped individual units of the autonomy to

control the flow of patients in and out of their respective units. This is coupled with nursing staff who currently feel powerless when it comes to advocating for the prioritization and placement of elective surgical patients.

Framework

The framework selected to guide this evidence-based practice work is the Iowa Model. This model was chosen because it is a widely used framework for implementing EBP and guides clinical decision-making and EBP process from both the clinician and systems perspectives (University of Iowa Hospitals & Clinics, 2023). The model begins by identifying a triggering issue or opportunity that initiates the EBP process. The next step is determining if the topic is a priority (University of Iowa Hospitals & Clinics, 2023). In this case, the organization has outlined in the strategic plan that increasing surgical volumes and decreasing LOS and SSIs are priorities for the organization. A synthesis of the evidence will be conducted to determine if sufficient evidence exists to conduct a pilot and adopt the change into practice (University of Iowa Hospitals & Clinics, 2023). In addition, the Iowa model provides a clear path for using evidence to guide practice and optimize outcomes, which are essential aspects of CNS practice (Hanrahan et al., 2019).

PICO

Evidence-based practice requires clinicians to use the best available research to aid in decision-making. To do this efficiently, the researcher must ask a well-designed clinical question that leads to relevant research (Oregon Health & Science University, 2019). In nursing, this question usually follows a PICO(T) format. PICO(T) stands for Population, Intervention, Comparison, Outcome, and Time (Michigan State University Libraries, n.d.). The PICO question

developed for this project is: In elective surgical patients, how does admission to a ring-fenced unit compared to admission to a general bed affect LOS and SSI?

Search Strategy

A search strategy utilizing the PICO question above was conducted using the Cumulative Index to Nursing and Allied Health Literature (CINAHL) and PubMed on April 22, 2023. The initial search was limited to full-text articles in English within the last five years. Keywords included: ring-fenc*, protected elective surgical unit, dedicated elective surgical unit, surgical site infection, and length of stay. This initial search only yielded two articles. The search timeline was expanded to all available studies between 1997 and 2023. A search using only “ring fenc*” yielded 113 results in PubMed and 101 in CINAHL. After excluding articles focused on funding, budgets, or aid, the search yielded 27 articles in CINAHL and a similar number of articles in PubMed. After adding the keyword “elective,” the search returned 11 articles, 8 of which are included in the literature synthesis.

Review of Literature

Articles were reviewed and analyzed by design, purpose, sample, setting, methods, results, evidence level, and project relevance (Appendix C). The level of evidence was rated according to the “Johns Hopkins Nursing Evidence-Based Practice Guide.” All study interventions occurred in the inpatient hospital setting (n = 8) with orthopedic patients, specifically primary total hip or knee replacement patients, except for one article that looked at the implementation in a general surgical unit. The focus of the articles were reduction of infections or SSI (n = 3), reducing LOS (n = 4), improved efficiency (n = 3), and cost reduction (n = 2). Overall, sample sizes were small (less than 300 patients) in five studies, with the largest

patient population being 5,243. One study did not give a sample number. All studies concluded that ring-fencing of elective surgical patients positively impacted the organization and patients.

Reduction in Surgical Site Infection

Ring-fencing was found to prevent or reduce SSI in five of the identified articles. The authors identified the fact that these elective surgical patients were kept separate from the general patient population as the main factor (Piggott et al., 2013; Green et al., 2019; Biant et al., 2004; Soler et al., 2013; Barlow et al., 2013). Of particular interest was the article by Green et al. (2019) that noted three SSIs in the general orthopedic unit compared to zero in a dedicated ring-fenced unit.

Decreased Length of Stay

Two articles mentioned how ring-fencing can decrease LOS for elective orthopedic surgery patients. The length of hospitalization was significantly reduced via the PESU when comparing pre- and post-pandemic figures (Joseph et al., 2022). Interestingly, this practice also allowed for the continuation of elective orthopedic surgeries during the COVID-19 pandemic (Joseph et al., 2022). Ring-fenced units have been shown to decrease the length of stay, an important outcome measure following joint replacement surgery. One of the contributing factors to this reduced length of stay was that rehabilitation staff were able to mobilize patients sooner, on the day of surgery, and nursing staff were able to support and encourage patients to be more independent (Joseph et al., 2022). Barlow et al. (2013) found that the reduction in length of stay for the 222 managed in a ring-fenced unit correlated to almost 444 bed days for other patients, stating confidence in the predictability of patients' LOS may aid in more efficient bed management.

Increased Efficiency

One article focused on how ring-fencing can improve efficiency, further reducing costs. Kjekshus and Hagen (2005) stated that as a result of ring-fenced units, there was a substantial increase in both hospital efficiency and quality of care. They also found that the work efficiency in ring-fenced units increased by 60-75% compared to units without ring-fencing (Kjekshus & Hagen, 2005). Another article mentioned that an elective ring-fenced ward is an important cost-saving measure due to reduced LOS in primary hip and knee arthroplasty (Green et al., 2019).

Design and Methodology

Setting and Context

This EBP project will take place on the Orthopedic unit within a Midwestern hospital and include adult patients undergoing planned, elective orthopedic surgery. These patients will be admitted to a specific set of private rooms within the unit, located across the hall from the rehabilitation gym on the unit. The number of rooms needed was determined by looking at historical data over the last six months, further broken down by the number of rooms utilized each day of the week to give a mean number of four rooms that need to be blocked each day.

Stakeholders

This project began with the clinical expert meeting with the appropriate stakeholders within the organization to discuss the project and determine a protocol that will be followed for the placement of patients into the ring-fenced rooms. Stakeholders for this project include the Chief of Orthopedics, MARCQI Clinical Champion, Infection Prevention, the department nursing staff and leadership, the Patient Placement department staff and manager, the Director for Adult Inpatient Services, and the Director for Patient Support Services. The team responsible for the implementation of this project includes the clinical expert, Orthopedic unit staff and leadership, and the Patient Placement Department staff and leadership.

Measurement Plan

The specific outcomes sought from this EBP project include decreased SSI, decreased LOS, and increased surgical volume, which may contribute to increased revenue for the organization. SSI data will be obtained through the Michigan Arthroplasty Registry Collaborative Quality Initiative, LOS data will be collected through a combination of chart audits and tableau dashboard reports, and surgical volume data will be collected through reporting already established within the organization.

Approval Secured

Approval for this EBP project was secured from the organization where this project will be implemented (Appendix G). Approval was also secured from the College of Nursing at Michigan State University (MSU) and the MSU Internal Review Board (IRB; Appendix F).

Implementation Strategies

Implementation will follow the Iowa Model to guide clinical decision-making and EBP implementation. This model involves a systematic approach that integrates evidence-based practice with organizational context and stakeholder input (University of Iowa Hospitals & Clinics, 2023). First, a thorough assessment of the current elective surgery process was conducted. This assessment considered current surgical volumes, resource availability, workflows, and patient outcomes. Next, evidence from research and best practices was synthesized to develop guidelines and protocols. Surgeon engagement is crucial throughout the implementation process, and the subject of the EBP project was identified as an area of focus.

Continuous monitoring and evaluation of the implementation progress are crucial, allowing for adjustments based on feedback and performance data. After the initial meeting,

planning and implementation meetings were held regularly, at least monthly, or more frequently, as determined by the team.

The change theory that will be embedded throughout this quality improvement project will be William Bridge's Transition Model. The Bridges Transition Model can help organizations manage and work through change (William Bridges Associates, n.d.). The model identifies three stages, ending what currently is, the neutral zone, and the new beginning, that an individual or organization will experience during change (Bridges & Mitchell, 2000).

The first stage is entered when the change is first presented. This stage is often marked with resistance as people are forced to abandon the old way of doing things, in this case, the current bed management and utilization processes (Bridges & Mitchell, 2000). The second stage, the neutral zone, is the phase between the old way of doing things and the new way. There may be resentment and skepticism toward the change initiative during this stage. It is vital to encourage new ways of thinking or working as this can be a time of great innovation and creativity. It's important to meet frequently during this stage as progress may be hard to recognize, and it's important to celebrate short-term goals achieved during this time (Bridges & Mitchell, 2000). The last stage, the new beginning, marks acceptance of the new way of doing things. During this phase, it is important to link project goals with the organization's long-term goals to sustain the change that has been implemented (Bridges & Mitchell, 2000).

Facilitators

Strong support from surgeons, unit management, and commitment from hospital administrators and clinical leaders are essential to drive the implementation process, allocate necessary resources, and promote a culture of prioritizing patient care and outcomes. Surgeons play a crucial role in implementing ring-fencing for elective surgery patients through their

expertise and leadership in clinical decision-making, and their involvement in continuous quality improvement initiatives allows for ongoing refinement of ring-fencing protocols based on clinical outcomes. Clinical experts helped to facilitate interdisciplinary collaboration, working closely with healthcare teams to recognize the complex clinical nature of healthcare and ensure that the implementation aligns with patient safety and quality standards. They also play a key role in educating and training healthcare team members, ensuring a cohesive approach to patient care delivery. A huddle helper developed to increase education and awareness of this project is provided in Appendix I.

Barriers

This project faced numerous and significant barriers to implementation. The first barrier was the departure of the Orthopedic Service Line Director and the dissolution of the Orthopedic Service Line, resulting in a loss of reporting structure and administrative leadership for this project. The recent partnership between a prominent Midwestern academic health organization and the subsequent turnover within the hospital and the system's C-suite has significantly hindered the implementation of this project. While this new partnership holds promise for innovative healthcare solutions, the project has encountered unforeseen challenges with the departure of key executives, including the Chief Executive Officer, Chief Medical Officer, Chief Financial Officer, Chief Operating Officer, Chief Administrative Officer, and Chief Nursing Officer. A day after implementation was to begin, the departure of the Chief of Orthopedics was announced. The shifting leadership landscape has disrupted the project's continuity and stalled decision-making processes critical for its implementation. Amidst this organizational upheaval, the project team faces the task of navigating evolving priorities and restructuring efforts while striving to maintain the integrity and efficacy of their evidence-based initiatives.

The series of visits from The Joint Commission for three disease-specific recertification surveys, followed by subsequent follow-up activities related to thesis surveys, have diverted essential priorities and resources away from the successful implementation of the project. While crucial for maintaining accreditation and ensuring quality care, these visits have demanded significant attention and resources from the healthcare organization. As a result, the focus of key stakeholders and facilitators involved in the EBP project has been redirected towards addressing compliance issues and fulfilling survey requirements rather than advancing the project's implementation. This diversion of attention has strained the project's timeline and resources, creating challenges in sustaining momentum and achieving desired outcomes. Despite these setbacks, the project team remains committed to navigating these obstacles and realigning efforts towards the project's success.

Other barriers to implementation include low and inconsistent surgical volumes from day to day and increased pressure from different departments, namely the emergency department and critical care areas, to place patients into open beds in a timely manner. To address this barrier, the organization worked to optimize surgery schedules by rearranging surgeon block time to improve operating room utilization and provide a steady volume of surgeries throughout the week. Yet another limitation is that there may not be enough time to realize any statistically significant change from baseline data. This EBP project involves a change in practice, which comes with its own inherent barriers. No additional funding was needed for this project as this is an alternative way of completing already established procedures within the hospital.

Resources

The process requires a dedicated team of healthcare professionals, including surgeons, anesthesiologists, nurses, therapists, and administrative staff. Adequate infrastructure, including

operating rooms, recovery areas, and specialized equipment, is essential to accommodate the ring-fenced patients efficiently. Additionally, investment in data management systems and analytics tools enables accurate tracking of patients, progress, and outcomes. Financial resources are vital to support the implementation and maintenance of the ring-fencing process, covering expenses related to staffing, equipment, facilities, and patient support services. This project was budget-neutral for the organization as it utilized the existing staff, infrastructure, resources, equipment, and existing data management systems and reporting.

Evaluation Plan

Measuring and documenting outcomes specific to ring-fencing in elective surgery is needed to assess the effectiveness and impact of this strategy. Metrics such as wait times, surgical volumes, and patient outcomes before and after the implementation should be tracked and analyzed in addition to the aims outlined in this project. Additionally, financial indicators related to cost savings and resource utilization should be evaluated. The following discussion outlines detailed steps for measuring and documenting outcomes.

Surgical Site Infection and Other Complications

Monitor and compare the number and rate of SSI, postoperative complications, and adverse events within the ring-fenced elective surgery cohort against historical data from non-ring-fenced settings. This data is available through MARCQI and other established hospital reporting methods.

Length of Stay

Evaluating LOS in ring-fencing of elective surgical patients aims to understand and assess this strategy's efficiency, effectiveness, and cost savings. Initially, pre-implementation data on LOS for elective surgical patients would be collected to establish a baseline. Following

the implementation of ring-fencing, ongoing monitoring and analysis of LOS metrics would occur, comparing them to the pre-implementation baseline. This data is available utilizing existing Tableau dashboard reporting and MARCQI reports. By continuously assessing and adjusting strategies based on this data, the organization can optimize the length of stay for elective surgical patients within the ring-fencing framework, ultimately enhancing patient care and resource utilization.

Patient and Staff Satisfaction

Patient satisfaction would be collected through a survey administered during their post-operative hospital stay. The survey would focus on factors such as wait times, communication with the healthcare team, personalized care, perceived safety, and overall experience during the post-operative hospital stay. Survey responses would be analyzed to gauge patient satisfaction levels and identify areas for improvement. Additionally, staff satisfaction would be assessed through surveys and discussions to explore their perspectives on workload, resource allocation, and workflow efficiency within the ring-fenced area. Understanding both patient and staff satisfaction levels provides valuable insight into the strengths and areas for improvement of this project.

Sustainability Plan

The sustainability of ring-fencing in elective surgery depends on long-term commitment and collaboration among stakeholders and organizational leadership. Adequate resource allocation, ongoing staff training, a culture of patient-centered care, and a focus on improved patient outcomes are essential for maintaining the benefits of this approach over time. A proactive, continuous quality improvement-focused approach is needed to identify and address barriers, conduct periodic evaluations, and adjust to the evolving healthcare environment.

Integration with Clinical Expertise and Patient/Family Preference

Integrating clinical expertise and patient preferences is key to ensuring satisfaction within the ring-fenced area. Clinical experts play a pivotal role by providing specialized knowledge and guidance in optimizing patient care pathways. By collaborating with healthcare teams, clinical experts ensure that the implementation of the EBP project aligns with organizational strategic goals and best practices, enhances efficiency, and maintains the highest standards of quality and safety. Clinical experts also play a vital role in identifying current and evolving evidence to address barriers and evaluate the benefits of ring-fencing for elective surgery.

Engaging patients and their families in their individualized care plans to include their unique perspectives, values, and preferences helps to foster a more patient-centered approach. Combining clinical expertise with patient and family input in shared decision-making will ultimately enhance the overall quality of care, patient satisfaction, and successful outcomes.

Discussion/Implications for Practice

Ring-fencing of elective surgery patients involves creating a distinct and specialized care pathway for patients undergoing elective surgery, ensuring dedicated attention and resources for their pre-operative, intra-operative, and post-operative phases. This dedicated approach is paramount for nursing practice and patient safety. By separating elective surgery patients, nurses can prioritize protocol-driven care tailored to individual needs, conduct thorough assessments, and improve patient outcomes, free from distractions or time constraints posed by trauma or emergent admissions (Joseph et al., 2022). Ring-fencing also increases patient safety by minimizing the risk of cross-contamination or resource diversion that might occur in a more generalized care setting, thus reducing the risk of SSI. Also, the distraction-free zone created on the unit by ring-fencing ensures early detection of potential complications or comorbidities,

allowing nurses to intervene promptly and prevent adverse events (Bevan Commission, 2022). This approach not only streamlines nursing workflows due to the high utilization of standard protocols, but also underscores a commitment to delivering personalized, safe, and effective care to elective surgery patients, aligning with the fundamental principles of nursing practice.

The effectiveness of ring-fencing in total joint arthroplasty is evident and has the potential for a profound impact on healthcare practice, reshaping the way surgical care is delivered and experienced. It can optimize available resources, improve efficiency, and enhance patient safety, ultimately improving surgical outcomes. However, several barriers can impede the implementation of a ring-fencing strategy for elective surgical patients. These include logistical challenges in segregating patient populations, a potential strain on existing healthcare infrastructure, and costs associated with establishing dedicated pathways and facilities that must be carefully considered and balanced against the potential benefits. At this organization, it is already possible to segregate these patients into a specific unit, and pathways have already been created for patients undergoing total joint arthroplasty.

Dissemination

Dissemination is crucial in evidence-based practice change projects as it ensures that the knowledge and insights gained from these initiatives reach relevant stakeholders and contribute to broader improvements in healthcare delivery. Internal dissemination is planned as a poster presentation for Quality Month within the organization and a presentation to the Nursing Research Council. No approvals are needed for dissemination within the organization. External dissemination occurred during the student poster presentations at the National Association for Clinical Nurse Specialists (NACNS) Annual Convention. Approval for this presentation was obtained through NACNS (Appendix H).

Conclusion

In conclusion, ring-fencing in elective surgery is a key strategy with many benefits that can significantly enhance the care provided by healthcare systems. By reserving a dedicated portion of resources, time, and personnel for elective procedures, healthcare organizations can streamline patient care, reduce waiting times, and improve patient satisfaction. Ring-fencing also leads to greater predictability of surgical schedules, allowing medical facilities to optimize their operational efficiency and more effectively allocate resources to elective surgeries and other service areas. Additionally, ring-fencing contributes to improved financial planning, as the increase in surgical volume and the decrease in complications, unplanned admissions, and readmissions ensures a stable and reliable funding source for these procedures. Ultimately, the implementation of ring-fencing in elective surgery holds the potential to positively impact healthcare delivery, ensuring timely access to vital procedures and improved patient outcomes.

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Appendix A

Quality Improvement/EBP Project Approval Form and Checklist

Date: __ 1/29/2023

Student Name: Katie Potter

PID: A30758742

Phone: 989-213-2876

Quality Improvement/EBP Project Title: Impacts of ring-fencing in elective surgery

Brief description: Ring-fencing is the separation of elective surgery patients from emergency and general medical patients. The basis of this paper is to determine the effects of ring-fencing on patient outcomes, length of stay, and overall hospital efficiency.

Agency: Sparrow Hospital

Preceptor/Mentor: Rebekah LaDuke

Approval Signatures:

Course Faculty: Jackeline Iseler, DNP, RN, ACNS-BC, CNE

CNS Program Director: Jackeline Iseler, DNP, RN, ACNS-BC, CNE

Appendix B

Quality Improvement/EBP Project Evidence Critique Table

Problem Statement: In elective surgical patients, how does admission to a ring-fenced unit compared to admission to a general bed affect LOS and SSI?						
Article Citation	Design/Purpose	Sample/Setting	Measurement and Instruments	Results	LOE and Quality; Strengths and Weaknesses	Relevance to Problem
(Green et al., 2019)	Design: Retrospective cohort study Purpose: This study compared infection rates in patients receiving primary total hip and knee joint replacements before and after implementation of ring-fenced beds.	Sample: 252 patients Setting: Inpatient hospital	Comparison	This study demonstrated the effectiveness of adopting a ring-fencing policy with a subsequent reduction in infection rate from 6.3% to 2.7%, which attributed to a shorter LOS.	LOE: Level III Quality: B Strength: favorable results were seen with ring-fencing individual beds vs. entire unit Weaknesses: Retrospective and relies on correct coding and accurate documentation.	Ring-fencing in elective surgery can decrease SSI and LOS

(Soler et al., 2013)	Design: Retrospective observational study Purpose: This study aimed to analyze the financial effect and LOS of elective arthroplasty patients admitted to general wards rather than ring-fenced orthopedic wards.	Sample: 194 patients Setting: Inpatient hospital	Discrete data were analyzed using the Mann-Whitney test	LOS in ring-fenced wards was 4.62 days compared to 6.51 days. This equates to a 6.82% loss in revenue when admitted to non—ring-fenced units	LOE: Level III Quality: B Strengths: addresses revenue generated and lost by hospitals Weaknesses: study from a single institution	Ring-fenced units are cost-effective and an important element in generating income for hospitals.
(Biant et al., 2004)	Design: Prospective cohort Purpose: To establish whether ring-fencing of elective orthopedic beds and introduction of simple infection control measures have an effect on the rates of postoperative infections and the	Sample: 905 patients Setting: Inpatient hospital	Comparison	Total number of all infections decreased from 43 to 15 after ring-fencing ($p < .0001$). No cases of MRSA occurred in arthroplasty patients after ring-fencing.	LOE: Level II Quality B Strengths: higher level of evidence, reduced bias Weaknesses: Low level of evidence, study from a single institution, reduction was achieved by several factors.	Total infection rates can be further reduced with appropriate post-operative environment including ring-fencing

(Barlow et al., 2013)	Design: combination of prospective and retrospective data Purpose: Assess the effect of the introduction of ring-fenced unit on LOS following arthroplasty.	Sample: 222 patients Setting: Inpatient hospital	Mann-Whitney U test	There was a two-day reduction in LOS for patients in the ring-fenced unit with no SSI.	LOE: Level II/III Quality B Strengths: higher level of evidence, reduced bias Weaknesses: authors noted that reduction in LOS was multifactorial and not solely to	Overall reduced stay can increase efficiency when downstream resources are available.
(Coyle et al., 2012)	Design: Prospective cohort study Purpose: Assess the impact of ring-fenced inpatient general surgical beds on day of surgery (DOS) admission, duration of elective inpatient stay (DEIS), and cancellation rates over a 6-month period.	Sample: 2,215 operations Setting: Inpatient hospital	Descriptive and comparative statistical analyses of admissions and cancellation data were carried out using standard statistical software packages (Microsoft Excel 2007, SPSS Statistics v. 17.0)	DOS admission increased during the study period to 45.5% from 8.15%, DEIS decreased from 4.3 days to 3.9 days, cancellations decreased from 58.2% to 41.8%.	LOE: Level II Quality B Strengths: Higher level of evidence, reduced bias Weaknesses: Single institution study, small sample size	Protection of inpatient beds via ring-fencing is aimed at improving access and quality of care while reducing costs associated with elective surgery.

(Joseph et al., 2022)	Design: Retrospective cohort study Purpose: compare functioning and efficiency of an orthopedic protected elective surgical unit (PESU)	Sample: 192 patients Setting: Inpatient hospital	SQUIRE 2.0 guideline	Cancellations decreased from 48% to 12.5%, LOS decreased from 4.8 days to 3 days. There were no cases that required revision or readmission in the PESU cohort.	LOE: Level III Quality B Strength: focused on several impacts of ring-fencing. Weakness: small sample size, short duration, and follow-up	Ring-fencing has shown to decrease day of cancellations, LOS, prevent readmissions and reoperations
(Kjekshus & Hagen, 2005)	Design: Comparative analysis Purpose: This study examines the effects of ring-fencing of elective surgery on hospital efficiency	Sample: departments of three hospitals compared with overall population of Norwegian hospitals Setting: Inpatient hospital	Fixed-effect regression model	At the departmental level, ring-fencing increased efficiency by 60-75%. However, the effect on cost efficiency was insignificant and ranged from .4-1.9%	LOE: Level III Quality B Strength: Utilized data registry. Weakness: findings were not statistically significant.	Ring-fencing could improve cost efficiency, but a ring-fenced unit needs a high volume to succeed.

(Piggott et al., 2013)	Design: Prospective cohort Purpose:	Sample: 5243 patients Setting: Inpatient hospital	Statistical analysis was performed using IBM SPSS version 20 and Chi-square test.	There was a reduction in SSI from 8% to 3.5% (p<.001)	LOE: Level II Quality: B Strengths: statistically significant reduction in SSI. Weaknesses: single institution study with small sample size	Ring-fencing beds can decrease SSI in elective surgical patients
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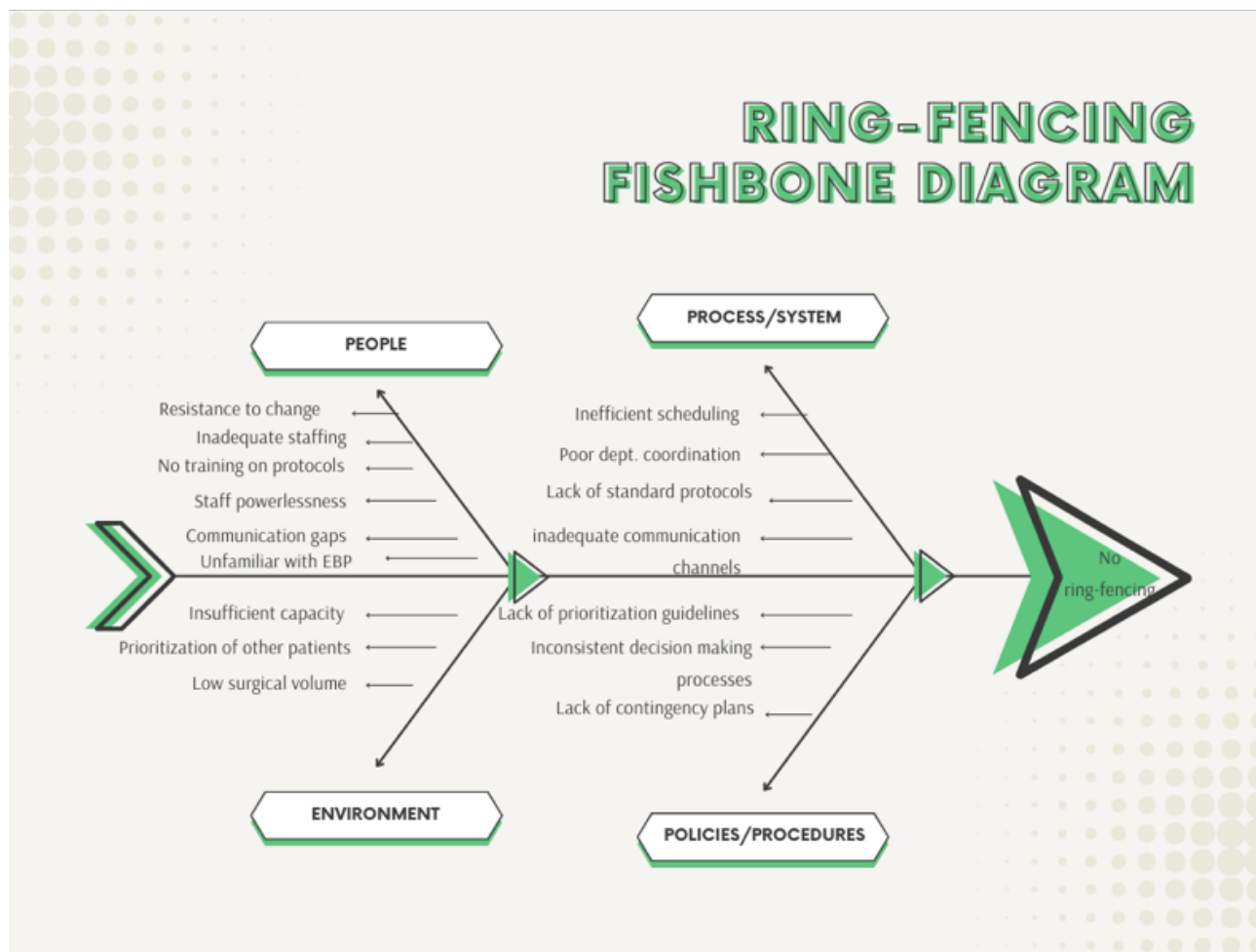
Appendix C

Strengths, Weaknesses, Opportunities, Threats (SWOT) Analysis

Strengths	Weaknesses
• Engaged surgeons interested in providing high-quality care • Existing orthopedic/Medical-surgical unit • Organizational strategic goals: ○ Length of stay (LOS), ○ Surgical site infections (SSI) ○ Increasing surgical volume • Ongoing LOS and SSI quality improvement projects	• Poor surgeon satisfaction • Poor patient satisfaction • Lack of formal process for blocking beds for surgical patients • Lack of policy or procedure that addresses patient placement
Opportunities	Threats
• The organization currently has a Quality Improvement and Process Improvement Department with staff assigned to service lines • The organization is in the process of cohorting patients with other disease processes into private rooms within the same unit • Chance for the organization to set itself apart from competitors	• Communicable disease surges that could impact capacity and surgical volumes • Short staffing • A competitor constructed a new hospital with dedicated units for surgical patients • Ambulatory surgery centers that cater to surgical patients and surgeons • The hospital operates at capacity or over capacity

Appendix D

Ring-fencing Fishbone Diagram



Appendix E

Executive Summary

Hospitals face several challenges, including decreased reimbursement, operating at or near capacity, and overall efficiency. The unpredictability of patient demand and limited healthcare resources often lead to prolonged wait times, delayed treatments, and suboptimal patient outcomes. This project aims to implement a ring-fenced unit for patients undergoing elective surgery to decrease complications, therefore improving patient outcomes and satisfaction, which can increase reimbursement for the organization. Currently, elective surgery patients are placed on mixed medical-surgical units, opening them up to increased risk of infection or other complications and competing with other patients for a bed post-operatively.

The concept of "ring-fencing" in elective surgery presents an innovative solution to address the challenges mentioned above. Ring-fencing involves setting aside a dedicated portion of resources, such as rooms, staff, and equipment, specifically for elective surgeries. This strategy enables healthcare facilities to create a controlled environment that focuses solely on scheduled, non-emergent procedures, separate from the more unpredictable emergency cases. This allows staff to focus on elective cases without the disruptions that emergency procedures can cause. This results in reduced complications and, ultimately, better patient outcomes. This predictability can also reduce stress, burnout, and turnover among healthcare professionals.

Implementation of ring-fencing in elective surgery allows healthcare institutions to allocate a fixed portion of resources exclusively to elective surgeries, which contributes to more accurate scheduling and hospitals can better match supply with demand, leading to reduced wait times for patients, enhancing overall patient satisfaction and experience. It also leads to smoother surgical schedules, reduced cancellations, and better utilization of resources. This, in turn,

contributes to cost savings and increased revenue potential for healthcare facilities. It can also ensure equitable access to elective surgeries by reducing the impact of emergency cases on scheduling. Patients can have confidence in receiving timely care, irrespective of unpredictable emergencies.

The plan is to block four beds in the orthopedic unit, which will only be utilized for elective orthopedic surgery patients. The key stakeholders for this project include orthopedic surgery leadership, infection prevention, unit nursing staff and leadership, the patient placement department staff and manager, the Director for adult inpatient services, and the Director for patient support services. The sustainability of ring-fencing in elective surgery depends on long-term commitment and collaboration among stakeholders and organizational leadership. Soler et al. (2013) reported that upon losing a ring-fenced unit to non-elective admissions as a result of adverse weather conditions and the subsequent increase in demand for beds, there was a significant increase in LOS by 1.89 days, highlighting the need for contingency plans to be put in place for situations that could potentially lead to a breach in bed ring-fencing. Adequate resource allocation, ongoing staff training, and a culture of patient-centered care are essential for maintaining the benefits of this approach over time. The Plan, Do, Check, Act (PDCA) process will be used to address barriers that may arise during implementation.

In conclusion, ring-fencing in elective surgery offers a practical solution to these challenges. By dedicating specific resources to elective procedures, healthcare institutions can reduce wait times, optimize resource utilization, enhance the quality of care, and achieve more predictable surgical schedules. This approach improves patient outcomes and supports healthcare professionals in delivering high-quality care while effectively managing their workloads. As

hospitals strive to provide efficient and equitable elective surgery services, the adoption of ring-fencing emerges as a strategic and practical solution.

Appendix F

IRB Approval

MICHIGAN STATE UNIVERSITY

DETERMINED NOT "RESEARCH" Revised Common Rule

November 28, 2023

To: Katie Potter

Re: **MSU Study ID:** STUDY00010024
Principal Investigator: Katie Potter
Determination Date: 11/28/2023

Title: Ring-fencing: A Strategy to Enhance Elective Surgery Performance: An Evidence-Based DNP Project

The activity described in this submission was determined not to be "research" as defined by the Common Rule as codified in the U.S. Department of Health and Human Services (DHHS) regulations for the protection of human research subjects.

Definition of Research

For DHHS, "*Research*" means a systematic investigation, including research development, testing, and evaluation, designed to develop or contribute to generalizable knowledge. Activities that meet this definition constitute research for purposes of this policy, whether or not they are conducted or supported under a program that is considered research for other purposes. For example, some demonstration and service programs may include research activities. For purposes of this part, the following activities are deemed not to be research:

- (1) Scholarly and journalistic activities (e.g., oral history, journalism, biography, literary criticism, legal research, and historical scholarship), including the collection and use of information, that focus directly on the specific individuals about whom the information is collected.
- (2) Public health surveillance activities, including the collection and testing of information or biospecimens, conducted, supported, requested, ordered, required, or authorized by a public health authority. Such activities are limited to those necessary to allow a public health authority to identify, monitor, assess, or investigate potential public health signals, onsets of disease outbreaks, or conditions of public health importance (including trends, signals, risk factors, patterns in diseases, or increases in injuries from using consumer products). Such activities include those associated with providing timely situational awareness and priority setting during the course of an event or crisis that threatens public health (including natural or man-made disasters).
- (3) Collection and analysis of information, biospecimens, or records by or for a criminal justice agency for activities authorized by law or court order solely for criminal justice or criminal investigative purposes.



**Office of
Regulatory
Affairs
Human Research
Protection Program**

4000 Collins Road
Suite 136
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517-355-2180
Fax: 517-432-4503
Email: irb@msu.edu
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Appendix G

Site Approval



Date: **October 5, 2023**

Project Title: **Ring-fencing in Elective Surgery: An Evidence-based DNP Project**

Principal Investigator: **Katie Potter, BSN, RN, ONC**

Thank you for providing the Sparrow Nursing Research Council with the opportunity to review your project. The Council reviewed your evidence-based practice project proposal and voted on October 5, 2023. The result of the Council vote was:

- **Approval contingent upon securing nursing leadership approval**

If you have any organizational concerns related to your project, your Sparrow contact from the Nursing Research Council is Elizabeth Anderson. She can be reached by phone: 517-364-2281 or by email: elizabeth.anderson@sparrow.org.

Your next step will be to follow your organization's IRB process and obtain administrative approval from the Sparrow Clinical Research Institute (SCRI) prior to starting your study. This can be done by contacting SCRI at scri@sparrow.org or the associated Regulatory Coordinator at 517-364-5016.

Upon completion of your project, the Council requests that you attend a meeting or submit information to provide follow-up on your project. If you have general questions for the Nursing Research Council, please email nursingresearch@sparrow.org.

Sincerely,

Elizabeth Anderson, MSN, APRN, AGCNS-BC
Nursing Research Council Chair
Sparrow Hospital
517.364.2281
elizabeth.anderson@sparrow.org

Catherine Brennan, MS, RN, Gero-BC, APRN, CNS
Nursing Research Council Co-Chair
Sparrow Hospital
517.364-3007
catherine.brennan@sparrow.org

Appendix H

NACNS Student Poster Presentation Approval

Friday, December 8, 2023

Katie Potter,

Congratulations! On behalf of NACNS and the 2024 Conference Planning Committee, we would like to thank you for your Student Poster Abstract submission for the *National Association of Clinical Nurse Specialists 2024 Annual Conference*, Sunday, March 10 – Wednesday, March 13, at the New Orleans Marriott. We are pleased to inform you that your poster, noted below, has been **ACCEPTED!**

NACNS would sincerely appreciate your participation in the 2024 NACNS Annual Conference. To confirm your participation, please complete this [acceptance form](#) acknowledging the acceptance of your selected Student Poster Abstract submission as well as your expectations as a conference Poster Presenter.

Your accepted Student Poster Abstract is noted below. Please note that if you submitted multiple Student Poster Abstracts, you will receive separate notifications for each. Please [Review and confirm](#) your Student Poster details. If this opportunity is accepted and confirmed, more details will be provided soon with your Student Poster presentation date and time.

EVENT INFORMATION

- [NACNS 2024 ANNUAL CONFERENCE](#)
- **DATE:** March 10-13, 2024
- **LOCATION:** New Orleans Marriott

YOUR SESSION INFORMATION

- **Student Poster Abstract Title:** Ring-fencing in Elective Surgery: An Evidence-Based DNP Project
- **Student Poster Abstract ID:** 1622-101013
- **Session Type:** Poster
- **Primary Presenter:** Katie Potter

DEADLINES TO NOTE:

- Complete the [Acceptance Form](#) by: **December 22, 2023**
- Submit a PDF file of your poster by: **Monday, January 29, 2024**
- Register for the conference [HERE](#).
 - **Early Bird Registration Ends: February 11, 2024**
- **Book Hotel Reservation** [HERE](#)
 - The Hotel Room Block Closes February 12, 2024

We are currently finalizing the conference agenda and will be in touch with you in the next couple of weeks to finalize all details. Student Poster Guidelines to follow upon confirmation of your acceptance.

Please contact meetings@nacns.org with any questions.

Appendix I

Project Education for Staff

Cohorting of elective orthopedic surgical patients

Audience: 6W RNs & Patient Placement

Here's what you need to know:

- Surgical site infection (SSI) represents one of the major complications of joint replacement surgery.
 - It increases postoperative hospital length of stay, prolongs antibiotic therapy, and leads to periprosthetic joint infection (PJI).
 - PJI is a devastating and challenging complication that increases morbidity and mortality rates (Li et al., 2022).
 - The most challenging aspect in preventing and treating PJI is the implant related biofilm, as the number of bacteria needed to induce infection is 1,000 times lower in the presence of an implant and prevention strategies should be employed in all stages, before, during, and after the surgical intervention (Fontalis et al., 2021).

Why is it important:

- Complications of PJI often involves revision surgery and, in some instances, requires permanent implant removal, fusion, or amputation. The negative impacts associated with these treatments including patient time lost from work and productivity, along with the impact on family members and friends, all amounts to a significant financial burden (Abdeen et al., 2021).
- In the US, for a single episode of care, the direct cost of treating PJI has been estimated at approximately US \$100,000, with the overall lifetime treatment cost for a 65-year-old estimated at \$390,806 (Fontalis et al., 2021).

How can you help:

- Cohorting elective orthopedic surgical patients into designated rooms such as 695-698 offers numerous benefits, including enhanced patient care, resource utilization, and infection control.
 - Facilitates focused care delivery, enabling team members to streamline post-operative care and rehabilitation protocols.
 - Optimizes resource allocation, including staff time, medical equipment, and ancillary services, leading to improved operational efficiency.
 - Fosters better communication among healthcare teams and promoting interdisciplinary collaboration.
 - Minimizes the risk of cross-contamination by effectively isolating elective orthopedic cases from other patient populations, thereby enhancing infection prevention strategies and maintaining a safer environment for all.

What do we need from you?

Patient selection: Identify elective orthopedic surgical patients suitable for cohorting based on procedure type and anticipated length of stay

Room preparation: Ensure rooms 695-698 are equipped with medical supplies and equipment tailored to orthopedic surgical care, including mobility aids and other resources.

- These rooms should be blocked Sunday night for proper terminal cleaning. They should remain blocked throughout the week to accommodate the surgical volume for the week
- The current throughput process should continue to be followed. This includes blocking rooms for patients scheduled for surgery before noon and prioritizing discharge by 11 am POD#1

Exclusion criteria for Patients Assigned to 695-698

***Avoid placing patients with the following into rooms 695-698**

- Known or suspected infection
- Patients colonized with multi-drug resistant organisms (MDRO)
- Patients with chronic wounds or abscesses
- Active respiratory infections
- Undergoing bowel surgery
- Patients with long-term indwelling devices
- Residents of long-term care facilities or those recently incarcerated