Reducing Delirium in Post-Surgical Patients through Pre-operative Risk Assessment Screening: A Policy Option

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Reducing Delirium in Post-Surgical Patients through
Pre-operative Risk Assessment Screening: A Policy Option

UNIVERSITY OF SAN DIEGO
Hahn School of Nursing and Health Science
Beyster Institute of Nursing

DOCTOR OF NURSING PRACTICE PORTFOLIO
by
Skye Porter Berg

A portfolio presented to the
FACULTY OF THE HAHN SCHOOL OF NURSING AND HEALTH SCIENCE
UNIVERSITY OF SAN DIEGO

In partial fulfillment of the
requirements for the degree

DOCTOR OF NURSING PRACTICE

May 6, 2024
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Acknowledgments

To all my wonderful family, friends, and mentors, thank you for your encouragement throughout the last few years as I embarked on this difficult and rewarding journey. I want to express gratitude to my advisor Dr. Burkard for his knowledge and guidance throughout the program that has helped me succeed and persevere to the finish line. This last year has been difficult working through multiple jobs and pursuing not only my doctoral degree but my post-master certification as well.

It is also with the love, kindness, and support from my husband that I have been able to complete these difficult last few years. Through this decade-long process of pursuing my second career and terminal degree, I hope to enrich many more lives throughout my profession.

Healthcare is constantly growing and changing, and I am thankful to be part of the continued research and learning process. I want to encourage others to not only pursue the quest for higher education but to do so with a passion for helping others.
Opening Statement

Purpose in Pursuing the Doctor of Nursing Practice

Through advancing my education and pursuing a life-long career in research and healthcare, it has been a goal of mine to complete my terminal nursing degree. During the program, I have grown not only professionally but as a writer and leader within my organization. The purpose of wanting to complete my doctorate not only stems from career advancement but also to utilize my education to improve policy and foster quality improvement within my department. It is through continued knowledge and the drive to learn that change can be fostered. As a future leader and mentor, I want to guide other healthcare professionals in their pursuit of higher education and continued knowledge.
Documentation of Mastery of DNP Program Outcomes

- Demonstrate advanced levels of clinical practice within defined ethical, legal, and regulatory parameters in designing, implementing, and evaluating evidence-based, culturally competent therapeutic interventions for individuals or aggregates.
- Synthesize nursing and other scientific and ethical theories and concepts to create a foundation for advanced nursing practice.
- Demonstrate leadership in collaborative efforts to develop and implement policies to improve healthcare delivery and outcomes at multiple levels of professional practice (institutional, local, state, regional, national, and/or international).
- Incorporate research into practice through critical appraisal of existing evidence, evaluating practice outcomes, and developing practice-based guidelines.
- Design, implement, and evaluate healthcare delivery systems and information systems that meet societal needs and ensure accountability for quality outcomes.
- Employ a population health focus in the design, implementation, and evaluation of healthcare delivery systems that address primary, secondary, and tertiary levels of prevention.
- Incorporate ethical, regulatory, and legal guidelines in the delivery of health care and the selection, use, and evaluation of information systems and patient care technology.
Reducing Delirium in Post-Surgical Patients through Pre-operative Risk Assessment Screening: A Policy Option

Skye Porter Berg

Joseph Burkard

University of San Diego
Abstract

One of the major complications and reasons for prolonged stay amongst patients who undergo surgery is related to the occurrence of hospital-associated delirium. Unfamiliar environment, previous comorbidities, age, and anesthesia can alter and affect cognitive status in the general population. While there is substantial evidence previously listing high-risk patients through demographics as well as prior medical history, this study collectively gathers information based on prior evidence-based practice data to determine the benefit of prescreening patients with a predictive indicator tool. Based on the literature review and inclusion data gathered from fifty patients undergoing surgery, it was determined that there was a significant correlation between the elevated delirium risk assessment tool score to the association of documented confusion and delirium during those patients’ hospitalization. This is a cross-sectional, retrospective project that utilizes known risk factors for delirium, and applies this information to create a predictive indicator tool to identify high-risk patients for delirium-related complications. The prevalence of delirium and its contributing factors make this condition a potential target for improved healthcare delivery. Interventions for implementation of the project involve adjusting current practice guidelines during the intraoperative and postoperative phases for prevention interventions of delirium. Implications for practice include reduced length of stay, better patient outcomes, prevention of occurrence of high-risk delirium-associated events, as well as reduced recovery time postoperatively.

Keywords: delirium, hospital-associated events, surgery, perioperative, screening tool, clinical practice, evidence-based practice, implementation strategies.
Reducing Delirium in Post-Surgical Patients through Pre-operative Risk Assessment Screening: A Policy Option

**Background and Significance**

Unfamiliar environment, previous comorbidities, age, and sedative medications can alter cognitive status in the general population. While alternatives for minimally invasive surgery and reduced needs for anesthesia have been more prevalent, there still is a high occurrence of delirium-associated events during hospitalization. Even though evidence-based practice has gold standards of delirium prevention postoperatively, we explore the potential for incorporating a predictive indicator tool that can assess patients before hospitalization for increased risk of delirium-associated events. This approach to preventative measures begins either within their preoperative clinic appointment or in the perioperative setting before surgery. The concept of identifying high-risk associated events can allow for careful planning, and strategic measures by healthcare staff to prevent further occurrence of hospital-associated delirium.

Delirium is the most common psychiatric syndrome observed in hospitalized patients. The incidence in general medical wards ranges from 11% to 42%, and it is as high as 87% among critically ill patients (Thom et al., 2019). Gold standards for delirium prevention are already recognized and implemented in a variety of hospital settings. However, the condition of pre-screening with a delirium-associated risk tool before surgery and admission has not yet implemented as a standard of care. A significant portion of the population undergoes elective surgeries each year either through an outpatient admission, or a short stay for monitoring. The question pertains to whether a tool designed to prescreen patients based on their histories and risk factors and was
initiated during an outpatient consultation visit, would reduce the complications of delirium-associated occurrences post-surgery.

A proposed risk-assessment tool in the application within the initial clinic outpatient screening can not only improve patient outcomes but significantly reduce the cost burden of delirium-associated complications after elective surgery. The cost burden of implementing such a tool would be minimal in comparison to the current state of financial estimate delirium imposes within our healthcare system. Eventually, this tool will act as a universal standard of care and predictable ability for delirium risk and will be communicated throughout the electronic health record for clinicians to identify. Pricing for the tool would be included within the current charting system and not be an additional cost for facilities. Evidence-based practice guidelines will facilitate updates and changes to the predictive tool as more education progresses regarding delirium. In efforts to improve patient outcomes and reduce financial burden, the solution for implementation of the predictive screening tool is crucial to the healthcare field.

**Purpose/Aims**

Implications for practice include reduced length of stay, improved patient outcomes, as well as shorter recovery time postoperatively. The prevalence of delirium and its various contributing factors make this condition a potential target for improved healthcare delivery. Furthermore, hospital quality indicators are identified and achieved through reduced spending, increased availability of beds, as well as higher patient satisfaction scores. Through minimized occurrence of reported delirium events, there will be better patient outcomes. The ideal market focus will be on hospital nursing staff and affiliations, as well as physicians and advanced practice providers. After initial start-up
costs of $16,000 for the beginning of the project, the expected hospital return will be on average $44,291 to $56,474 per patient. Listed below is the breakdown of costs and budgeting related to initial start-up costs in Table 1. This predictive indicator tool can be adapted and implemented into an already established electronic health record, without erroneous spending and additional start-up costs.

Table 1
*Delirium Risk Assessment Tool Costs*

<table>
<thead>
<tr>
<th>COST ITEMS</th>
<th>BUDGET</th>
<th>Detail</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ADMINISTRATIVE/GENERAL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IRB Approval and Hospital Review</td>
<td>$500</td>
<td>Application fee</td>
</tr>
<tr>
<td>Epic IT Liaison Start-up/Creation</td>
<td>$1,200</td>
<td>$50.00/hr. x 24 hrs.</td>
</tr>
<tr>
<td>Provider Training and Education</td>
<td>$100</td>
<td>EPIC Update Email/notification</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>$800</td>
<td>Additional EPIC set-up costs</td>
</tr>
<tr>
<td><strong>hospital and clinic</strong></td>
<td></td>
<td>Already established</td>
</tr>
<tr>
<td>Medical Equipment</td>
<td>$0.00</td>
<td>Already established/in-use</td>
</tr>
<tr>
<td>Hardware/Software</td>
<td>$1,000</td>
<td>Updates during the 6 months</td>
</tr>
<tr>
<td>Nurse Supplies (gloves, etc.)</td>
<td>$0.00</td>
<td>None, already in use</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>$1,000</td>
<td>Additional patient instructions</td>
</tr>
<tr>
<td><strong>MARKETING</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Logo, branding, website</td>
<td>$0.00</td>
<td>Education pilot, no promotion</td>
</tr>
<tr>
<td>Advertising/listing fees</td>
<td>$0.00</td>
<td>Education pilot, no promotion</td>
</tr>
<tr>
<td>Printed Marketing materials</td>
<td>$500</td>
<td>For patients and staff</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>$500</td>
<td>Additional materials and education</td>
</tr>
<tr>
<td><strong>LABOR EXPENSES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Payroll (total)</td>
<td>$10,000</td>
<td>No other education/hours after start-up</td>
</tr>
<tr>
<td>Training (1 hour total for staff)</td>
<td>$9,000</td>
<td>IT $50/hr. (24 hours total) start-up</td>
</tr>
<tr>
<td></td>
<td></td>
<td>NP $90/hr. (24 hours total) start-up</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nursing fifty staff members ($80/hr.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10 Providers ($100/hr.)</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>$1,000</td>
<td>Patient education/materials/review</td>
</tr>
<tr>
<td><strong>OTHER</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>$400</td>
<td></td>
</tr>
<tr>
<td><strong>ESTIMATED START-UP BUDGET</strong></td>
<td></td>
<td>$16,000</td>
</tr>
</tbody>
</table>
PICO(T) Model Question

The purpose of the study analyzes elective surgery patients who are designated as outpatient, ambulatory, or surgery pre-admit status over the age of 18 years old, whether implementing a new risk assessment tool predicts a higher incidence of hospital delirium-associated events in the perioperative setting, and thus allow for earlier intervention and preventative strategies compared to ICU-CAM or 4AT assessment tool post-operatively and anesthesia evaluation in the perioperative setting. Outcomes suggest high prevalence scores for those who fall within the severe risk category, and thus a strong correlation for further study and implementation of preventative strategies within a one-year retrospective analysis.

Evidence-Based Practice Model

Hospital-associated delirium is a current practice problem and contributes to adverse patient outcomes, financial burden, and delay of care in many critical patient populations. There is strong evidence-based data on the therapeutic management of these at-risk patient populations as well as screening guidelines on how to manage and prevent further complications. The Iowa model strives to pilot change in practice through combined research of systematic reviews, meta-analysis, and or expert opinions to facilitate quality care and reevaluate previously implemented evidence-based practice standards (Iowa Model Collaborative et al., 2017). The strength of the Iowa model related to critical patients introduces and evaluates problem-focused triggers for various healthcare disciplines that can be applied to and adapted to address current quality indicators in acute care settings (Rycroft-Malone, & Bucknall, 2010). The prevalence of delirium and its numerous contributing factors make this condition a potential target for
improved healthcare delivery, to which the Iowa model can be utilized for phases of the team approach for organizational change and timely implementation (Spiegelberg, Song, Pun, Webb, & Boehm, 2020). While the Iowa model is a practice rather than a research model, it generates hypotheses and has been used to guide the assessment of knowledge, skills, and attitudes within various projects in diverse clinical settings (Rycroft-Malone, & Bucknall, 2010).

The priority and magnitude of addressing delirium within the clinical setting have applications to various areas, would contribute to improving care, has the availability of data and research in the problem focus, and the problem addressed would require a team-based collaboration and commitment within the staff. Preventing delirium within our critical patient populations requires organizational focus and research along with problem-based triggers to improve current patient outcomes. Provider education and multidisciplinary collaboration would allow for the organized process of implementation with vastly available resources in the inpatient versus outpatient setting.

There are a vast majority of evidence-based practice strategies about organizational success and implementation of better patient outcomes. The Iowa model remains an application-oriented guide for the evidence-based practice process and addresses systematic questions and promotion of development and emphasis on patient engagement (Cullen, et al., 2022). This model is user-driven and links practice changes within the system along with expansion through piloting, implementation, patient commitment, and sustaining changes as our health system adapts and evolves. Further, it provides a systematic approach to synthesizing information through identifying an issue or opportunity, stating the purpose, forming a team, assembling, appraising, and
synthesizing the body of evidence, designing, piloting, and sustaining the practice change, dissemination, and strategies that focus on the implementation (Rycroft-Malone, & Bucknall, 2010). The primary purpose of the Iowa model is to guide clinicians in the use of evidence to improve health care outcomes through knowledge and problem-focused topics such as delirium to not only question current health practices, but also whether they can be improved through research findings (Iowa Model Collaborative et al., 2017).

**Literature Review/Evidence for the Problem**

A cohort study in 2021 by Gou et al. (2021), observed Medicare costs attributable to delirium after elective surgery over one year. Results indicated that cumulative amounts were between $44,291 to $56,474 per patient. These findings suggest that the economic outcomes of delirium and severe delirium after elective surgery are substantial, rivaling financial burdens associated with cardiovascular disease and diabetes. The outcome of this study highlights the need for policy imperatives as a large-scale public health issue and further warrants renewed efforts to bolster prevention, early detection, and management of delirium (Gou et al, 2021). Another article was published within the last few years as a monocentric prospective observatory trial including one thousand patients older than 60 years from various disciplines of a university hospital planned for surgery of at least 60 min (Menzenbach et al., 2020). Within the study, they developed a score predicting the risk for postoperative delirium utilizing information such as anesthesiologic stratifications, laboratory values, medication, and known risk factors as well as the quality of life and cognitive performance to determine the degree of complications (Menzenbach et al., 2020). Findings showed the positive impact of early
recognition of high-risk patient populations, with the initiation of early preventative strategies for hospital-associated delirium complications. These initiation strategies and recognition resulted in less length of hospitalization, decreased fiscal impact and burden on hospitals, and better patient outcomes without long-standing cognitive impairment (Menzenbach et al., 2020).

**Design**

The study design is a retrospective analysis of elective surgery patients over 18 years old within the entire organization. Initial search criteria included patients who were admitted as outpatient, ambulatory, or surgery admit status undergoing general or monitored anesthesia care for 40 minutes or longer which showed 18,030 results between 5/1/23 and 8/1/23 shown in Figure 1.

*Figure 1*

Patients within initial search criteria from 5/1/2023 – 8/1/2023

A further narrowed search criteria included those within the inclusion group with significant delirium risk factors such as age greater than seventy-five, anesthesia minutes
more than sixty for the procedure, history of kidney disease, cardiovascular disease, or diabetes, visual or hearing impairment, mobility and or cognitive impairment, and multiple past medical surgeries. With the inclusion of the high to severe risk factors, the search was narrowed to a total of 108 results as seen in Figure 2. Of these 108 results, fifty charts were selected at random for review and application of the Delirium Risk Assessment Tool.

*Figure 2*

Patients within high-risk search criteria 5/1/2023 – 8/1/2023

Based upon common criteria for delirium risk factors, a twelve-question Delirium Risk Assessment Tool (D-RAT) was determined as seen in Table 3. Data was ranked under eight points patients were determined to be at minimal risk. Between 8-14 points at a moderate risk for delirium events. 15-19 patients were considered high risk for delirium events. 20-24 points patients qualified as severe for associated delirium risk based upon the surgery. The fifty charts were reviewed extensively with the survey applied to documented data within the electronic health record to determine answers to the D-RAT survey.
**Table 2**

Delirium Risk Assessment Tool

<table>
<thead>
<tr>
<th>Delirium Risk Assessment Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Age at time of surgery</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>2. Mobility</td>
</tr>
<tr>
<td>Ambulatory: able to walk without assistance or not</td>
</tr>
<tr>
<td>Normal assistance: able to walk but need need some or within</td>
</tr>
<tr>
<td>Moderate assistance: limitations in ability to walk, need assistance with some or notice for even short distances</td>
</tr>
<tr>
<td>Maximum assistance: unable to get up from the bed or chair without assistance</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>3. Does your have any hearing or visual impairment?</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>4. Do you have a history of vasopressor (acute versus chronic)</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>5. Do you currently drink alcohol?</td>
</tr>
<tr>
<td>&lt;1 drink per week or less than 2 drinks per week</td>
</tr>
<tr>
<td>2-3 drinks per week and one drink per meal</td>
</tr>
<tr>
<td>&gt;3 drinks per week and more than 1 drink per meal</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>6. Risk surgical history regarding anasthesia?</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>7. Do you take any path medications on a frequent basis?</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>8. Do you have a history of cardiovascular disease?</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>9. History of diabetes</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>10. Do you have any diagnosis or diagnosed that affect cognition?</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>11. Previous problems with sedation and or anesthesia</td>
</tr>
<tr>
<td>Yes</td>
</tr>
<tr>
<td>No</td>
</tr>
<tr>
<td>12. A delayed length of surgery for anasthesia (General, MAC)</td>
</tr>
<tr>
<td>&lt;2 hours per hour</td>
</tr>
<tr>
<td>&lt;1 hours</td>
</tr>
<tr>
<td>2 or more hours</td>
</tr>
</tbody>
</table>
**Methods and Justification**

The survey was designed to implement risk factors for surgery complications based on age, length of surgery, anticipated recovery, baseline mobility, audio or visual impairment, cognitive disease, chronic diseases that impact medication absorption, history with surgery and anesthesia, and pain medication tolerance. Through the combination of scoring tools, these categories collectively hold reasonable assurance that patients with higher scores will have worse outcomes or more complications based on comorbidities. Simplification of the survey to a 12-question model was determined by timing, documentation, and already established pre-operative questionnaires given to nurses to call patients before their elective surgeries.

**Ethical Considerations**

This study was approved by the Institutional Review Board of Sutter Health (IRBNet #2099891). Ethical considerations could pertain to patients and families not wanting a screening tool, as well as resistance to changing current practices to accommodate high-risk patients during the intraoperative and post-operative settings.

**Results**

Of the fifty charts, twenty-eight patients were screened to have a high D-RAT score between 20-24 placing them at severe risk for a delirium-associated event. The other twenty-two patients had a D-RAT score between 15-19 placing them within high-risk. Of the twenty-eight patients within the severe risk category, 67.80% had a correlated documented delirium event within their hospitalization. Of the twenty-two patients within the high-risk category, there were two documented delirium events which was a 9.10% correlation. Figure 3 illustrates the application of the scoring tool to the percentage of
documented delirium-associated events. While there was some variance in the occurrence of events between those at high-risk versus severe with no occurrence of occurrence of an event, the study was greatly limited by provider documentation during the patient’s hospitalization. Real-time surveillance and implementation of percentage scores within the electronic medical record would have provided staff with more accuracy of documentation as well as further analysis of patients within the minimal to moderate delirium risk categories.

Figure 3
Delirium events compared to risk level.

Delirium Risk Assessment Tool

Table 3 below shows the scores based on the survey of fifty charts within the high-risk and severe search inclusion criteria. Within these scores, two patients qualified
as high-risk with documented delirium events. Seven patients qualified as severe risk without a documented delirium occurrence during their hospitalization.

**Table 3**

<table>
<thead>
<tr>
<th>Delirium Risk Assessment Scores</th>
</tr>
</thead>
</table>

Score Calculations based upon 50 selected charts/review with scores from DRAT

15, 18, 20, 20, 22, 16, 18, 19, 22, 24, 18, 23, 24, 15, 16, 24, 19, 23, 22, 22, 15, 17, 24, 22, 21, 19, 16, 22, 15, 16, 23, 24, 20, 21, 22, 18, 16, 20, 16, 19, 22, 20, 21, 17, 16, 19, 22, 23, 21

**Study Limitations**

While there were enough patients that met inclusion criteria for the study, as well as demographics fitting for those within high and severe risk, there were still limitations regarding data analysis and review of the information. Due to the study being retrospective, real-time analysis and comparison were restricted and solely based on documentation by the nursing staff or providers within the electronic medical record. Rushed charting, inaccurate coding, and focus on elective surgery patients greatly restricted the overall analysis. The study was further limited to fifty patient charts that met high and severe risk scores, without further analysis of those low to moderate risk to compare the accuracy of data.

**Discussion**

Delirium has been a long-standing clinical issue and was one of the first mental disorders to be described in ancient history as a syndrome called phrenitis meaning confusion by Hippocrates in 400 BCE (Goodrick, 2015). The clinical features of delirium encompass physical, biological, and psychological disturbances which are characterized as an acute onset (Chen et al., 2016). The symptoms include disturbances in attention, memory, orientation, comprehension, vigilance, visuospatial abilities, and executive
functioning (Chen et al., 2016). The development of delirium has been associated with increased morbidity, persistent functional decline, increased frailty, and higher demand for overall health care including increased nursing time per patient, amplified length of hospital stay and associated cost, higher subsequent rates of nursing home placement, and mortality (Salluh et al., 2015). Evidence suggests that delirium is avoidable in more than a third of cases, making it a substantial relevance as a target for cost-effective measures aimed at reducing the risk of delirium (Salluh et al., 2015). Predisposing versus precipitating factors that depict the vulnerability of an individual’s risk for delirium include sociodemographic variables such as age over seventy, male gender, and institutionalization (Grover & Avasthi, 2018). Further, baseline cognitive impairment, depression, social isolation, and previous history of delirium are also preemptive in determining the causation of poor outcomes. It is also important to review alternative factors such as physical and mental status, current comorbidities, and nutrition (Grover & Avasthi, 2018).

Vital programs and services within the organization rely on throughput and availability of health services. With that in mind action goals and quality improvement focuses on different strengths and weaknesses of the organization. One measure that can assist with positive patient outcomes and reductions in prolonged disparities, is to decrease delirium-associated hospital complications through adequate clinical screening and preparation before hospitalization. While addressing the negative outcomes and costs of delirium-related hospital complications, it also helps streamline a perioperative workflow process with anesthesia to ensure those patients at substantial risk are
administered modified medication during their elective surgeries, and that immediate reorientation strategies and prevention are intervened early within the admission.

Hospital-associated delirium is a massive epidemic and leads to monetary loss, poor patient outcomes, and delayed discharge and reimbursement within the hospital setting (Menzenbach et al., 2020). While evidence-based practice and research outcomes have proven to identify management strategies and care goals for these patients, most of these assessments and implementation plans pertain to those already identified within the hospital after surgery with delirium. These patient populations have multiple comorbidities, placing them at higher risk than others for adverse events (Gou et al., 2021). The proposed business model would include an adjusted assessment tool for patients to identify high delirium-associated risk factors before admission to the hospital. The tool would then prompt an alert on an application for anesthesia that would notify them to ensure and propose medication adjustments administered before bringing the patient into the hospital. This application would also provide patients and their families with strategies before and after on how to prevent further delirium-associated events. All information to determine risk factors would be based on current patient status as well as data from their electronic health records pooled together to define low versus moderate and high-risk. The goals of this intended project within the hospital are to reduce financial spending, increase positive patient outcomes, and ensure safe and uncomplicated discharges.

**Evidence to Action**

Delirium is the most common psychiatric syndrome observed in hospitalized patients. The incidence in general medical wards ranges from 11% to 42%, and it is as
high as 87% among critically ill patients (Thom et al., 2019). Gold standards for delirium prevention are already recognized and implemented in numerous hospital settings. However, the condition of pre-screening with a delirium-associated risk tool before surgery and admission has not yet been established as a standard of care. A significant portion of the population undergoes elective surgeries each year either through an outpatient admission, or a short stay for monitoring. The question pertains to whether a tool was designed to prescreen patients based on their histories and risk factors and was initiated during an outpatient consultation visit if it would reduce the complications of delirium-associated occurrences post-surgery.

Implications for Future Research

Preoperative cognitive state is a key risk factor for delirium but cannot be estimated objectively in medical or surgical emergencies. It can, however, be easily assessed in patients undergoing elective surgeries (Eschweiler et al., 2021). The development of a universal pragmatic score based on preoperative data from patients of various surgical disciplines can be implemented in clinical routine for preoperative delirium risk screening. A basic assessment including a cognitive screen can help to stratify patients at low, medium, or high delirium risk to provide targeted prevention and or management strategies before elective surgery. The MoCA test is a widely known cognitive assessment and proved to be predictive of delirium, but it is a relatively time-consuming tool (Eschweiler et al., 2021). Physical and medical history, cognitive impairment, and clinical frailty together with the type of surgery and its duration, exhibited high predictive accuracy (Eschweiler et al., 2021).
A proposed risk-assessment tool in the application within the initial clinic outpatient screening can not only improve patient outcomes but significantly reduce the cost burden of delirium-associated complications after elective surgery. The cost burden of implementing such a tool would be minimal in comparison to the current state of financial estimate delirium imposes within our healthcare system. Eventually, this tool will function as a universal standard of care and predictable ability for delirium risk and will be communicated throughout the electronic health record for clinicians to identify. Pricing for the tool would be included within the current charting system and not be an additional cost for facilities. Evidence-based practice guidelines will facilitate updates and changes to the predictive tool as more education progresses regarding delirium. In efforts to improve patient outcomes and reduce financial burden, the solution.

**Conclusions**

Hospital-associated delirium is a severe adverse event that impedes positive patient outcomes and increases the financial burden on healthcare facilities. The occurrence of these events not only elongates hospital admissions but also causes the need for long-term recovery for inflicted patients. Many cases of hospital delirium can be prevented and identified within the initial stages of development. Patients who come in for elective surgery versus acute admissions have fewer recorded delirium-associated events due to hemodynamic stability and shorter lengths of stay. Various comorbidities ranging from age to length of surgery can however alter these outcomes. With the addition of a delirium risk assessment tool in the perioperative or clinic setting, elective surgery patients who are at elevated risk for delirium-associated events can be identified before changes in cognition occur. The inclusion of a delirium risk assessment tool can
provide objective data and scoring that can be sent to anesthesia and placed in the
electronic medical record to initiate early preventative measures.

Currently, there are set gold standards of care after delirium is assessed, but not
before admission. Once the criteria for high-risk patient populations are identified, a
scoring checklist will be added to the patient's electronic health record for documentation
either within the outpatient clinic or preoperative check-in. The last step will involve staff
and department education and implementation to compare collective data with delirium-
associated events. With the execution of the Delirium Risk Assessment Tool, there
should be a correlation to patients at elevated risk for complications which will therefore
allow for careful administration of anesthesia and early intervention to prevent adverse
outcomes.
References

California Department of Aging. (2023). *Grant opportunities.*
https://www.aging.ca.gov/Providers_and_Partners/Grant_Opportunities/


Concluding Essay:

Reflections on Growth in Advanced Practice Nursing Role

The advanced practice profession has substantially grown over the last few decades to combat the need for increasing health demands and longer life expectancy. I hope that I can utilize my higher education to advance my career as well as influence policy to help others. Throughout the doctoral program, we have learned to synthesize nursing and other scientific and ethical theories and concepts to create a foundation for advanced nursing practice. The strive for nurse practitioners to complete their terminal degrees aligns with hospital models for leadership, autonomy, and better patient outcomes. The program has outlined and educated me on strategic planning, as well as the process for implementing evidence-based models in current practice. Further, it is with the guidance of my advisor and professors, as well as the encouragement from my classmates that have made this process possible.
Appendix A

IRB Approval

DATE: September 25, 2023 (Corrected)
TO: Skye Porter Berg, NP, Principal Investigator
FROM: Sutter Health IRB (SHIRB)
PROJECT TITLE: Evaluation of perioperative screening tool to reduce delirium-associated complications
SHIRB #: 2013.006EXP
IRBNet #: 2099891-1
SUBMISSION TYPE: New Project
ACTION: APPROVED
EXPIRATION DATE: September 23, 2024
REVIEW TYPE: Expedited Review
REVIEW CATEGORY: Expedited review category #5

On September 24, 2023, your New Project received expedited review by the Sutter Health IRB and was approved.

APPROVED in this submission:
- Delirium Risk Assessment Tool Data Access Plan 082523.docx
- Delirium Risk Assessment Tool Questions 082523.docx
- Protocol - Delirium Risk Assessment Tool Protocol Summary 082523.docx
- Sutter Health - IRB Application Form (UPDATED: 09/5/2023)

SPECIAL NOTE: This review includes approval of a waiver of HIPAA authorization for use and disclosure of PHI for research purposes. The approved HIPAA waiver applies only to the PHI listed, and for the purposes specified, in the above-listed approval waiver request form and other approved documents. This waiver was reviewed by the IRB using the expedited review procedure as described by the Common Rule. This approval is based on IRB determinations that:
- There is an adequate plan to protect the patient identifiers from improper use and disclosure.
- There is an adequate plan to destroy the identifiers at the earliest opportunity unless the retention is required by law.
- There are adequate written assurances that the PHI will not be reused or disclosed to any person or entity not covered by this Waiver, unless required by law for authorized oversight of the research project.
- There is adequate justification that the PHI is critical to the conduct of the research project and that the research could not be conducted by obtaining patient authorization.

Important reminders:

- All research must be conducted in accordance with the IRB-approved documents.
- Other institutional approvals may be required, in addition to this IRB approval, prior to initiating study activity. You are responsible for obtaining all other institutional approvals, including, as applicable, from the Sutter Health Office of General Counsel (OGC) and Clinical Research Office (CRO). For questions, you are advised to check with your department head or administrative director.
- Any changes to the study or to previously approved materials must have IRB approval before implementation, except where necessary to eliminate apparent immediate hazards to human subjects.
- Only the most current IRB-approved informed consent documents, with the SHIRB approval stamp, may be used for enrolling subjects (unless consent or documentation of consent has been waived).
- All unanticipated problems involving risks to subjects or others from the research, and all protocol violations, must be reported to the IRB within 10 working days of discovery. For definitions of these events and for other reporting requirements, please see the “Reportable Events” SOP, accessible in “Forms and Templates” on IRBNet.
- This study requires IRB continuing review by its expiration date of September 23, 2024. You are responsible for submitting the required paperwork in time for the IRB to review by the expiration date.

If you have any questions, please contact the IRB Office at (925) 287-4052 or SHIRB@sutterhealth.org. Please include your project title and SHIRB reference number in all correspondence with the IRB office.

Sincerely,

David Sill, Ph.D., CIP
Manager, Human Research Protection Program

The Sutter Health Institutional Review Board (SHIRB) is registered with the Office of Human Research Protections (OHRP). IRB organization number ORO-2001-16; IRB registration numbers #H#00008828, Panel #1 and #R#00008827, Panel #2. SHIRB complies with ICH Good Clinical Practice standards as adopted and defined by the US Food and Drug Administration (FDA) and the US Department of Health and Human Services (DHHS).
Appendix B

Poster Abstract

Title: Reducing Delirium in Post-Surgical Patients through Pre-operative Risk Assessment Screening: A Policy Option

Background/Rationale: One of the major complications among patients who undergo elective surgery is related to the occurrence of hospital-associated delirium. Unfamiliar environment, previous comorbidities, age, and sedative medications can alter cognitive status in the general population. While modern medicine offers more minimally invasive surgery options for patients and gold standards of delirium prevention postoperatively, we explore the potential for incorporating a predictive indicator tool that can assess patients before hospitalization for increased risk of delirium-associated events. While there is substantial evidence formerly listing high-risk patients through demographics and prior medical history, this study hopes to collectively gather information based upon previous evidence-based practice data, to create a predictive indicator tool to identify high-risk patients for delirium complications before elective surgery.

Purpose: The purpose of this evidence-based practice project is to identify, predict, and prevent delirium-related hospitalization complications using a predictive indicator tool before elective surgery, based upon previous research on delirium-associated risk factors.

Methods: This is a cross-sectional, retrospective project. Data was collected using a developed risk assessment tool based upon evidence-based risk factors for delirium through a 12-question survey. It was applied to fifty patients matching “Severe and high-risk inclusion criteria based upon their electronic medical record data.

Sample: Patients over the age of 75 years or more undergoing elective procedures with anesthesia administered for more than 60 minutes. Additional inclusion criteria required a past medical history of either kidney disease, cardiovascular disease, or diabetes with some degree of mobility and or cognitive impairment noted in their medical records.

Results: Initial search criteria included patients who were admitted as outpatient, ambulatory, or surgery admit status undergoing general or monitored anesthesia care for 40 minutes or longer which showed 18,030 results between 5/1/23 and 8/1/23. A further narrowed search criteria included those within the inclusion group with significant delirium risk factors such as age greater than seventy-five, anesthesia minutes more than sixty for the procedure, history of kidney disease, cardiovascular disease, or diabetes, visual or hearing impairment, mobility and or cognitive impairment, and multiple past medical surgeries. With the inclusion of the high to severe risk factors, the search was narrowed to a total of 108 results. Of these 108 results, fifty charts were selected at random for review and application of the Delirium Risk Assessment Tool. Of the fifty charts, twenty-eight patients were screened to have a high D-RAT score between 20-24 placing them at severe risk for a delirium-associated event. The other twenty-two patients
had a D-RAT score between 15-19 placing them within high-risk. Of the twenty-eight patients within the severe risk category, 67.80% had a correlated documented delirium event within their hospitalization. Of the twenty-two patients within the high-risk category, there were two documented delirium events which was a 9.10% correlation.

Implications for Advanced Practice Nursing Recommendations:
1. Facilities will be able to reduce patient-related length of stay for elective surgeries, which in turn will help with staffing shortages and provide more bed availability.
2. Patients will have a lower risk of infection, decreased harm to themselves, as well as improved recovery and reduced readmission rates.
3. Reduced length of stay would allow for decreased spending and more reimbursement for hospitals.
4. Better patient outcomes and recovery allow for higher satisfaction scores which result in hospital donations and more resources as well as updated equipment.
Appendix C
Poster

Reducing Delirium in Post-Surgical Patients through Pre-operative Risk Assessment Screening: a Policy Option
Skye Porter Berg, MSN, FNP, AG-ACNP
University of San Diego

Background
- Complications of elective surgery include the occurrence of hospital-associated delirium.
- Dysfunctional environment, previous comorbidities, age, and sedative medication can alter cognitive status in the general population.
- While there is substantial evidence previously listing high-risk patients through demographics and prior medical history, this study aims to collectively gather information based upon previous evidence-based practice data, to create a predictive indicator tool to identify high-risk patients for delirium complications prior to elective surgery.

The purpose of this evidence-based practice project is to identify, predict, and prevent delirium-related hospitalization complications through use of a predictive indicator tool prior to elective surgery, based upon previous research of delirium-associated risk factors.

Evaluation Results
The Iowa model evaluates problem-focused triggers for various health care disciplines that can be applied to and adapted to address current quality indicators amongst acute care settings. Delirium-associated complications are a potential target for improved health care delivery as well as organizational changes and timely implementation.

Framework/EBP Model

Evidence for Problem
Patients with delirium show an increased risk of developing poor clinical outcomes, including increased likelihood of nursing home placement and death.

When exposed during a hospitalization, delirium increases 2-year mortality risk by approximately two-fold after adjusting for age, gender, chronic diseases, and dementia.

Project Plan Process
- Identify current risk factors for delirium and previously used screening tools.
- Discuss with hospital administrators the current impact of delirium by discharge. Form a PICO(T).
- Create a Delirium Risk Assessment Tool (DRAAT) based on current EBP risk factors for delirium.
- Submit a proposal to IRB for review at Sutter Health (Sac). IRB was approved, criteria were outlined along with scoring for DRAAT.
- Include criteria were assigned to the patients initially admitted for the hospital’s inpatient, ambulatory, or direct surgical admit status.
- Patient demographics and risk factors were further narrowed to include those with cancer and high-risk factors based on age, medical history, mobility, cognitive status, visual or hearing impairment, and previous institutionalization.
- Search criteria narrowed from 0-150 to 110 patient records. Of the 110 patient charts, 96 were selected for analysis and comparative DRAAT scoring and incidence of delirium criteria.
- For patients: Within the “Never Risk” group there was a 0.59% occurrence of delirium and delirium onset; within the “High Risk” group, there was only a 0.13% occurrence.
- After reviewing these findings, the care was presented to my manager as well as the Regional Manager of the Cardiometabolic Service Line.
- Due to the need for the involvement of preoperative testing and anesthesia, it is present these findings at the Next Service Health Sciences: Line Meeting in June.

Evidence-Based Intervention/Benchmark
- Adjust current practice during the preoperative and perioperative phases for early prevention interventions of delirium.
- Collect data to evaluate and support high-risk patients with sedative use.
- Assessing frailty and risk scores as sensitive markers for determining preoperative delirium and implement prior to preoperative care.

Cost-Benefit Analysis

*Cost of delirium $50,000 per patient
*Program costs $2,000 total

Implications for Clinical Practice
- Reduced length of stay
- Better patient outcomes
- Prevention of occurrence of high-risk delirium associated events
- Reduced recovery time postoperative
- Hospital quality indicators are achieved through reduced:
  - Spending
  - Increased availability of beds
  - Higher patient satisfaction scores
Appendix D

Critical Care Quarterly Conference Approval

Scot Nolan

to Scot, me

Good Morning Skye,

My apologies for the delay, it’s been crazy at Mercy SD.

Anyway, I would like to publish your manuscript in the October - December 2024 issue of CCNQ. The issue is dedicated to the impact of APRNs in critical care, perfect for your manuscript.

If you are still interested, I will need you to submit your manuscript electronically. The instructions are here: https://journals.lww.com/ccnq/pages/informationforauthors.aspx.

The cc email is my editor email for CCNQ.

I look forward to hearing from you.

Blessings,
SN

Scot Nolan, DNP, RN, CNS, CRNP, CARNP, SORN, FCNS
snnolan@saintlouis.edu
Appendix E

Certification

COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI PROGRAM)
COMPLETION REPORT - PART 1 OF 2
COURSEWORK REQUIREMENTS*

* Scores on this Requirements Report (Part 1) reflect quiz completions at the time all requirements for the course were met. The Transcript Report (Part 2) lists more recent quiz scores, including those on optional (supplemental) course elements.

- Name: Skye Porter Berg (ID: 10601408)
- Institution Affiliation: Sutter Research Enterprise (ID: 3394)
- Institution Email: skye.porterberg2@sutterhealth.org
- Curriculum Group: Conflicts of Interest (COI)
- Course Learner Group: Conflicts of Interest
- Stage: Stage 2 - Refresher Course

- Record ID: 57536714
- Completion Date: 22-Aug-2023
- Expiration Date: 22-Aug-2027
- Minimum Passing: 80
- Reported Score*: 87

REQUIRED AND ELECTIVE MODULES ONLY

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<th>Module Description</th>
<th>Date Completed</th>
<th>Score</th>
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<td>Conflicts of Interest and the FLSA, Regulations (COI-Refresher) (ID: 16950)</td>
<td>22-Aug-2023</td>
<td>3/3 (100%)</td>
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<tr>
<td>Significant Financial Interests (COI-Refresher) (ID: 16951)</td>
<td>22-Aug-2023</td>
<td>3/3 (100%)</td>
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<td>Institutional Obligations As They Affect Investigators (COI-Refresher) (ID: 16952)</td>
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<td>COI Management Plans and Noncompliance (COI-Refresher) (ID: 16953)</td>
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<td>4/5 (80%)</td>
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<td>Research Financial Conflict of Interest Policy (ID: 17345)</td>
<td>22-Aug-2023</td>
<td>No Quiz</td>
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For this Report to be valid, the learner identified above must have had a valid affiliation with the CITI Program subscribing institution identified above or have been a paid Independent Learner.

This document was generated on 06-May-2024. Verify at:
www.citiprogram.org/verify?f0rh445h=6163-1351-b15d-d9a219f1e87-57536714
Appendix F

AACN DNP Essentials/NONPF Competencies/

USD DNP Program Outcomes Exemplars

<table>
<thead>
<tr>
<th>AACN DNP Essentials &amp; NONPF Competencies</th>
<th>USD DNP Program Objectives</th>
<th>Exemplars</th>
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</table>
| DNP Essential I: Scientific Underpinnings for Practice | Synthesize nursing and other scientific and ethical theories and concepts to create a foundation for advanced nursing practice. | Fall 2021
| NONPF: Scientific Foundation Competencies | | - In Methods of Translational Science (DNPC 611) nursing theories were utilized to implement current research by formulating a PICO and conducting a literature review to find evidence-based research. A change in practice was implemented. |
| | | - DNPC 622 provided education in the Pathogenesis of Complex diseases. More in-depth understanding of the pathogenetic and pathogenesis components for common clinical problems including HLD, HTN, SI Joint pain, or chronic cough. Knowledge gained on medications impact on individuals based on their underlying health conditions and genetics. |

*The scientific foundation of nursing practice has expanded and includes a focus on both the natural and social sciences including human biology, genomics, the science of therapeutics, psychosocial sciences, as well as the science of complex organizational structures. In addition, philosophical, ethical, and historical issues inherent in the development of science create a context for the application of the natural and social sciences.*
<table>
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<tr>
<th>AACN DNP Essentials &amp; NONPF Competencies</th>
<th>USD DNP Program Objectives</th>
<th>Exemplars</th>
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</table>
| **DNP Essential II: Organizational & System Leadership for Quality Improvement and Systems Thinking**  
NONPF: Leadership Competencies/Health Delivery System Competencies | 5. Design, implement, and evaluate ethical healthcare delivery systems and information systems that meet societal needs and ensure accountability for quality outcomes. | Summer 2023  
- DNPC 653 provided the opportunity to create a business proposal to implement a screening tool for better patient outcomes and reduced hospital stays.  
- My final manuscript researched the organizational and system leadership that there is a strong correlation between research and adverse events associated with hospital delirium (DNPC 630).  
- DNPC 653 presented the opportunity for a designated screening assessment tool to provide and implement delirium reduction strategies within the perioperative and intraoperative services. |
| Advanced nursing practice includes an organizational and systems leadership component that emphasizes practice, ongoing improvement of health outcomes, and ensuring patient safety. Nurses should be prepared with sophisticated expertise in assessing organizations, identifying system issues, and facilitating organization-wide changes in practice delivery. This also requires political skills, systems thinking, and the business and financial acumen needed for the analysis of the practice quality and costs. | 4. Incorporate research into practice through critical appraisal of existing evidence, evaluating practice outcomes, and developing evidence-based practice guidelines. | Fall 2021  
- DNPC 611: Evaluated current practice guidelines regarding coronary artery disease and prevention of acute myocardial infarction. Conducted a literature review and implementation |
<table>
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<th>USD DNP Program Objectives</th>
<th>Exemplars</th>
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<tr>
<td>Scholarship and research are the hallmarks of doctoral education. Although basic research is viewed as the first and most essential form of scholarly activity, an enlarged perspective of scholarship has emerged through alternative paradigms that involve more than the discovery of new knowledge. These paradigms recognize: (2) the scholarship of discovery and integration “reflects the investigative and synthesizing traditions of academic life;” (2) scholars give meaning to isolated facts and make connections across disciplines through the scholarship of integration, and (3) the scholar applies knowledge to solve a problem via the scholarship of application that involves the translation of research into practice and dissemination and integration of new knowledge.</td>
<td>USD DNP Program Objectives</td>
<td>Provide bulleted exemplars that demonstrate the achievement of each objective</td>
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**Fall 2023**

- DNPC 622: Evaluated current practice guidelines and diagnosis for hypercholesteremia. Identified that current research is closing the gap in understanding the ties between diet, genetics, and hypercholesterolemia.

**Spring 2023**

- DNPC 686: Evaluated current research about delirium risk factors, and treatment and preventative strategies. Conducted a literature review and recommended implementation of a delirium-risk assessment tool for further delirium-associated preventative strategies and prediction of delirium events.

**Fall 2023**
<table>
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<tr>
<th>AACN DNP Essentials &amp; NONPF Competencies</th>
<th>USD DNP Program Objectives</th>
<th>Exemplars</th>
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<tr>
<td><strong>DNP Essential IV: Information Systems/Technology &amp; Patient Care Technology for Improvement &amp; Transformation of Health Care</strong></td>
<td>7. Incorporate ethical regulatory, and legal guidelines in the delivery of health care and the selection, use, and evaluation of information systems and patient care technology.</td>
<td>• Final doctoral project involved critical appraisal of current literature to identify current EBP pitfalls, and barriers to implementation (DNPC 630)</td>
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**NONPF: Technology & Information Literacy Competencies**

*DNP graduates are distinguished by their abilities to use information systems/technology to support and improve patient care and health care systems and provide leadership within health care systems and/or academic settings. Knowledge and skills related to information systems/technology and patient care technology prepare the DNP graduates to apply new knowledge, manage individual and aggregate level information, and assess the efficacy of patient care technology appropriate to a specialized area of practice along with the design, selection, and use of information systems/technology to evaluate programs* | Spring 2023 |

- Completion of DNPC 610 reflective practice helped integrate emotional intelligence with technology to create visual graphics and self-awareness within art.
- DNPC 630 allowed for further research and implementation of synthesizing data and research into visual art to compare results
<table>
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<tr>
<th>AACN DNP Essentials &amp; NONPF Competencies</th>
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<th>Exemplars</th>
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<tr>
<td>of care, outcomes of care, and care systems. Information systems/technology provide a mechanism to apply budget and productivity tools, practice information systems and decision supports, and web-based learning or intervention tools to support and improve patient care.</td>
<td>3. Demonstrate leadership in collaborative efforts to develop and implement policies to improve healthcare delivery and outcomes at all levels of professional practice (institutional, local, state, regional, national, and/or international).</td>
<td>Provide bulleted exemplars that demonstrate the achievement of each objective</td>
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<tr>
<td>DNP Essential V: Health Care Policy for Advocacy in Health Care</td>
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<td>Spring 2023</td>
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<tr>
<td>NONPF: Policy Competencies</td>
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<tr>
<td>Health care policy, whether created through governmental actions, institutional decision-making, or organizational standards, creates a framework that can facilitate or impede the delivery of health care services or the ability of the provider to engage in practice to address health care needs. Engagement in the process of policy development is central to creating a healthcare system that meets the needs of its constituents. Political activism and the commitment to policy development are central elements of DNP practice.</td>
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<td>Health Policy Analysis (DNPC 648) wrote recommendations for full practice authority for nurse practitioners across all states.</td>
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<tr>
<td>Full practice authority allows nurse practitioners to practice, and licensure laws permit all nurse practitioners to evaluate patients, diagnose, order, and interpret diagnostic tests, and initiate and manage treatments, including prescribing medications and controlled substances, under the exclusive licensure authority of the state board of nursing.</td>
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<tr>
<td>Key concepts for economic modeling that would guide decision-making regarding full practice authority would include a uniform policy and adoption at a national level, to reduce health inequalities and outcomes.</td>
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### AACN DNP Essentials & NONPF Competencies

**DNP Essential VI: Interprofessional Collaboration for Improving Patient & Population Health Outcomes**

**NONPF: Leadership Competencies**

*Today’s complex, multi-tiered healthcare environment depends on the contributions of highly skilled and knowledgeable individuals from multiple professions. In order to accomplish the IOM mandate for safe, timely, effective, efficient, equitable, and patient-centered care in this environment, healthcare professionals must function as highly collaborative teams. DNPs have advanced preparation in the interprofessional dimension of health care that enables them to facilitate collaborative team functioning and overcome impediments to interprofessional practice. DNP graduates have preparation in methods of effective team leadership and are prepared to play a central role in establishing interprofessional teams, participating in the work of the team, and***

<table>
<thead>
<tr>
<th>USD DNP Program Objectives</th>
<th>Exemplars</th>
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<tbody>
<tr>
<td>1. Demonstrate advanced levels of clinical practice within defined ethical, legal, and regulatory parameters in designing, implementing, and evaluating evidence-based, culturally competent therapeutic interventions for individuals or aggregates.</td>
<td>Spring 2023</td>
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<tr>
<td>3. Demonstrate leadership in collaborative efforts to develop and implement policies to improve healthcare delivery and outcomes at all levels of professional practice (institutional, local, state, regional, national, and/or international).</td>
<td>• In DPNC 626 Strategic Planning and Quality Initiatives. I wrote a paper focusing on improving patient outcomes through employee retention and expansion of hospital organizations.</td>
</tr>
<tr>
<td></td>
<td>• Philosophy of Reflective Practice (DNPC 610). This course enlightened students on culturally competent therapeutic intervention and focused on self-help to ensure improvements to health care delivery. Required readings and class presentations on culturally competent care.</td>
</tr>
<tr>
<td></td>
<td>• Literature review for the final manuscript identified that a collaborative approach amongst multidisciplinary professions is the best way to incorporate EBP (DNPC 630).</td>
</tr>
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<td></td>
<td>• Over 1300 clinical hours provided the opportunity to provide care to patients from adult to geriatrics and collaborate with physicians, nurse practitioners, and</td>
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<td>AACN DNP Essentials &amp; NONPF Competencies</td>
<td>USD DNP Program Objectives</td>
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<td>assuming leadership of the team when appropriate.</td>
<td>6. Employ a population health focus in the design, implementation, and evaluation of healthcare delivery systems that address primary, secondary, and tertiary levels of prevention.</td>
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<tr>
<td>DNP Essential VII: Clinical Prevention &amp; Population Health for Improving Nation’s Health</td>
<td></td>
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<tr>
<td>NONPF: Leadership Competencies</td>
<td>Consistent with national calls for action and with the longstanding focus on health promotion and disease prevention in nursing, the DNP graduate has a foundation in clinical prevention and population health. This foundation enables DNP graduates to analyze epidemiological, biostatistical, occupational, and environmental data in the development, implementation, and evaluation of clinical prevention and population.</td>
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<tr>
<td>DNP Essential VIII: Advanced Nursing Practice</td>
<td>1. Demonstrate advanced levels of clinical practice within defined ethical, legal, and regulatory parameters in designing,</td>
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<td>AACN DNP Essentials &amp; NONPF Competencies</td>
<td>USD DNP Program Objectives</td>
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<tr>
<td>NONPF: Independent Practice/Ethics Competencies</td>
<td>implementing, and evaluating evidence-based, culturally competent therapeutic interventions for individuals or aggregates.</td>
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</tbody>
</table>

The increased knowledge and sophistication of health care have resulted in the growth of specialization in nursing to ensure competence in these highly complex areas of practice. The reality of the growth of specialization in nursing practice is that no individual can master all advanced roles and the requisite knowledge for enacting these roles. DNP programs provide preparation within distinct specialties that require expertise, advanced knowledge, and mastery in one area of nursing practice. A DNP graduate is prepared to practice in an area of specialization within the larger domain of nursing.

- IRB approval required for the final EBP project ensured ethical and legal parameters were identified and considered (DNPC 630).
- Distinguished deviations from common normal variations characteristic of various developmental, cultural, and ethnic groups (APNC 521).
- Provided evidence-based, culturally competent care to patients during clinical hours (NPTC 604,605,608,609).
The End